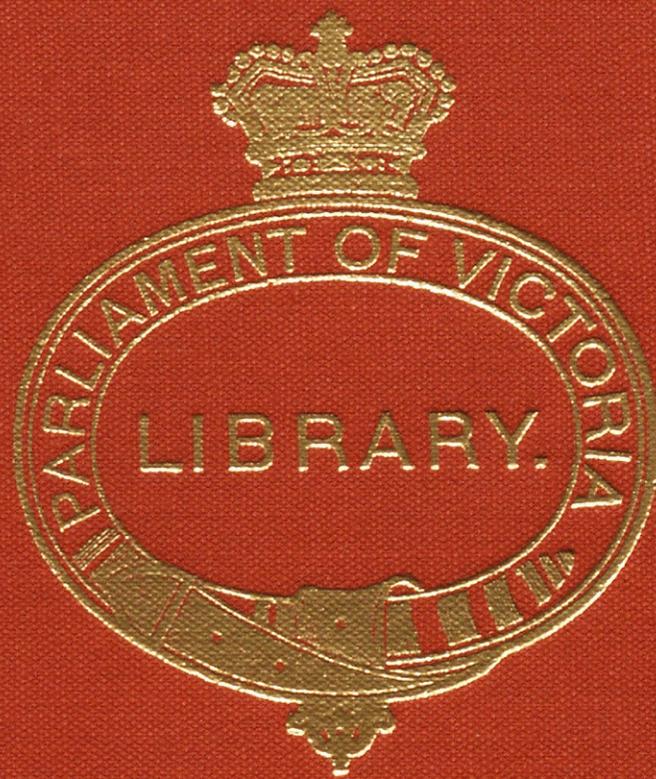


VICTORIA

MINUTES  
OF THE  
PROCEEDINGS  
OF THE  
LEGISLATIVE  
COUNCIL

—  
VOL. 7  
SESSION  
1982-85







**MINUTES OF THE PROCEEDINGS**  
**OF THE**  
**LEGISLATIVE COUNCIL OF VICTORIA**

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**SESSION 1982-85**

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**VOLUME 7**

**DOCUMENTS ORDERED TO BE PRINTED**



iii  
VOLUME 7  
CONTENTS

Place

GENERAL INDEX APPEARS IN VOLUME 1

REPORTS FROM PARLIAMENTARY COMMITTEES -

**PUBLIC BODIES REVIEW COMMITTEE -**

D.42	Eleventh Report - Interim Report - Victoria's Ambulance Services	1
D.34	Thirteenth Report - Final Report: Victoria's Ambulance Services	2
D.37	Twelfth Report - Future Structures for Water Management: Volume 4 - Final Report: Irrigation and Water Resource Management	3

**SALINITY COMMITTEE -**

D.4	First Report - Progress Report - Barr Creek Catchment, Mineral Reserve Basin and Lake Tyrrell Schemes	4
D.15	Second Report - Activities of the Salinity Committee	5
D.48	Final Report - Fourth Report - Water Allocations in Northern Victoria	6



PARLIAMENT OF VICTORIA

PUBLIC BODIES REVIEW COMMITTEE

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*Eleventh Report to the Parliament*

**INTERIM REPORT ON  
VICTORIA'S AMBULANCE SERVICES**

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*Ordered to be printed*

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MELBOURNE  
F D ATKINSON      GOVERNMENT PRINTER

September 1984



**PUBLIC BODIES REVIEW COMMITTEE**

**of the Parliament of Victoria**

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**COMMITTEE MEMBERS**

Mr R H Miller, M P (Chairman)  
The Hon B A Chamberlain, M L C (Deputy Chairman)  
The Hon M J Arnold, M L C  
The Hon C Bubb, M L C  
Mr J E Delzoppo, M P  
Mr B J Evans, M P  
The Hon D M Evans, M L C  
Mr N A Pope, M P  
Mr K H Remington, M P  
The Hon M J Sandon, M L C  
Mrs P A Sibree, M P  
Mr T Sidiropoulos, M P

**COMMITTEE STAFF**

Dr M C Frazer, Director of Research  
Mr R W Purdey, Secretary  
Mrs E J Anderson, Stenographer  
Ms M Holmes, Research Officer  
Mr G McConnell, Research Officer  
Ms K A McAnalley, Research Assistant

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## TABLE OF CONTENTS

	Page
1. The Reference	1
2. Scope and Conduct of this Inquiry	4
3. Major Themes	7
4. Final Report	9
Appendix One: Public Hearings and Witnesses	10
Appendix Two: Visits by the Public Bodies Review Committee concerning Ambulance Services in Victoria	17

Establishment of the Public Bodies Review Committee

EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

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FRIDAY, 2 JULY 1982

14. JOINT INVESTIGATORY COMMITTEES - The Honourable W.A. Landeryou moved, by leave, That, contingent upon the enactment and coming into operation, this Session, of legislation to establish Joint Investigatory Committees:

\* \* \*

(d) The Honourables M.J. Arnold, B.A. Chamberlain, D.M. Evans, J.V.C. Guest and M.J. Sandon be members of the Public Bodies Review Committee.

Question - put and resolved in the affirmative.

---

WEDNESDAY, 20 OCTOBER 1982

9. PUBLIC BODIES REVIEW COMMITTEE - The Honourable A.J. Hunt moved, by leave, That the Honourable J.V.C. Guest be discharged from attendance upon the Public Bodies Review Committee and that the Honourable C. Bubb be added to such Committee.

Question - put and resolved in the affirmative.

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EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

---

THURSDAY, 1 JULY 1982

36. COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the coming into operation of the Parliamentary Committees (Joint Investigatory Committees) Act 1982 -

\* \* \*

(d) Mr Delzoppo, Mr Evans (Gippsland East), Mr Miller, Mr Pope, Mr Remington, Mrs Sibree and Mr Sidiropoulos be appointed members of the Public Bodies Review Committee. (Mr Fordham) - put and agreed to.

---

Formal Reference

EXTRACTED FROM THE VICTORIAN GOVERNMENT GAZETTE  
OF 29 DECEMBER 1983, No 135, p 4178

---

PARLIAMENTARY COMMITTEES ACT 1968

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At the Executive Council Chamber, Melbourne, the  
Twentieth day of December 1983

PRESENT:

His Excellency the Governor of Victoria  
Mr Cathie                      Mr Walker  
Mr Trezise

REFERRAL OF MATTERS TO THE PUBLIC BODIES REVIEW  
COMMITTEE

Whereas the Parliamentary Committees Act 1968 as amended by the Parliamentary Committees (Joint Investigatory Committees) Act 1982 provides, among other things, for the establishment of a Joint Investigatory Committee of the Legislative Council of Victoria and the Legislative Assembly of Victoria to be called the Public Bodies Review Committee.

And whereas section 4M of the Act provides that the Governor in Council may by order published in the Government Gazette at any time nominate a public body for review by the said Committee.

And whereas paragraph (a) of section 4F(1) of the said Act provides, in part, that a Joint Investigatory Committee is required to inquire into, consider and report to the Parliament on any proposal, matter or thing relevant to the functions of the Committee which is referred to the Committee by Order of the Governor in Council published in the Government Gazette.

And whereas section 4F(3) of the said Act provides, in part, that an Order of the Governor in Council referring a proposal, matter or thing to a Joint Investigatory Committee pursuant to paragraph (a) of sub-section (1) may specify a period of time within which the Committee is required to make a final report to the Parliament on the proposal, matter or thing.

Now therefore I, His Excellency the Governor of the State of Victoria in the Commonwealth of Australia by and with the advice of the Executive Council of the said State doth by this Order nominate Ambulance Service - Melbourne, Ballarat and District Ambulance Service, Central Victoria District Ambulance Service, East Gippsland Ambulance Service, Geelong and District Ambulance Service, Glenelg District Ambulance Service, Goulburn Valley Ambulance Service, Latrobe Valley District Ambulance Service, Mid-Murray District Ambulance Service, North Eastern Victoria District Ambulance Service, North West Victorian Ambulance Service, Northern District Ambulance Service, Peninsula Ambulance Service, South

Gippsland District Ambulance Service, South-Western Victoria Ambulance Service and Wimmera District Ambulance Service for review and require the said Public Bodies Review Committee to inquire into, consider and report to the Parliament on the following proposals, matter or things, that is to say:-

To receive submissions and evidence with regard to matters referred to in the following terms of reference and to report and make recommendation with regard to these matters in order to review the present and future operation of Ambulance Services in Victoria.

Without limiting the scope of the enquiry the Committee is asked to report on:-

- (a) the role of ambulance services in Victoria's health transport system.
- (b) the number and boundaries of Ambulance Services, taking into account regional boundaries being introduced by the Health Commission of Victoria.
- (c) the method of administration of ambulance services, including the role, selection and training of committees of management and senior ambulance officers - this should also include the role of local ambulance committees.
- (d) financial management and reporting systems.
- (e) the systems of recruitment and initial and in-service training of ambulance officers.
- (f) the relationship between central services such as air ambulance and the various regional and sub-regional services.
- (g) the relationship between hospital and ambulance financial and management systems.
- (h) the role of the Health Commission of Victoria in the provision of ambulance services and their administration and planning.

And doth specify that an interim report is to be presented to Parliament by September 1984 if the Parliament is then sitting or if Parliament is not then sitting within seven days after the next meeting of Parliament; and a final report to be presented to Parliament by December 1984 if the Parliament is then sitting or if Parliament is not then sitting within seven days after the next meeting of Parliament.

And the Honourable Thomas William Roper, Her Majesty's Minister of Health for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL  
Clerk of the Executive Council

---



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- (b) the number of boundaries of ambulance services, taking into account regional boundaries being introduced by the Health Commission of Victoria.
- (c) the method of administration of ambulance services, including the role, selection and training of committees of management and senior ambulance officers - this should also include the role of local ambulance committees.
- (d) financial management and reporting systems.
- (e) the systems of recruitment and initial and in-service training of ambulance officers.
- (f) the relationship between central services such as air ambulance and the various regional and sub-regional services.
- (g) the relationship between hospital and ambulance financial and management systems.
- (h) the role of the Health Commission of Victoria in the provision of ambulance services and their administration and planning.

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And the Honourable Thomas William Roper, Her Majesty's Minister of Health for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL  
Clerk of the Executive Council

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## INTERIM REPORT ON VICTORIA'S AMBULANCE SERVICES

### 1. The Reference

The sixteen major Ambulance Services in Victoria were referred to the Public Bodies Review Committee by an Order in Council of 20 December 1983. A further Order in Council of 14 February 1984 added the Ambulance Officers' Training Centre and the Alexandra and District Ambulance Service to the reference. The orders specified that the Committee submit an interim report to Parliament by September 1984, and a final report by December 1984. This Interim Report is submitted in accordance with that requirement. The Committee's review is the most comprehensive study of the provision of ambulance services in Victoria since the present system was established by the Hospitals and Charities Commission in 1948.

The Ambulance Services are registered under Section 22 of the Hospitals and Charities Act 1958, and the Ambulance Officers' Training Centre is established directly by the Health Commission of Victoria. The public bodies under review are:

Alexandra and District Ambulance Service,  
Ambulance Officers' Training Centre,  
Ambulance Service - Melbourne,  
Ballarat and District Ambulance Service,  
Central Victoria District Ambulance Service,  
East Gippsland Ambulance Service,  
Geelong and District Ambulance Service,  
Glenelg District Ambulance Service,  
Goulburn Valley Ambulance Service,  
Latrobe Valley District Ambulance Service,  
Mid-Murray District Ambulance Service,  
North Eastern Victoria District Ambulance Service,  
North West Victorian Ambulance Service,  
Northern District Ambulance Service,  
Peninsula Ambulance Service,  
South Gippsland District Ambulance Service,  
South-Western Victoria Ambulance Service, and  
Wimmera District Ambulance Service.

When reviewing any body or bodies, the Committee is required by the Parliamentary Committees Act 1968 to report to Parliament on the question of whether or not the body or bodies under review should cease to exist. In doing so, the Committee is empowered to consider any matter that it considers relevant, and it is required to consider the following specific matters:

- (1) whether or not the objects of the body are worth pursuing in contemporary society;
- (2) whether or not the body pursues its objects efficiently, effectively and economically;
- (3) whether or not the structure of the body is suited to the activities it performs;
- (4) whether or not the body duplicates the work of another person or body;
- (5) the financial and other liabilities and obligations of the body;
- (6) the staff of the body (including officers or employees of the public service whose services are being made use of by the body);
- (7) the extent to which the body seeks information as to the effect of its activities and acts on the information it receives;
- (8) the extent to which the body considers the public interest when performing its activities;
- (9) the extent to which the body encourages public participation in its activities;
- (10) the manner in which the body handles complaints about its activities; and
- (11) the extent to which the body is prepared to improve its structure, composition or procedures.

In all of its previous studies, these matters alone have determined the Committee's terms of reference. In what is a new approach for this Committee, the Order in Council establishing this review specified a number of additional matters to be considered by the Committee. These extra terms of reference are:

- (12) the role of ambulance services in Victoria's health transport system;

- (13) the number and boundaries of ambulance services, taking into account regional boundaries being introduced by the Health Commission of Victoria;
- (14) the method of administration of ambulance services, including the role, selection and training of committees of management and senior ambulance officers - this should also include the role of local ambulance committees;
- (15) financial management and reporting systems;
- (16) the systems of recruitment and initial and in-service training of ambulance officers;
- (17) the relationship between central services such as air ambulance and the various regional and sub-regional services;
- (18) the relationship between hospital and ambulance financial and management systems; and
- (19) the role of the Health Commission of Victoria in the provision of ambulance services and their administration and planning.

The Committee is conducting its review with the requirements of both sets of terms of reference in mind.

Apart from including the extra list of specific items in its examination, the Committee has followed the same general style and methodology as in its previous reviews. In its Ninth Report, of December 1983, the Committee affirmed its commitment to the six basic principles of operation that were first proposed in the First Report of the Committee to Parliament in December 1980. The Committee believes very strongly that the observance of these principles has substantially contributed to its work as an agent of reform, both before and after the restructuring of Parliament's committee system in mid-1982. For this review, the Committee has amended the third and the sixth of these principles. In the following list of the principles the words appearing in bold type are new.

The six operating principles that have governed this review by the Committee are:

- (1) **Open:** each review should as far as possible be by an open process;
- (2) **Parliamentary:** the Committee should operate in the first instance as an instrument of the Parliament rather than of Government or Party;

- (3) Consultative: the Committee should seek to enter into genuine discussion with all relevant groups and individuals;
- (4) Research-based: the Committee's hearings should be augmented by independent high quality research;
- (5) Working Committee: the Committee itself should be the working, reviewing agency, not simply endorsing the work of others; and
- (6) Constructive: the Committee's work should be a constructive and future-oriented review of policy, not a negative audit of the past.

In all of its reviews, the Committee has consulted widely with individuals as well as with groups. The Committee believes that its accessibility to concerned individuals is of such importance that it should be made explicit in the operating principles and it has therefore amended the third principle. In addition, the Committee does not see its role as concentrating on analysis of past events, or as involving the allocation of blame for present or past inadequacies, or as attempting to correct previous specific administrative decisions or deficiencies. The Committee has always been firmly of the view that its work should be future-oriented: that is, it should at all times be seeking not only constructive solutions to present problems, but also to problems that appear certain or likely to develop in the foreseeable future. To emphasise this, it has amended the sixth principle.

## 2. Scope and Conduct of this Inquiry

Ambulance Services have stronger and more immediate links with the community at large than have most public bodies. These links are shown in their very widespread subscription scheme, their historical development from small community-based services, and their present contributor-elected Committees of Management. It is now generally expected within the community that high quality ambulance services will be available, and the importance of these services to the community cannot be underestimated. Considerable emotion often develops around any discussion of ambulance services or of any supposed shortcomings in the performance of Services. Ambulance officers themselves, at all levels from recruit to superintendent,

generally care most strongly and very personally for their patients and for their profession.

At present, Victoria has a very active group of Ambulance Services. Each year, their 600 vehicles carry some 650 000 patients a total of eighteen million kilometres, under what is usually a high standard of patient care.

The reference of the Ambulance Services to the Committee appeared in the Government Gazette on 29 December 1983. The Committee commenced work on the review on 10 January 1984 when it wrote to all Ambulance Services, to the Health Commission, and to several related organisations informing them of the review and requesting background information from them. The Committee placed notices in The Age on 3 February, in the Government Gazette on 7 February, and in newspapers in the fifteen provincial cities or towns that are the headquarters of Ambulance Services during the first week in February. These notices publicly announced the review, and invited submissions from the public on any matters relevant to the terms of reference.

In February, the Committee wrote to about 170 individuals and organisations across the State, informing them of its terms of reference and inviting them to make submissions. Over 160 formal submissions, ranging from one or two lines to in excess of 200 pages, have been received in response to these invitations and to the public announcements. Many individuals and organisations have followed their initial submissions with supplementary information at a later date. In addition, some individuals contacted the Committee on a private, confidential basis, to provide extra material or to discuss specific matters or incidents. The Committee has also collected a large quantity of printed material relevant to ambulances in Victoria, elsewhere in Australia, and overseas.

Early in March the Committee made the first of its many visits to ambulance stations, with inspections of the headquarters and one branch station in each of Ambulance Service - Melbourne and the Ballarat and District Ambulance Service, and of a volunteer station within the Ballarat area.

The Committee has what is now a well-established procedure whereby the Minister responsible for the bodies under review appears before it at the first public hearing

of each review. Following this practice, the Minister of Health, The Hon T W Roper, M P, appeared as a witness on 28 March. Over the next three months, the Committee conducted public hearings in Swan Hill, Hamilton, Shepparton, Morwell and for five days in Melbourne. In total, 131 individuals appeared before the Committee, representing 71 separate organisations or parties. Evidence from these hearings covers 880 pages. A list of hearings and witnesses is given as Appendix 1 of this Interim Report, and a full list of visits made by the Committee appears in Appendix 2.

The Committee or individual members of the Committee have visited the headquarters of every Ambulance Service, some branch stations of most Services, the Ambulance Officers' Training Centre, the New South Wales Ambulance Service Headquarters in Sydney, and have travelled with road ambulances in action, the Mobile Intensive Care Ambulance, the air ambulance, clinic transport vehicles, and have inspected the helicopter ambulance of Peninsula Ambulance Service. Members have also observed the delivery of patients by ambulance to the Emergency Departments of the Royal Melbourne, Austin and Alfred Hospitals. In addition, Committee members and research staff have made a large number of informal visits to ambulance stations and to related organisations. The Committee members and staff have made themselves available for informal discussions with individual ambulance officers at their request, and have held many such discussions.

Concurrent with this review, there have been several other major changes or proposals for change affecting ambulance and health services. Perhaps the most important of these is the regionalisation of the Health Commission of Victoria. This has been under serious consideration within the Commission at least since the release of a discussion paper in November 1980, and the decision to proceed was announced by the Minister of Health in September 1983. Such an arrangement clearly has the potential to be of major significance to Ambulance Services, a fact which is recognised quite explicitly in the twelfth term of reference for the Committee.

During the first part of the Committee's review, a separate "Committee of Inquiry into the Use of Helicopters in Ambulance Services" was at work. This was appointed by the Minister of Health in 1983, and its final report was released by him in August 1984. When the Ambulance Services were referred to the Committee, discussions on

a proposed amalgamation of Ambulance Service - Melbourne and Peninsula Ambulance Service were at an advanced stage, although final agreement had not been reached. Further negotiations were then delayed, pending the Committee's review.

The Committee has been most impressed with the dedication to their tasks of the vast majority of those connected with the Ambulance Services of Victoria. It is also impressed with the very deep concern for the quality of ambulance services expressed by the many representatives of the wider community with whom it has discussed this review. The enthusiastic co-operation of virtually all concerned has helped to make this comprehensive review of these large and complex activities possible in a comparatively short period of time.

### **3. Major Themes**

The terms of reference for this review are numerous and extremely broad. As in its previous reviews, the Committee has concentrated its attention on several major themes, which emerged as central during the inquiry. These themes underpin all of the recommendations that the Committee will make in its final report in relation to Ambulance Services. The terms of reference that have been covered in detail in the review are largely those that are most directly and most clearly linked with these themes.

From its own observations and from the evidence presented to it, the Committee has concluded that on-the-road ambulance operations in Victoria are generally highly effective, and that they appear to compare very favourably with ambulance services elsewhere. However, it is also clear to the Committee that some serious problems have developed within the ambulance industry: it is also clear that, unless strong actions are taken, these problems will almost certainly become worse. Both the successes of the Services and their present difficulties will be discussed at length in the Committee's final report.

The Committee is acutely aware that the recommendations that will be contained in its final report are likely to be a major influence on the performance and structure of Ambulance Services in Victoria into the twenty-first century. With this in mind,

the Committee is basing its analysis and its recommendations on the following four major themes:

- . ambulance services require an organisational structure that is more effective than is presently provided, and the future structure should provide much more satisfactory interaction with the Health Commission of Victoria;
- . ambulance services require much higher levels of professional expertise in general management areas such as personnel, industrial relations, planning and finance, to match and supplement their existing high levels of professionalism in patient care and transport;
- . ambulance services require much higher levels of co-ordination and involvement with hospital emergency departments in an emergency medical system; and
- . ambulance services require more appropriate methods of financial and operational reporting and accountability to those who depend upon or pay for the services, including improved methods of assessing the effectiveness of their use of resources.

Problems exist or are developing with the morale of ambulance officers, in some crucial aspects of the management of the system as a whole, in finance, and in a number of aspects of operations. These problems are evidence of significant stresses within the organisations, and the signs of these stresses are visible throughout the system, in all parts of the State, at all levels within the Services, and in the interactions between the Services and other organisations such as hospitals and the Health Commission.

As a result of these stresses, and the existing and developing problems, there are doubts about the capacity of the system to develop further and to increase the effectiveness of the services it provides, and about the efficiency with which it uses the substantial community resources available to it. This raises some questions about the ability of the system to maintain indefinitely the present levels of service. These doubts are shared by many within the system, and they contribute markedly to the fairly widespread frustration felt by many officers.

The Committee notes the generally high level of professionalism with which the on-the-road operations of the Ambulance Services are carried out in response to calls to emergencies. It appears that response times to such cases are usually satisfactory, the training and operational standards of the emergency crews are of a

high standard, and most of the equipment available in vehicles is also of good and reliable quality. As a result, the scope for rapid and dramatic improvement in the effectiveness of service provided to the public is not large: those situations or patients not adequately cared for at present tend to be those that are most difficult to treat, because of their isolation, the nature of their illness or accident, or some similar reason.

Despite these reservations, the Committee believes that with a small number of major changes and numerous minor changes, the State's Ambulance Services will be able to achieve considerable gains in the quality of service provided and in the efficiency with which resources are used, without losing some of the present highly desirable characteristics.

#### **4. Final Report**

The Committee is well advanced in the preparation of its final report on Victoria's Ambulance Services. In accordance with the requirements of the Order in Council establishing the inquiry, it expects to table the final report in Parliament before the end of November 1984.

\* \* \* \* \*

Committee Room

28 August 1984

\* \* \* \* \*

**APPENDIX ONE: PUBLIC HEARINGS AND WITNESSES**

MELBOURNE, 28 March 1984

Minister of Health

The Hon T W Roper, MP

SWAN HILL, 9 April 1984

Mid-Murray District Ambulance  
Service

Mr R Hancock (Treasurer)  
Mr J Mason (Superintendent)

North West Victorian Ambulance  
Service

Mr C Thomson (President, Committee  
of Management)  
The Hon K I M Wright, MLC  
(Member, Committee of Management)  
Mr G Thomas (Acting Superintendent)

Wycheproof and District  
Community Welfare Group  
Wycheproof Hospital  
Shire of Wycheproof

Mr R Bodycombe

Mrs M Dillon  
Mr G Larmour

Boort Ambulance Committee

Cr T F Moresi  
Mr T H Forbes (Shire Secretary, Shire  
of Gordon)

Mr G Bransgrove

Personal (former Superintendent,  
Wimmera District Ambulance Service)

HAMILTON, 10 April 1984

Glenelg District Ambulance

Mr J Rogers (Member, Committee of  
Management)  
Mr S Ferguson (Superintendent)

South-Western Victoria Ambulance  
Service

Mr H Neville (President, Committee  
of Management)  
Mr D Haynes (Superintendent)

Wimmera District Ambulance  
Service

Mr R Cochrane (President, Committee  
of Management)  
Mr J P Perry (Superintendent)

HAMILTON, 10 April 1984 (continued)

Hamilton Base Hospital	Mr M Scarlett (Chief Executive Officer)
Edenhope and District Memorial Hospital	Mr T Jenkins (Board of Management) Dr R Bade
Mr N Mirtschin Mr R Bowman Mr P McKenzie	Personal (Ambulance Officers, South-Western Victoria Ambulance Service)
Hopetoun and District Bush Nursing Hospital Rotary Club of Hopetoun	Mr J Puckle (Administrator) Mr I McFarlane Mr D Pridgeon
Casterton Memorial Hospital	Mr D Jones (Chief Executive Officer) Mrs J Ross (Director of Nursing) Dr A Floyd (Committee of Management)
Mr B Williams Mr T Walkenhorst	Personal (Ambulance Officers, Glenelg District Ambulance Service)
Wimmera Base Hospital	Mr S Capp (Manager) Mrs G Curran (Director of Nursing)
Shire of Wimmera	Mr P Baldwin (Shire Secretary, Shire of Wimmera) Cr E Ruwoldt
Victorian State Emergency Service Mr J Rogers	Mr D Coldbeck (Regional Officer) Personal (Member, Committee of Management, Glenelg District Ambulance Service)

SHEPPARTON, 12 April 1984

Goulburn Valley Ambulance Service	Mr M I Darveniza (President, Committee of Management) Mr E W Thomas (Superintendent)
Northern District Ambulance Service	Mr E R Bates (President, Committee of Management) Mr K J Devereaux (Superintendent)
North Eastern Victoria District Ambulance Service	Mr S E Stone (President, Committee of Management) Mr G I Pink (Superintendent) Mr J M Caruso (Finance and Administration Manager)

SHEPPARTON, 12 April 1984 (continued)

Central Victoria Ambulance Service	Mr A W Grierson (President, Committee of Management) Mr C W Ashman (Treasurer) Mr J Rowe (Superintendent)
Victorian Ambulance Administrative Officers' Association	Mr K Rowe (President) Mr W Long (Secretary)
Echuca District Hospital	Mr S Rowley (Manager) Mr O Brown (Vice-President)
Mr P O'Meara	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)
Mr D Temple	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)
Mollyullah Country Women's Association	Mrs P Gedling Mrs M Ryan
Mr E Kay	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)

MORWELL, 16 April 1984

Latrobe Valley District Ambulance Service	Mr G Thornhill (President, Committee of Management) Mrs P Boothman (Immediate Past President, Committee of Management) Mr J Pyers (Acting Superintendent)
East Gippsland Ambulance Service	Mr N Gooch (Member, Committee of Management) Mr J Little (Member, Committee of Management) Mr D Woodhouse (Superintendent)
Maffra District Hospital	Mr P Kamsma (Manager/Secretary)
For the Staff of Warragul Branch, Latrobe Valley District Ambulance Service	Mr R Stanistreet (Ambulance Officer) Ms L Brelaz (Hospital Scientist, West Gippsland Hospital)
Gippsland Trades and Labour Council	Mr G Wragg (President) Mr A Peterson
Morwell Community Health Centre	Mr J Ellingham (Treasurer)

MELBOURNE, 22 May 1984

Dr J Hendtlass	Personal (Road Safety Manager, Royal Automobile Club of Victoria)
Dr A Bacon	Personal (Anaesthetist)
Ambulance Service - Melbourne	Mr L Swindon (Member, Committee of Management) Mr H G Berry (Chief Superintendent) Mr T Bates (Manager - Operations) Mr N W Branson (Manager - Administration and Finance)
Austin Hospital	Dr B Osborne (Medical Administrator)
Victorian Hospitals' Association	Mr C Cornall (Chairman) Mr H Feehan (Executive Director) Mr T Milan Ms C Kealy Mr G Edwards
Victorian Academy for General Practice	Dr R Tunbridge (Medical Executive Officer)
Alfred Hospital	Dr B Walpole (Director of Casualty)
Victorian Ambulance Superintendents' Council	Mr E W Thomas (President) Mr A A Dalby (Secretary)

MELBOURNE, 23 May 1984

Peninsula Ambulance Service	Mr W R Lumley (President, Committee of Management) Mr D J Symonds (Treasurer) Mr T A Boyd (Acting Superintendent) Mr F L J Adams (Finance and Administration Manager)
Ambulance Service - Melbourne (Air Ambulance)	Mr H G Berry (Chief Superintendent) Mr T Bates (Manager - Operations) Mr N W Branson (Manager - Administration and Finance)
Peninsula Air Services Pty Ltd	Mr W Suhr (Director and Chief Pilot)
Mr J I'Anson	Personal (Station Officer, Ambulance Service - Melbourne)
Dr A D'Arcy	Personal (Director, Emergency Services, Royal Melbourne Hospital)

MELBOURNE, 23 May 1984 (continued)

Victorian Ambulance Services Association	Mr M I Darveniza (President) Mr N Gooch (Vice-President) Mr J Mason Mr J Perry (Secretary)
Institute of Ambulance Officers (Australia)	Mr L Hotchin (Chairman, Victorian Division) Mr A Marr (Executive Member, Victorian Division) Mr D Shugg (Executive Member, Victorian Division)
Alexandra and District Ambulance Service	Mr S Reynolds (President, Committee of Management) Mr J Gunn (Member, Committee of Management) Mr A Weeks (Superintendent) Mr B Webb (Treasurer) Dr P Bunn (Training Advisor) Mr P Dent (Training Officer)
Mr R Tye	Personal (In-Service Training Officer, Peninsula Ambulance Service)
Dr R J Young	Personal (General Practitioner, Alexandra)
Association of Casualty Supervisors of Victorian Hospitals	Dr E Brentnall (Director of Accident and Emergency Department, Box Hill Hospital)
Royal Automobile Club of Victoria	Dr J Hendtlass (Road Safety Manager)

MELBOURNE, 24 May 1984

Geelong and District Ambulance Service	Mr R Purnell (President, Committee of Management) Mr H Kroger (Treasurer) Mr D Wilson (Superintendent)
Peninsula Air Services Pty Ltd Ambulance Service - Melbourne (Air Ambulance)	Mr W Suhr (Director and Chief Pilot) Mr H G Berry (Chief Superintendent, Ambulance Service - Melbourne) Mr P Walsh (Ambulance Service - Melbourne)
Dr D Hunt	Personal (Director of Cardiology, Royal Melbourne Hospital)

MELBOURNE, 24 May 1984 (continued)

National Safety Council of Australia, Victorian Division	Mr R Dousset (Helicopter Pilot)
Mr P La Roche Dr I Siggins	Personal Equal Opportunity Commission (Assistant Commissioner)
Mr J Blossfelds	Personal (MICA Assistant Superintendent, Ambulance Service - Melbourne)
Motor Accident Board	Mr H Wilson (Senior Medical Advisor)
Ambulance Officers' Training Centre	Mr R Edwards (Chairman, Committee of Management) Mr P A Newbold (Executive Director)
Royal Children's Hospital	Dr A Duncan (Director of Intensive Care Unit)
Ballarat and District Ambulance Service	Mr A A Dalby (Superintendent) Mr A Rizzoli (Member, Committee of Management)
Casualty Services Consultative Council	Sir Benjamin Rank (Chairman)
Newborn Emergency Transport Service	Dr N Roy (Director)
Western General Hospital	Mr B Millane (Administration Director)

MELBOURNE, 30 May 1984

Health Commission of Victoria	Mr A J Ryan (Commissioner) Mr N Wendt (Deputy Director, Finance Division) Mr J Jolley (Patient Transport Administration Section, Hospitals Division) Mr P Gabriel (Patient Transport Administration Section, Hospitals Division)
Ambulance Employees' Association of Victoria	Mr W B Simmons (General Secretary) Mr G Coffey (Assistant General Secretary)

MELBOURNE, 30 May 1984 (continued)

Ambulance Service - Melbourne  
(second appearance)

Mr H G Berry (Chief Superintendent)  
Mr T Bates (Manager - Operations)  
Mr N W Branson (Manager -  
Administration and Finance)  
Mr R J Aitken (Director)

Victorian State Emergency Services

Dr F Archer

Personal (Ambulance Services  
Medical Officer)

Dr I Favilla

Personal (Ophthalmologist)

St Vincent's Hospital

Dr J Griffin (Medical Superintendent)  
Dr G Hale (Cardiologist)

MELBOURNE, 13 June 1984

Ambulance Employees' Association  
of Victoria (second appearance)

Mr W B Simmons (General Secretary)  
Mr G Coffey (Assistant General  
Secretary)

Health Commission of Victoria  
(second appearance)

Mr A J Ryan (Commissioner)  
Dr D Race (Director, Hospitals Division)  
Mr N Wendt (Deputy Director,  
Finance Division)  
Mr P Gabriel (Patient Transport  
Administration Section, Hospitals  
Division)  
Mr T Ryan (Engineer, Division of  
Building and Services)

\* \* \* \* \*

**APPENDIX TWO: VISITS BY THE PUBLIC BODIES REVIEW COMMITTEE  
CONCERNING AMBULANCE SERVICES IN VICTORIA**

22 February 1984	Full Committee	Ambulance Service - Melbourne - Headquarters in Melbourne and Northcote Branch Station
29 February 1984	Staff	Helicopter Ambulance Workshop
1 March 1984	Chairman and Deputy	Ambulance Officers' Training Centre
14 March 1984	Full Committee	Ballarat and District Ambulance Service - Headquarters in Ballarat, Daylesford Branch Station and Ballan Volunteer Station
9 April 1984	Sub-Committee	Public Hearing - Swan Hill  Mid-Murray District Ambulance Service - Headquarters in Swan Hill and Nyah West Branch Station
10 April 1984	Sub-Committee	Public Hearing - Hamilton  Glenelg District Ambulance Service - Headquarters in Hamilton
12 April 1984	Sub-Committee	Public Hearing - Shepparton  Goulburn Valley Ambulance Service - Headquarters in Shepparton
16 April 1984	Sub-Committee	Public Hearing - Morwell  Latrobe Valley District Ambulance Service - Headquarters in Morwell
3 May 1984	Staff	Air Ambulance Operations
4 May 1984	Staff	Ambulance Officers' Training Centre
8 May 1984	Sub-Committee	Geelong and District Ambulance Service - Headquarters in Geelong, and Colac Branch Station  South-Western Victoria Ambulance Service - Headquarters in Warnambool  Glenelg District Ambulance Service - Balmoral Volunteer Station

9 May 1984	Sub-Committee	Wimmera District Ambulance Service - Headquarters in Horsham and Stawell Branch Station
10 May 1984	Sub-Committee	Central Victoria District Ambulance Service - Headquarters in Bendigo  Northern District Ambulance Service - Headquarters in Echuca
11 May 1984	Sub-Committee	North Eastern Victoria District Ambulance Service - Headquarters in Wangaratta
15 May 1984	Sub-Committee	North West Victorian Ambulance Service - Headquarters in Mildura and Wentworth Branch Station
16 May 1984	Sub-Committee	South Gippsland District Ambulance Service - Headquarters in Leongatha  East Gippsland Ambulance Service - Headquarters in Sale
29 May 1984	Member	Ambulance Service - Melbourne - Ambulance Operations
12 June 1984	Members	Ambulance Officers' Training Centre
	Member	Ambulance Service - Melbourne - Ambulance Operations
14 June 1984	Members	Ambulance Officers' Training Centre
	Member & Staff	Royal Melbourne Hospital - Emergency Department
	Member	Ambulance Service - Melbourne - Ambulance Operations
15 June 1984	Members	Royal Melbourne Hospital - Emergency Department
	Members	Air Ambulance Operations
	Staff	In-Service Training Officers' Meeting- Ambulance Officers' Training Centre
18 June 1984	Members	Royal Melbourne Hospital - Emergency Department
19 June 1984	Member	Ambulance Service - Melbourne - Ambulance Operations

20 June 1984	Member	Air Ambulance Operations
21 June 1984	Staff	Royal Melbourne Hospital - Emergency Department
25 June 1984	Member & Staff	Royal Melbourne Hospital - Emergency Department
27 June 1984	Sub-Committee	Peninsula Ambulance Service - Headquarters in Frankston and Dandenong Branch Station
5 & 6 July 1984	Sub-Committee	New South Wales Ambulance Service - Headquarters in Sydney
11 July 1984	Sub-Committee	Alexandra and District Ambulance Service - Headquarters in Alexandra
13 July 1984	Chairman & Staff	MICA and Advanced Life Support Training, Ambulance Officers' Training Centre
16 July 1984	Chairman & Staff	Alfred Hospital - Emergency Department
17 August 1984	Staff	Ambulance Service - Melbourne - Clinic Transport Operations

\* \* \* \* \*



PARLIAMENT OF VICTORIA

PUBLIC BODIES REVIEW COMMITTEE

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*Thirteenth Report to the Parliament*

**FINAL REPORT ON**  
**VICTORIA'S AMBULANCE SERVICES**

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*Ordered to be printed*

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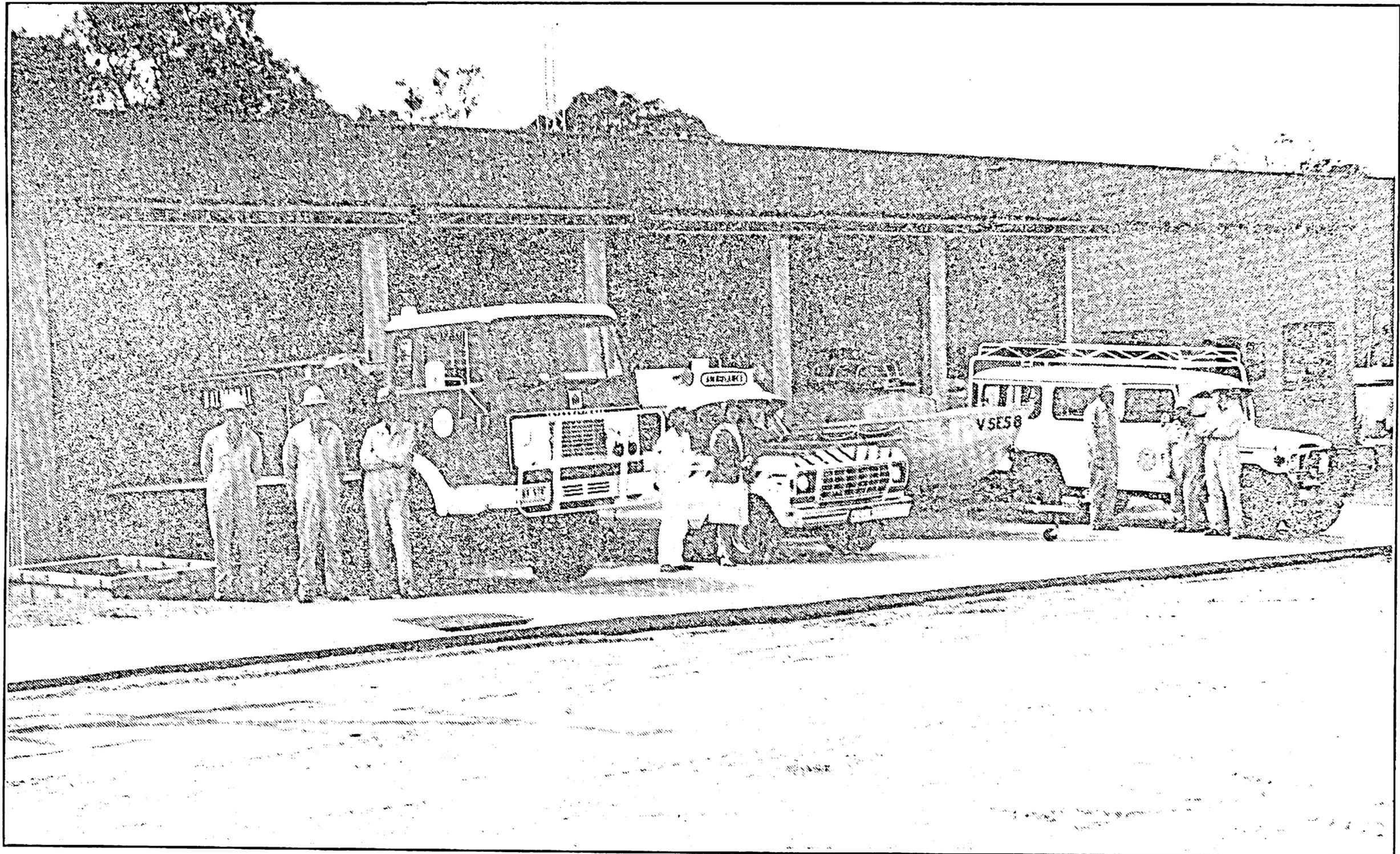


## REPORT ON VICTORIA'S AMBULANCE SERVICES

### TABLE OF CONTENTS

Chairman's Foreword	vii
Members and Staff of the Committee	x
Summary of Report	xv
Guide to Report	xxvi
Chapter 1: Introduction	1
Chapter 2: Ambulance Services in Victoria	11
Chapter 3: Ambulance Services Elsewhere	31
Chapter 4: The Performance and Objectives of Ambulance Services	47
Chapter 5: Organisational Structure	60
Chapter 6: Financial Management	123
Chapter 7: Personnel	148
Chapter 8: Ambulance Operations	214
Chapter 9: Implementation	290
Chapter 10: Full List of Recommendations	302
Appendix 1: Public Hearings and Witnesses	367
Appendix 2: Visits by the Public Bodies Review Committee	374
Appendix 3: Submissions and Petitions Received	377
Appendix 4: Helicopter Ambulance Services	380
Appendix 5: Wage Rates for Ambulance Personnel	388
Appendix 6: Results of Survey of Committees of Management	391
Appendix 7: Orders in Council	392
Appendix 8: References and Selected Bibliography	396
Extract from the Proceedings	401





Combined Ambulance, Country Fire Authority and State Emergency Service building in Balmoral. Photo: Jack Rogers



## Chairman's Foreword

The review of the Ambulance Services of Victoria has been a most challenging and interesting task for the Committee. This Report demonstrates the very large number of issues that have emerged during the review, and it also shows the complexity of many of them. I believe that the conclusions and recommendations that we have decided upon will be widely accepted by the Ambulance Services and within the community at large. The Committee has achieved a high degree of consensus on all of its recommendations. There has been a most gratifying display of unanimity on all of these important issues by members of all political Parties.

All members of the Committee have been very impressed with the enthusiasm and dedication to their tasks of almost all the people we have met during this review. The welfare of patients is clearly the major influence on all the Services' activities, and has been the major concern behind the views expressed to the Committee. While we have not agreed with all the views expressed to us, we do not doubt the sincerity and good intentions of those who appeared before the Committee or who supplied written submissions. The work of the Committee has been greatly assisted by the enormous amount of information readily supplied to it by individuals and organisations concerned with ambulance services right across the State.

It has come to our attention, however, that in several Services, officers or employees who put personal or private submissions to the Committee have been privately reprimanded for doing so, either by a more senior officer or by the Committee of Management or one of its members. While the Public Bodies Review Committee was freely given comprehensive evidence, it objects most strongly to such attempts at suppressing contributions from individuals. It believes very firmly that the best possible solutions to complex problems can come only from free and frank discussion of the issues and options.

Any attempt to discourage or dissuade a person from freely giving evidence to a Parliamentary Committee must be treated as a most serious matter. If any officer or employee feels that he or she has been or is being intimidated or victimised in any way because of evidence they have given to the Committee or a submission they have sent to it, I would like to be informed so that the matter may be taken up by the Parliament, as it borders on contempt and breach of Parliamentary privilege. Interfering with a witness is treated very seriously by the Courts and Parliament alike. Despite this, the Committee is confident that it has received sufficient evidence from all quarters to justify fully its findings.

In carrying out this review, the Committee has been very well served by its staff, both research and secretarial. For this review, the Committee has been most fortunate to have had the services of three outstanding researchers. The research staff have been Murray Frazer, our Director of Research, Margret Holmes, a Research Officer on exchange from the Commonwealth Department of Aviation, and Kathryn McAnalley, a Research Assistant employed specifically for this review. All have worked long and hard, grappling with very large amounts of information and seeking out possible solutions to the complex problems for consideration by the Committee.

I firmly believe that the Committee's research staff have made an invaluable contribution to our work and to the community's understanding of the importance of our Ambulance Services. Their meticulous preparation, scholarly and perceptive appraisals and objective analyses have all contributed to the strength of this Report. Responsibility for the Report, however, rests squarely with the Committee.

The secretarial staff have been led by Ray Purdey, the Committee's Secretary. On several occasions during the review he has been aided by David Ali as an Assistant Secretary, and they have done everything required of them. On behalf of all members of the Committee, I would like to pay a special tribute to the work for the Committee of Mrs Jean Anderson. She joined the Committee as a Stenographer when it started in March 1980, and worked with us until she became ill in August

this year. The speed and accuracy of her typing and her care and attention to detail set very high standards that have greatly helped the Committee in its work.

Finally, I wish to make special recognition of the contribution of Joy Whitfield, who worked with us from mid-August to mid-October as a word-processor operator. Her fast and accurate work, her concentration on the task, and her cheerful willingness to work long hours when needed, made a very substantial contribution to having this lengthy report prepared in time.

Robert H Miller, M P  
Chairman

## Members and Staff of the Committee

### Nomination of Members of the Public Bodies Review Committee

EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

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FRIDAY, 2 JULY 1982

14. JOINT INVESTIGATORY COMMITTEES - The Honourable W.A. Landeryou moved, by leave, That, contingent upon the enactment and coming into operation, this Session, of legislation to establish Joint Investigatory Committees:

\* \* \*

(d) The Honourables M.J. Arnold, B.A. Chamberlain, D.M. Evans, J.V.C. Guest and M.J. Sandon be members of the Public Bodies Review Committee.

Question - put and resolved in the affirmative.

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WEDNESDAY, 20 OCTOBER 1982

9. PUBLIC BODIES REVIEW COMMITTEE - The Honourable A.J. Hunt moved, by leave, That the Honourable J.V.C. Guest be discharged from attendance upon the Public Bodies Review Committee and that the Honourable C. Bubb be added to such Committee.

Question - put and resolved in the affirmative.

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EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

---

THURSDAY, 1 JULY 1982

36. COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the coming into operation of the Parliamentary Committees (Joint Investigatory Committees) Act 1982 -

\* \* \*

(d) Mr Delzoppo, Mr Evans (Gippsland East), Mr Miller, Mr Pope, Mr Remington, Mrs Sibree and Mr Sidiropoulos be appointed members of the Public Bodies Review Committee. (Mr Fordham) - put and agreed to.

**PUBLIC BODIES REVIEW COMMITTEE**

**of the Parliament of Victoria**

**COMMITTEE MEMBERS**

The Members of the Public Bodies Review Committee as appointed by the Forty-Ninth Parliament are:

**Mr Robert Miller, M P, Chairman**

Robert Miller was elected Member for Prahran in May, 1979. A barrister by profession, Mr Miller served as a Human Rights Officer for the United Nations in New York (1967-70) and lectured in Law at Monash University for ten years. Mr Miller was a member of the Victorian Parliamentary Delegation to the Constitutional Convention, Adelaide 1983.

**The Hon Bruce Chamberlain, M L C, Deputy Chairman**

Bruce Chamberlain was elected Member for Western Province in June, 1976 and prior to that represented the Dundas Electorate for three years. A practising barrister and solicitor, Mr Chamberlain was also a Hamilton City Councillor for four years and has served on a number of local community groups. Mr Chamberlain is Opposition Spokesman for Planning and Environment.

**The Hon Michael Arnold, M L C**

Michael Arnold was elected Member for Templestowe Province in June, 1982. A practising barrister and solicitor, Mr Arnold is a member of Amnesty International and many other associations and community groups.

**The Hon Clive Bubb, M L C**

Clive Bubb was elected Member for Ballarat Province in July, 1979. Before taking up farming, Mr Bubb was an Industrial Relations Manager and Advocate with the Victorian Chamber of Manufactures. Since entering Parliament Mr Bubb has served on the Public Accounts and Expenditure Review Committee and the Printing Committee. Mr Bubb is the Opposition Spokesman on Industrial Relations.

**Mr John Delzoppo, M P**

John Delzoppo was elected Member for Narracan in April, 1982. A former pharmaceutical chemist, Mr Delzoppo has been a councillor of the Shire of Buln Buln for sixteen years and was President of the Council on three occasions. He has also served on a number of community groups. Mr Delzoppo is the Opposition Spokesman on Local Government.

### **Mr Bruce Evans, M P**

Bruce Evans was elected Member for Gippsland East in July, 1961. A farmer and former RAAF officer, Mr Evans has also served on a number of local community groups. Mr Evans' Parliamentary service includes six years as Deputy Leader of his Party (1964-70), Party Whip since 1970 and service on thirteen Parliamentary Committees over twenty three years.

### **The Hon David Evans, M L C**

David Evans was elected Member for North Eastern Province in June, 1976. A farmer, Mr Evans served as a councillor with the Shire of Oxley for nine years. Since entering Parliament Mr Evans has served as Party Spokesman on Conservation, on Economic Development and on Forests. Mr Evans is also a Member of the Library Committee.

### **Mr Neil Pope, M P**

Neil Pope was elected Member for Monbulk in April, 1982. A qualified Town Clerk and former local government officer, Mr Pope also served as Industrial Officer with the Municipal Officers' Association. Mr Pope was a Lilydale Shire Councillor for three years.

### **Mr Keith Remington, M P**

Keith Remington was elected Member for Melbourne in a by-election in December, 1977. A Bank Manager by profession, Mr Remington was President of the Australian Bank Officers Association (1968-78) and was a Board Member of the Royal Automobile Club of Victoria for eleven years. Before entering Parliament Mr Remington was a Councillor with the City of Doncaster and Templestowe for six years and Mayor during 1969-70.

### **The Hon Malcolm Sandon, M L C**

Malcolm Sandon was elected Member for Chelsea Province in June, 1982. Before entering Parliament, Mr Sandon was a Federal Industrial Officer with the Municipal Officers' Association. Mr Sandon also tutored part-time at Latrobe University Sociology Department (1973-74) and lectured in Liberal Studies at Swinburne Institute of Technology (1975-76).

### **Ms Prudence Sibree, M P**

Prudence Sibree was elected Member for Kew in a by-election in August, 1981. A practising barrister and solicitor by profession, Ms Sibree was a Member of the Consumer Affairs Council (1975-81) and currently serves on a variety of boards and community groups. Ms Sibree is the Opposition Spokeswoman for Early Childhood Development, Youth and Women's Affairs.

### **Mr Theo Sidiropoulos, M P**

Theo Sidiropoulos was elected Member for Richmond in a by-election in December 1977. A former small business proprietor, Mr Sidiropoulos was a Collingwood City Councillor for ten years and Mayor during 1977-78. Mr Sidiropoulos is currently a Member of a number of local community groups.

**Drafting Sub-Committee for the Review of Victoria's Ambulance Services**

Mr Robert Miller, M P, Chairman

The Hon Bruce Chamberlain, M L C

Mr John Delzoppo, M P

The Hon David Evans, M L C

Mr Theo Sidiropoulos, M P

**Committee Staff**

Murray Frazer, B Sc (Hons), Ph D, Dip Ed (Tert), M Admin, Director of Research

Ray Purdey, B Bus (Acc), Secretary

Margret Holmes, B A, A L A A, Research Officer

Greg McConnell, B A (Hons), M Env Stud, Research Officer

Kathryn McAnalley, B A (Hons), Research Assistant

Jean Anderson, Word-processor Operator

Andrea Agosta, Stenographer

Joy Whitfield, Temporary Word-Processor Operator



## **Summary of the Thirteenth Report of the Public Bodies Review Committee**

### **REPORT ON VICTORIA'S AMBULANCE SERVICES**

#### **Chapter One: Introduction**

Victoria's Ambulance Services were referred to the Public Bodies Review Committee in December 1983. General terms of reference and specific terms of reference for Ambulance Services were provided, and the Committee has been guided by its six operating principles in conducting this review (Section 1.1). The Committee received over 160 submissions from groups and individuals, it conducted public hearings in Melbourne and in major non-metropolitan centres, and it visited each of Victoria's Ambulance Services (Section 1.2).

The Committee concludes that high quality ambulance services are provided to the people of Victoria, but that serious problems exist within Ambulance Services. Further, these problems require rectification if the present quality of on-road operations is to be maintained, and if the Ambulance Services are to develop further. The Committee believes that a small number of major changes and a greater number of minor changes will substantially improve the effectiveness and efficiency of the Ambulance Services (Section 1.3).

#### **Chapter Two: Ambulance Services in Victoria**

Victoria's Ambulance Services have developed from a charitable service operated by the St John Ambulance Association to sixteen regional Ambulances Services and the local Alexandra and District Ambulance Service, supported by the Ambulance Officers' Training Centre. The Services provide emergency care and transport of critically ill patients, non-emergency transport and care of patients, assistance in first-aid training, stand-by services at certain public events and assistance in counter-disaster planning and operations. The Services vary considerably in size, staff numbers, and hours during which staff are rostered on duty (Section 2.1).

All ambulance officers are trained in the emergency and non-emergency transport and care of patients, and Mobile Intensive Care Ambulance officers are trained in more advanced life support techniques. Ambulance Services operate a range of vehicles for the transport of patients including stretcher ambulances, mini-buses, helicopters and small fixed-wing aircraft (Section 2.2).

All Ambulance Services are registered under the Hospitals and Charities Act 1958 and each is managed by a Committee of Management. Country branch stations often have local Branch Auxilliary Committees to support the Service at a local level. The Health Commission of Victoria is responsible for ensuring the effective management of Ambulance Services and it also determines the level of Government subsidy which each of the Services receives (Section 2.3).

Ambulance officers initially attend a training course at the Ambulance Officers' Training Centre, and continuing ambulance education is provided within the Services. Courses for senior ambulance officers are also conducted at the Training Centre (Section 2.3).

The total operating budget of the Ambulance Services in 1982-1983 was \$49 117 000. The major sources of income are subscription fees, transport fees and Government grants. The Services are required to submit to the Health Commission of Victoria regular reports on their finances and operations (Section 2.3).

### **Chapter Three: Ambulance Services Elsewhere**

**New South Wales:** Ambulance services have undergone a number of structural changes during their development, but there is now one statewide service operating through regions. The New South Wales Ambulance Service operates an intensive care ambulance service (paramedics), air ambulance and a training school, and it employs women as ambulance officers (Section 3.1).

**Queensland:** There are 98 Ambulance Services, each with its own Committee of Management, all affiliated with the Queensland Ambulance Transport Brigade. They are less standardised and less co-ordinated than are Victoria's Services (Section 3.1).

**South Australia:** The majority of the 55 Ambulance Services are operated by the St John Ambulance Service for South Australia. Many ambulance stations are staffed by both full-time and voluntary officers. There is a medical retrieval team that uses both air and road transport (Section 3.1).

**Western Australia:** Ambulance services are provided by the St John Ambulance Association. Professional and voluntary staff work together in country regions, and of the 1400 volunteers employed, 40 per cent are women. Some advanced life support skills have been introduced and ambulance training has been developed along the lines of Victoria's (Section 3.1).

**Tasmania:** A statewide service started in 1983. Funds for the Service are provided by the state Government and local municipalities which levy rate-payers for ambulance services. Some advanced life support skills have been introduced in Tasmania and officers are re-accredited every 18 months (Section 3.1).

**United States:** Compared with Victoria's ambulance services, services in the US are fragmented and lack standardisation in training and equipment. Numerous different organisations provide ambulance services. It appears that the standard of Victoria's ambulance services compares very favourably with those in the United States, and Victoria's MICA operations are on a par with American paramedic services. Advanced life support techniques are often performed by volunteers in smaller centres throughout the US. Emergency medical systems, which are more widely recognised than in Australia, have been developed (Section 3.2).

**Canada:** Ambulance services are provided by a variety of organisations, with the quality of service, training and equipment all being variable (Section 3.2).

#### **Chapter Four: Performance and Objectives**

The present statement of objectives for Victoria's Ambulance Services gives little indication of how the performance of the Services is to be measured or of how priorities for development and resource allocation are to be established.

The Committee has heard few complaints about ambulance services, and the patient care provided has been praised by medical personnel. The services generally compare favourably with ambulance services in other Australian states and overseas. The monitoring of response times by Services is inadequate, but the Committee has heard few complaints about response times of ambulances. Some concern was expressed with the response of MICA units and with response times in some parts of the country. Overall, the Committee believes that Victoria's Ambulance Services provide a high quality service (Section 4.1).

A number of changes have occurred in recent years in Ambulance Services and in the environment in which they operate. These changes have led to some serious operational and managerial problems (Section 4.2). The lack of guidance provided by the statement of objectives has contributed to a number of problems in the Services (Section 4.3). The Committee recommends a new, more precise statement of objectives to be adopted by Victoria's Ambulance Services (Section 4.4).

## **Chapter Five: Organisational Structure**

The large number of Services in Victoria and the small size of many of them have contributed to numerous problems in the management, development and operations of Ambulance Services (Section 5.1.1). The Committee believes that a smaller number of larger Services is desirable, and recommends that the present non-metropolitan Services be replaced by five Services with the same boundaries as the Health Commission's regions (Section 5.1.2).

The Committee believes that two Ambulance Services in the metropolitan area, with a boundary through densely populated suburbs, is unjustified, and that a single metropolitan service would facilitate greater co-ordination of services and economies in staffing and resources. The Committee recommends the replacement of Ambulance Service - Melbourne and Peninsula Ambulance Service by the Metropolitan Ambulance Service (Section 5.1.3).

The quality of service provided by the Alexandra and District Ambulance Service is high and it is provided at minimal cost to the community or the Government. The

Committee recommends that the Alexandra and District Ambulance Service continue to exist (Section 5.1.4).

The Committee also recommends that the Ambulance Officers' Training Centre remain in existence (Section 5.1.4).

The Committee considers that separate "control districts" are necessary within each of the new Services. The Committee therefore recommends that in each Ambulance Service except Alexandra, control districts be established and centred initially on the headquarters of the present sixteen Services (Section 5.2.3).

Improved levels of communication and exchange of information are vital to the new organisational structure. The Committee therefore recommends the installation of a network of linked micro-computers in the Services (Section 5.2.4).

The Committee has concluded that Committees of Management have played a valuable role in providing community involvement and in the management of Ambulance Services. However, it is concerned with the adequacy of representation on and the limited franchise for election to the Committees (Section 5.3.1). It recommends that Committees of Management in the new Services manage within policies and standards determined by a central agency, and that Control District Ambulance Committees be established to provide advice and support to Committees of Management and to District Superintendents (Section 5.3.2).

There is a general dissatisfaction within the Ambulance Services with the role taken by the Health Commission of Victoria in the central administration of Victoria's Ambulance Services. The Committee believes that much of this dissatisfaction is justified (Section 5.4.1). It recommends the establishment of a Victorian Ambulance Commission to set policies and co-ordinate services, with representation from non-metropolitan and metropolitan Services and with access to a broad range of skills. The Victorian Ambulance Commission will also be responsible for the Air Ambulance Service and the Ambulance Officers' Training Centre (Section 5.4.2).

## **Chapter Six: Financial Management**

The process used to develop the annual budgets for Ambulance Services is unsatisfactory (Section 6.1.1). The Committee believes that budgeting and financial procedures should aim at identifying the costs of providing specific Services, and it recommends that the budget structure of Ambulance Services be based on commercial financial management principles. It is recommended that the Government contribution to Ambulance Services be based on the fees that would be paid by pensioners and others for whom charges are not levied. It would be appropriate for these costs to be borne by the Commonwealth Government as part of its social security programme (Section 6.1.2).

The Committee recognises the value of the Ambulance Subscription Scheme and recommends its retention (Section 6.2.1). The present arrangements for the payment for inter-hospital transfers are inappropriate in that they have contributed to problems for ambulance services and some hospitals. The Committee recommends that Ambulance Services receive direct grants from the Government for these transfers, and that strong review and control mechanisms be introduced (Section 6.2.2). The Committee considers that transport fees should be set at levels which reflect the cost of providing the services throughout the State (Section 6.2.3).

The Committee found that there is a lack of professional management skills in some Ambulance Services, although this should be rectified in the new larger Services. The new Services should tighten audit and control procedures, which have received some criticism although they appear to be generally satisfactory (Section 6.3.1). The Committee recommends that the new Services report regularly to the Victorian Ambulance Commission, and that these reports be used to assess the operational and financial performance of the Services (Section 6.3.2).

## **Chapter Seven: Personnel**

Recruitment and selection procedures vary between Services, and recruitment criteria do not accurately reflect the requirements of ambulance work (Section

7.1.1). There is no justification for the exclusion of women from employment as ambulance officers (Section 7.1.2). The future needs of the Services for high quality personnel, both in operations and management, require that Ambulance Services review their recruitment criteria and procedures (Section 7.1.3).

The Committee was impressed by the high quality of ambulance training provided by the Ambulance Officers' Training Centre, and it recommends its retention as the educational arm of Victoria's Ambulance Services. Further, the Committee recommends that an expanded role in research and development be taken by the Centre, directed by the Victorian Ambulance Commission (Section 7.2.2).

The quality of in-service training attracted considerable criticism during the review, and the Committee considers this area of training to be inadequate at present. Skills maintenance for ambulance officers is of vital importance, and will be even more so with the wider introduction of advanced life support skills. The Committee recommends greater involvement of the Ambulance Officers' Training Centre in skills maintenance, increased support for training officers, increased staff numbers to allow regular in-service training, and the provision of adequate training resources. The Committee also believes there is a need for regular assessment of ambulance officers' skills (Section 7.2.3).

The Committee considers that casual officers have performed and must continue to perform a valuable role in the provision of ambulance services. The Committee recommends developments in the training of casuals so that their training is also of a uniformly high standard (Section 7.2.4).

The development of management expertise within the Ambulance Services has not been sufficient to meet the developing management requirements of the Services. The Committee recommends that ambulance personnel be encouraged to undertake professional management courses, and that practical management experience be provided by the Services. The Committee concludes that in ambulance positions which are primarily managerial, it is not necessary to employ managers with ambulance experience (Section 7.3).

A number of health problems are experienced by some ambulance personnel, some the result of or aggravated by ambulance work. The Committee considers that some of these health problems can be alleviated by the maintenance of physical fitness and by the availability of personal counselling services for ambulance officers suffering stress (Section 7.4.1). The problem of "down-time" is recognised by the Committee as contributing to these problems. The Committee recommends that "down-time" be used more effectively for skills maintenance and physical fitness activities (Section 7.4.2).

The Committee considers that the existing retirement age for ambulance personnel of 65 is inappropriate considering the physical and mental demands of ambulance work. A lowering of the retirement age for personnel in active duties is recommended (Section 7.5.1).

Superannuation benefits available to ambulance personnel through the Hospitals Superannuation Fund have caused some concern. The Committee recommends that the Victorian Ambulance Commission examine the superannuation benefits available to ambulance officers (Section 7.5.1).

The Committee recommends that the jurisdiction of the Appeals Board be widened to include appeals against promotions up to and including the rank of Assistant Superintendent, and to include hearing grievances of ambulance personnel, including clerical staff (Section 7.5.4).

A number of aspects of Ambulance Services have contributed to poor morale among ambulance officers. Shortcomings in interpersonal communications in some Services, particularly between management and others, contribute to poor morale. The Committee recommends measures to improve such communications (Section 7.5.5).

### **Chapter Eight: Ambulance Operations**

The Committee is concerned at the transport by ambulance of people who have no medical need for the specialised ambulance services, and believes that the cost of

ambulance services makes this kind of transport unjustifiable. The Committee recommends new transport criteria to be widely publicised, the introduction of written medical authorisation for ambulance transport, and the establishment of Ambulance Transport Review Panels (Section 8.1.1).

Transport of non-emergency patients to hospitals or clinics for medical treatment are regularly subject to delays, particularly in the metropolitan area. These delays have serious consequences for the patients and for health institutions. The Committee recommends new booking procedures for non-emergency transport to ensure that Ambulance Services can determine at any time whether they will be able to meet the time-requirements of non-emergency transport (Section 8.1.2).

The Committee considers that the introduction of advanced life support skills into standard ambulance operating procedures will help reduce mortality and morbidity rates, and it thus recommends that this development proceed (Section 8.2.1).

The Committee rejects the notion of two-officer crews in all ambulances. The Committee recommends that a one-officer crew perform non-emergency transports when a second officer is unnecessary, that two-officer crews be available in the busier centres, and that the use of casuals to assist full-time officers in some areas be explored (Section 8.2.2).

The Committee recognises the high quality skills performed by Mobile Intensive Care Ambulance (MICA) officers, and recommends that the location of MICA units be reviewed to ensure that minimum response rates are attained for the majority of the population. The Committee also recommends that following the wider implementation of advanced life support skills there be a review of the comparative benefit of MICA units (Section 8.2.3).

Ambulance design and manufacture and ambulance equipment have been criticised by ambulance personnel. The Committee recommends that committees on vehicle design and ambulance equipment be established within the Victorian Ambulance Commission and be required to report regularly (Sections 8.3.1 and 8.3.2).

Inadequate and out-dated radio equipment has hindered communications between control room staff, ambulance crews and hospital emergency departments. The Committee recommends the continued upgrading of radio communications equipment as an urgent priority (Section 8.3.3).

The Committee is concerned with the absence of reliable data on response times and other indicators of performance, and recommends that detailed uniform data be collected, collated and published in the Services' annual reports (Section 8.4.1).

The Committee believes that with the wider introduction of advanced life support techniques, greater medical involvement in ambulance services will be necessary. The Committee recommends the appointment of Ambulance Service Medical Officers in each Service and the establishment of an Ambulance Medical Committee to provide medical input into the Victorian Ambulance Commission (Section 8.5.1). The Committee also considers that improvements in the patient care skills of ambulance officers could be achieved through regular case reviews (Section 8.5.3).

The Committee recommends the maintenance and development of closer liaison between the Ambulance Services, the State Emergency Service, the Country Fire Authority and the Victoria Police (Section 8.5.4).

Some country Ambulance Services are concerned with the response times of the Air Ambulance to emergency calls for transport. The Committee considers that the large number of non-emergency patients transported by air restricts the capacity of the Air Ambulance to respond as quickly as possible to emergencies. The Committee recommends that priority be given to time-critical and medically necessary patients, and that arrangements for the diversion of aircraft from non-emergency to emergency flights be improved (Section 8.6.1).

The Committee considers that helicopter ambulance services should also give priority to time-critical transports. The Committee has serious reservations about some of the changes proposed by the Committee of Inquiry into the Use of Helicopter Ambulances (Section 8.6.3).

The Committee recommends that all forms of ambulance transport be co-ordinated to ensure that patients are transported by the most effective means (Section 8.6.4).

### **Chapter Nine: Implementation**

The Committee considers that the initial steps in the implementation of the changes it has recommended to the organisational structure of Ambulance Services are the establishment of an Interim Victorian Ambulance Commission, of a Task Force in each country Service, and of an interim Committee of Management in Metropolitan Ambulance Service. Each of these bodies should cease to exist within twelve months. The function of the Interim Victorian Ambulance Commission is to be the supervision of the implementation of the Committee's recommendations. The Task Forces and Metropolitan Interim Committee of Management will be responsible for the establishment of the new Services (Section 9.1).

In the short-term, the Committee does not anticipate direct financial savings from the new organisational structure of Ambulance Services. The Committee does believe that in the long-term, savings will be achieved through improved efficiency and effectiveness in the Services. The Committee considers that the additional costs of the new organisational structure, which are primarily related to the appointment of personnel with management expertise and specialist skills, are justified (Section 9.2).

\* \* \* \* \*

**Guide to the Thirteenth Report of the Public Bodies Review Committee**

**FINAL REPORT ON VICTORIA'S AMBULANCE SERVICES**

**Chapter One: Introduction**

1.1	The Reference	1
1.2	Scope and Conduct of this Inquiry	5
1.3	Major Themes	8
1.4	Outline of Report	10

**Chapter Two: Ambulance Services in Victoria**

2.1	Development of the Present System	11
2.2	Ambulance Operations	16
2.3	Management, Staffing and Finance	21
2.4	Ambulance Organisations	29

**Chapter Three: Ambulance Services Elsewhere**

3.1	Other Australian Services	31
3.2	Other Countries	39

**Chapter Four: Performance and Objectives of Ambulance Services**

4.1	Assessment of Current Performance	47
4.2	Changes Affecting Ambulance Services	51
4.3	Assessment of Contemporary Relevance of Objectives	54
4.4	Recommended Objectives	57
	<b>Rec 4.1</b> New statement of objectives for Ambulance Services	

## Chapter Five: Organisational Structure

<b>5.1</b>	<b>Number and Boundaries of Ambulance Services</b>	
5.1.1	Difficulties of the Present Arrangements	61
5.1.2	Proposed New Non-Metropolitan Ambulance Services	66
	<b>Rec 5.1</b> Formation of non-metropolitan Ambulance Services	
	<b>Rec 5.2</b> Boundaries and other arrangements for new Services	
5.1.3	Proposed New Metropolitan Ambulance Service	73
	<b>Rec 5.3</b> Formation of Metropolitan Ambulance Service	
	<b>Rec 5.4</b> Boundaries and other arrangements for new Service	
5.1.4	Alexandra and District Ambulance Service and the Ambulance Officers' Training Centre	76
	<b>Rec 5.5</b> Continued existence of Alexandra and District Service	
	<b>Rec 5.6</b> Alexandra and Goulburn-North Eastern co-operation	
	<b>Rec 5.7</b> Continued existence of Training Centre	
<b>5.2</b>	<b>Establishment and Organisation of the New Ambulance Services</b>	
5.2.1	Legislative Requirements	80
	<b>Rec 5.8</b> Ambulance Service Victoria Act	
5.2.2	Common Identity	81
	<b>Rec 5.9</b> Ambulance Service Victoria Name and Emblem	
5.2.3	Organisation of Services	82
	<b>Rec 5.10</b> Headquarters and Superintendents	
	<b>Rec 5.11</b> Functions of Headquarters	
	<b>Rec 5.12</b> Formation of Control Districts	
	<b>Rec 5.13</b> Location of Control Districts	
	<b>Rec 5.14</b> Functions of Control Districts	
5.2.4	Communications within Services	88
	<b>Rec 5.15</b> Communications Links	
<b>5.3</b>	<b>Committees of Management</b>	
5.3.1	Present Operations of Committees	90
5.3.2	Committees of Management in the New Services	93
	<b>Rec 5.16</b> Non-Metropolitan Committees of Management	

<b>Rec 5.17</b>	Functions of Committees of Management	
<b>Rec 5.18</b>	Formation of Control District Committees	
<b>Rec 5.19</b>	Functions of Control District Committees	
<b>Rec 5.20</b>	Provisions in the Act for Control District Committees	
<b>Rec 5.21</b>	Metropolitan Committee of Management	
5.3.3	Structure of Ambulance Services	101
<b>Rec 5.22</b>	Structure of Services	
5.4	Central Management of Victoria's Ambulance Services	
5.4.1	The Present Role of the Health Commission	102
5.4.2	Victorian Ambulance Commission: Establishment and Functions	107
<b>Rec 5.23</b>	Formation of Ambulance Commission by the Act	
<b>Rec 5.24</b>	Functions of Ambulance Commission	
5.4.3	Victorian Ambulance Commission: Structure and Operations	115
<b>Rec 5.25</b>	Membership of Ambulance Commission	
<b>Rec 5.26</b>	Conditions of Membership	
<b>Rec 5.27</b>	General Manager of Commission	
<b>Rec 5.28</b>	Office of Commission	
<b>Rec 5.29</b>	Committees of the Commission	
<b>Rec 5.30</b>	Air Ambulance	
<b>Rec 5.31</b>	Ambulance Officers' Training Centre	
<b>Rec 5.32</b>	Role of Health Commission	
5.5	Further Review	122
<b>Rec 5.33</b>	Review of Ambulance Services in 1990	

## Chapter Six: Financial Management

6.1	Budgetary Process	
6.1.1	The Present Role of the Health Commission	124
6.1.2	A Commercially-Oriented Budgetary System	129

- Rec 6.1** New Budget Structure
- Rec 6.2** Government Contribution
- Rec 6.3** Commonwealth Government Contribution

## 6.2 Funding Ambulance Services

- 6.2.1 Subscription Scheme 133
  - Rec 6.4** Continuation of the Scheme
  - Rec 6.5** Abolition of Contributor category
- 6.2.2 Payments for Inter-Hospital Transfers 136
  - Rec 6.6** Funding of Inter-hospital Transfers
  - Rec 6.7** Funding of PETS
- 6.2.3 Transport Fees 140
  - Rec 6.8** Setting of Fees

## 6.3 Financial Accountability

- 6.3.1 Control and Audit 143
  - Rec 6.9** Audit and Internal Controls
  - Rec 6.10** Authorisation of Expenditure
- 6.3.2 Reporting and Accountability 24
  - Rec 6.11** Financial Reporting

## Chapter Seven: Personnel

### 7.1 Recruitment of Ambulance Officers

- 7.1.1 Recruitment Criteria 149
- 7.1.2 Recruitment of Women as Ambulance Officers 151
- 7.1.3 Future Needs in the Recruitment of Ambulance Personnel 153
  - Rec 7.1** Development of Criteria and Recruitment of Women
  - Rec 7.2** Consistent and Formalised Recruitment Procedures

### 7.2 Initial and Ongoing Training of Ambulance Officers

- 7.2.1 Initial Training of Ambulance Officers 156

	<b>Rec 7.3</b>	Relevance of Certificate course work	
	<b>Rec 7.4</b>	Importance of Lifting Techniques	
7.2.2		Role of the Ambulance Officers' Training Centre	161
	<b>Rec 7.5</b>	Retention and Broadened Role of the Centre	
	<b>Rec 7.6</b>	New Site for Centre	
7.2.3		Skills Maintenance	167
	<b>Rec 7.7</b>	Use of Term "Skills Maintenance"	
	<b>Rec 7.8</b>	Increased Role of AOTC in Skills Maintenance	
	<b>Rec 7.9</b>	Ambulance Manuals	
	<b>Rec 7.10</b>	Full-time Skills Maintenance Officers	
	<b>Rec 7.11</b>	Increased Staff numbers for Skills Maintenance	
	<b>Rec 7.12</b>	Provision of Equipment for Skills Maintenance	
	<b>Rec 7.13</b>	Periodic Testing of Skills	
7.2.4		Role and Training of Casual Ambulance Officers	174
	<b>Rec 7.14</b>	Endorsement of Continuing Role for Casuals	
	<b>Rec 7.15</b>	Recruitment of Men and Women as Casuals	
	<b>Rec 7.16</b>	Training for Casuals	
7.3		Recruitment and Training of Management Personnel	
	7.3.1	Present Management Skills	180
	7.3.2	Development of Management Training	182
	7.3.3	Effectiveness of Management Development	184
		<b>Rec 7.17</b> Broadening Nature of Management Development	
	7.3.4	Recruitment of Management Personnel	188
		<b>Rec 7.18</b> Promotion on Basis of Merit	
		<b>Rec 7.19</b> Development of Job Descriptions	
		<b>Rec 7.20</b> Management Skills as a Criterion for Management Positions	
7.4		Occupational Health	
	7.4.1	Health and Stress	192
		<b>Rec 7.21</b> Importance of Physical Fitness	
		<b>Rec 7.22</b> Access to Personal Counselling	
	7.4.2	"Down-time" in Ambulance Services	196
		<b>Rec 7.23</b> Utilisation of Down-time	

<b>7.5</b>	<b>Personnel Practices</b>	
7.5.1	Retirement and Superannuation	198
	<b>Rec 7.24</b> Lowering of Retirement Age	
	<b>Rec 7.25</b> Review of Superannuation Arrangements	
7.5.2	Sick Leave	203
7.5.3	Salary Structure and Calculation	204
	<b>Rec 7.26</b> Review of Salary Scales	
7.5.4	Grievances and Appeals	208
	<b>Rec 7.27</b> Composition of Appeals Board	
	<b>Rec 7.28</b> Wider Jurisdiction for Appeals Board	
	<b>Rec 7.29</b> Wider Representation on Board	
	<b>Rec 7.30</b> Appeals involving other Services	
7.5.5	Staff Morale	211
	<b>Rec 7.31</b> Improvements to Personal Communications	

### **Chapter Eight: Ambulance Operations**

<b>8.1</b>	<b>Use of Ambulance Transport</b>	
8.1.1	Authorisation of Transport	215
	<b>Rec 8.1</b> Emergency Response without Authorisation	
	<b>Rec 8.2</b> Transport Criteria	
	<b>Rec 8.3</b> Publicity for Criteria	
	<b>Rec 8.4</b> Authorisation Procedure	
	<b>Rec 8.5</b> Transport Review Mechanism	
8.1.2	Clinic Transport	222
	<b>Rec 8.6</b> Increased Reliability of Non-Urgent Transports	
	<b>Rec 8.7</b> Co-ordination with other Organisations	
8.1.3	Inter-Hospital Transfers	227
<b>8.2</b>	<b>Ambulance Crews and Officers' Skills</b>	
8.2.1	Level of Ambulance Officers' Skills	230
	<b>Rec 8.8</b> Advanced Life Support	
8.2.2	Two Officers in Crews	233
	<b>Rec 8.9</b> One and Two Officers in Crews	
8.2.3	Mobile Intensive Care Ambulances	236

	<b>Rec 8.10</b>	<b>Role and Location of MICA Units</b>	
8.2.4		<b>Legal Position of Ambulance Officers</b>	239
	<b>Rec 8.11</b>	<b>Use of Operational Protocols</b>	
8.3		<b>Vehicles and Equipment</b>	
8.3.1		<b>Vehicles</b>	242
	<b>Rec 8.12</b>	<b>Vehicle Supply and Design</b>	
	<b>Rec 8.13</b>	<b>Retirement of Vehicles</b>	
8.3.2		<b>Ambulance Equipment</b>	247
	<b>Rec 8.14</b>	<b>Equipment Review and Approval</b>	
8.3.3		<b>Communication Needs and Equipment</b>	250
	<b>Rec 8.15</b>	<b>Ambulance Service and Hospital Communications</b>	
8.4		<b>Ambulance Response</b>	
8.4.1		<b>Response Times</b>	254
	<b>Rec 8.16</b>	<b>Monitoring of Response Times and Performance Indicators</b>	
8.4.2		<b>Access to Ambulances</b>	257
8.4.3		<b>Control Operations and Dispatch Procedures</b>	258
	<b>Rec 8.17</b>	<b>Control Room Procedures</b>	
	<b>Rec 8.18</b>	<b>Computer-Aided Dispatch</b>	
8.5		<b>Relationships Between Ambulance Services and Medical Services</b>	
8.5.1		<b>Medical Officers</b>	261
	<b>Rec 8.19</b>	<b>Ambulance Service Medical Officers</b>	
	<b>Rec 8.20</b>	<b>Ambulance Medical Committee</b>	
8.5.2		<b>Hospitals</b>	264
	<b>Rec 8.21</b>	<b>Co-ordination between Hospitals and Ambulance Services</b>	
8.5.3		<b>Case Review</b>	269
	<b>Rec 8.22</b>	<b>Regular Case Review Procedures</b>	
8.5.4		<b>Disaster Co-ordination</b>	270
	<b>Rec 8.23</b>	<b>Co-operation with other Emergency Services</b>	
8.5.5		<b>Complaint Handling</b>	

<b>8.6</b>	<b>Air and Helicopter Ambulances</b>	
8.6.1	Use and Response of Air Ambulance	274
	<b>Rec 8.24</b> Management of Air Ambulance	
	<b>Rec 8.25</b> Priority for Emergency Transports	
	<b>Rec 8.26</b> Transport Guidelines	
	<b>Rec 8.27</b> Costing of Air Ambulance	
	<b>Rec 8.28</b> Medical Kits for Diversion of Aircraft	
	<b>Rec 8.29</b> Review of Arrangements for Diversion	
8.6.2	Contract Arrangements	279
	<b>Rec 8.30</b> Tender Specifications for Air Ambulance	
8.6.3	Helicopter Ambulance Services	282
	<b>Rec 8.31</b> Upgrading of Helicopter Services	
8.6.4	Co-ordination between Air Ambulance and other Ambulances	288
	<b>Rec 8.32</b> Radio Communications in Air Ambulance	
	<b>Rec 8.33</b> Communications and Co-ordination of all Ambulance Transport	

### **Chapter Nine: Implementation**

<b>9.1</b>	<b>Initial Implementation Strategy</b>	<b>290</b>
	<b>Rec 9.1</b> Establishment and Functions of Interim Victorian Ambulance Commission	
	<b>Rec 9.2</b> Establishment and Functions of Non-Metropolitan Task Forces	
	<b>Rec 9.3</b> Establishment and Functions of Metropolitan Interim Committee of Management	
	<b>Rec 9.4</b> Salary Levels of Present Staff	
<b>9.2</b>	<b>Costs of the New Organisational Structure</b>	<b>299</b>

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## FINAL REPORT ON VICTORIA'S AMBULANCE SERVICES

### CHAPTER ONE: INTRODUCTION

#### 1.1 The Reference

The sixteen major Ambulance Services in Victoria were referred to the Public Bodies Review Committee by an Order in Council of 20 December 1983. A further Order in Council of 14 February 1984 added the Ambulance Officers' Training Centre and the Alexandra and District Ambulance Service to the reference. The orders specified that the Committee submit an interim report to Parliament by September 1984, and a final report by December 1984. An Interim Report was tabled in both Houses of Parliament on 19 September 1984 in accordance with that requirement, and this Final Report completes the study. This review is the most comprehensive study of the provision of ambulance services in Victoria since the present system was established by the Hospitals and Charities Commission in 1948.

The Ambulance Services are registered under Section 22 of the Hospitals and Charities Act 1958, and the Ambulance Officers' Training Centre is established directly by the Health Commission of Victoria. The public bodies under review are:

Alexandra and District Ambulance Service,  
Ambulance Officers' Training Centre,  
Ambulance Service - Melbourne,  
Ballarat and District Ambulance Service,  
Central Victoria District Ambulance Service,  
East Gippsland Ambulance Service,  
Geelong and District Ambulance Service,  
Glenelg District Ambulance Service,  
Goulburn Valley Ambulance Service,  
Latrobe Valley District Ambulance Service,  
Mid-Murray District Ambulance Service,

North Eastern Victoria District Ambulance Service,  
North West Victorian Ambulance Service,  
Northern District Ambulance Service,  
Peninsula Ambulance Service,  
South Gippsland District Ambulance Service,  
South-Western Victoria Ambulance Service, and  
Wimmera District Ambulance Service.

When reviewing any body or bodies, the Committee is required by the Parliamentary Committees Act 1968 to report to Parliament on the question of whether or not the body or bodies under review should cease to exist. In doing so, the Committee is empowered to consider any matter that it considers relevant, and it is required to consider the following specific matters:

- (1) whether or not the objects of the body are worth pursuing in contemporary society;
- (2) whether or not the body pursues its objects efficiently, effectively and economically;
- (3) whether or not the structure of the body is suited to the activities it performs;
- (4) whether or not the body duplicates the work of another person or body;
- (5) the financial and other liabilities and obligations of the body;
- (6) the staff of the body (including officers or employees of the public service whose services are being made use of by the body);
- (7) the extent to which the body seeks information as to the effect of its activities and acts on the information it receives;
- (8) the extent to which the body considers the public interest when performing its activities;
- (9) the extent to which the body encourages public participation in its activities;
- (10) the manner in which the body handles complaints about its activities; and
- (11) the extent to which the body is prepared to improve its structure, composition or procedures.

In all of its previous studies, these matters alone have determined the Committee's terms of reference. In what is a new approach for this Committee, the Order in Council establishing this review specified a number of additional matters to be considered by the Committee. These extra terms of reference are:

- (12) the role of ambulance services in Victoria's health transport system;
- (13) the number and boundaries of ambulance services, taking into account regional boundaries being introduced by the Health Commission of Victoria;
- (14) the method of administration of ambulance services, including the role, selection and training of committees of management and senior ambulance officers - this should also include the role of local ambulance committees;
- (15) financial management and reporting systems;
- (16) the systems of recruitment and initial and in-service training of ambulance officers;
- (17) the relationship between central services such as air ambulance and the various regional and sub-regional services;
- (18) the relationship between hospital and ambulance financial and management systems; and
- (19) the role of the Health Commission of Victoria in the provision of ambulance services and their administration and planning.

The Committee has conducted its review with the requirements of both sets of terms of reference in mind.

Apart from including the extra list of specific items in its examination, the Committee has followed the same general style and methodology as in its previous reviews. In its Ninth Report, of December 1983, the Committee affirmed its commitment to the six basic principles of operation that were first proposed in the First Report of the Committee to Parliament in December 1980. The Committee believes very strongly that the observance of these principles has substantially contributed to its work as an agent of reform, both before and after the restructuring of Parliament's committee system in mid-1982. For this review, the Committee has amended the third and the sixth of these principles. In the following list of the principles the words appearing in bold type are new.

The six operating principles that have governed this review by the Committee are:

- (1) Open: each review should as far as possible be by an open process;
- (2) Parliamentary: the Committee should operate in the first instance as an instrument of the Parliament rather than of Government of Party;
- (3) Consultative: the Committee should seek to enter into genuine discussion with all relevant groups **and individuals**;
- (4) Research-based: the Committee's hearings should be augmented by independent high quality research;
- (5) Working Committee: the Committee itself should be the working, reviewing agency, not simply endorsing the work of others; and
- (6) Constructive: the Committee's work should be a constructive **and future-oriented** review of policy, not a negative audit of the past.

In all of its reviews, the Committee has consulted widely with individuals as well as with groups. The Committee believes that its accessibility to concerned individuals is of such importance that it should be made explicit in the operating principles and it has therefore amended the third principle. In addition, the Committee does not see its role as concentrating on analysis of past events, or as involving the allocation of blame for present or past inadequacies, or as attempting to correct previous specific administrative decisions or deficiencies. The Committee has always been firmly of the view that its work should be future-oriented: that is, it should at all times be seeking not only constructive solutions to present problems, but also to problems that appear certain or likely to develop in the foreseeable future. To emphasise this, it has amended the sixth principle.

\* \* \* \* \*

## 1.2 Scope and Conduct of this Inquiry

Ambulance Services have stronger and more immediate links with the community at large than have most public bodies. These links are shown in their very widespread Subscription Scheme, their historical development from small community-based services, and their present contributor-elected Committees of Management. It is now generally expected within the community that high quality ambulance services will be available, and the importance of these services to the community cannot be overestimated. Considerable emotion often develops around any discussion of ambulance services or of any supposed shortcomings in the performance of Services. Ambulance officers themselves, at all levels from recruit to superintendent, generally care most strongly and very personally for their patients and for their profession.

At present, Victoria has a very active group of Ambulance Services. Each year, their 600 vehicles carry some 650 000 patients a total of eighteen million kilometres, under what is usually a high standard of patient care.

The reference of the Ambulance Services to the Committee appeared in the Government Gazette on 29 December 1983. The Committee commenced work on the review on 10 January 1984 when it wrote to all Ambulance Services, to the Health Commission, and to several related organisations informing them of the review and requesting background information from them. The Committee placed notices in The Age on 3 February, in the Government Gazette on 7 February, and in newspapers in the fifteen provincial cities or towns that are the headquarters of Ambulance Services during the first week in February. These notices publicly announced the review, and invited submissions from the public on any matters relevant to the terms of reference.

In February, the Committee wrote to about 170 individuals and organisations across the State, informing them of its terms of reference and inviting them to make submissions. Over 160 formal submissions, including two petitions, ranging from one or two lines to in excess of 200 pages, have been received in response to these invitations and to the public announcements. Many individuals and organisations have followed their initial submissions with supplementary information at a later

date. A list of organisations and individuals who made submissions to the Committee is in Appendix Three. In addition, some individuals contacted the Committee on a private, confidential basis, to provide extra material or to discuss specific matters or incidents. The Committee has also collected a large quantity of printed material relevant to ambulance services in Victoria, elsewhere in Australia, and overseas.

Early in March the Committee made the first of its many visits to ambulance stations, with inspections of the headquarters and one branch station in each of Ambulance Service - Melbourne and the Ballarat and District Ambulance Service, and of a volunteer station within the Ballarat area.

The Committee has what is now a well-established procedure whereby the Minister responsible for the bodies under review appears before it at the first public hearing of each review. Following this practice, the Minister of Health, The Hon T W Roper, M P, appeared as a witness on 28 March. Over the next three months, the Committee conducted public hearings in Swan Hill, Hamilton, Shepparton, Morwell and for five days in Melbourne. In total, 131 individuals appeared before the Committee, representing 71 separate organisations or parties. Evidence from these hearings covers 880 pages. A list of hearings and witnesses is given as Appendix One of this Report, and a full list of visits made by the Committee appears in Appendix Two.

The Committee or individual members of the Committee have visited the headquarters of every Ambulance Service, some branch stations of most Services, the Ambulance Officers' Training Centre, the New South Wales Ambulance Service Headquarters in Sydney, and have travelled with road ambulances in action, the Mobile Intensive Care Ambulance, the air ambulance, clinic transport vehicles, and have inspected the helicopter ambulance of Peninsula Ambulance Service. Members have also observed the delivery of patients by ambulance to the Emergency Departments of the Royal Melbourne, Austin and Alfred Hospitals. In addition, Committee members and research staff have made a large number of informal visits to ambulance stations and to related organisations. The Committee members and staff have made themselves available for informal discussions with individual ambulance officers at their request, and have held many such discussions.

Concurrent with this review, there have been several other major changes or proposals for change affecting ambulance and health services. Perhaps the most important of these is the regionalisation of the Health Commission of Victoria. This has been under serious consideration within the Commission at least since the release of a discussion paper in November 1980, and the decision to proceed was announced by the Minister of Health in September 1983. Such an arrangement clearly has the potential to be of major significance to Ambulance Services, a fact which is recognised quite explicitly in the twelfth term of reference for the Committee.

During the first part of the Committee's review, a separate "Committee of Inquiry into the Use of Helicopters in Ambulance Services" was at work. This was appointed by the Minister of Health in 1983, and its final report was released by him in August 1984. The Minister forwarded a copy of the report to this Committee, and in his covering letter he noted that:

"The Government believes that the Report constitutes an excellent basis for future planning. However, before acting on it, I would appreciate the views of your Committee".

When the Ambulance Services were referred to the Committee, discussions on a proposed amalgamation of Ambulance Service - Melbourne and Peninsula Ambulance Service were at an advanced stage, although final agreement had not been reached. Further negotiations were then delayed, pending the Committee's review.

The Committee has been most impressed with the dedication to their tasks of the vast majority of those connected with the Ambulance Services of Victoria. It is also impressed with the very deep concern for the quality of ambulance services expressed by the many representatives of the wider community with whom it has discussed this review. The enthusiastic co-operation of virtually all concerned has helped to make this comprehensive review of these large and complex activities possible in a comparatively short period of time.

\* \* \* \* \*

### 1.3 Major Themes

The terms of reference for this review are numerous and extremely broad. As in its previous reviews, the Committee has concentrated its attention on several major themes, which emerged during the inquiry. These themes underpin all of the recommendations that the Committee makes in this Report. The terms of reference that have been covered in detail in the review are largely those that are most directly and most clearly linked with these themes.

From its own observations and from the evidence presented to it, the Committee has concluded that on-the-road ambulance operations in Victoria are generally highly effective, and that they appear to compare very favourably with ambulance services elsewhere. However, it is clear to the Committee that some serious problems have developed within the ambulance industry: it is also clear that, unless strong actions are taken, these problems will almost certainly be exacerbated. Both the successes of the Services and their present difficulties are discussed at length later in this Report.

The Committee is acutely aware that the recommendations that are contained in this Report are likely to be a major influence on the performance and structure of Ambulance Services in Victoria into the twenty-first century. With this in mind, the Committee is basing its analysis and its recommendations on the following four major themes:

- . ambulance services require an organisational structure that is more effective than is presently provided, and the future structure should provide much more satisfactory interaction with the Health Commission of Victoria;
- . ambulance services require much higher levels of professional expertise in general management areas such as personnel, industrial relations, planning and finance, to match and supplement their existing high levels of professionalism in patient care and transport;
- . ambulance services require much higher levels of co-ordination and involvement with hospital emergency departments in an emergency medical system; and

- ambulance services require more appropriate methods of financial and operational reporting and accountability to those who depend upon or pay for the services, including improved methods of assessing the effectiveness of their use of resources.

Problems exist or are developing with the morale of ambulance officers, in some crucial aspects of the management of the system as a whole, in finance, and in a number of aspects of operations. These problems are evidence of significant stresses within the organisations, and the signs of these stresses are visible throughout the system, in all parts of the State, at all levels within the Services, and in the interactions between the Services and other organisations such as hospitals and the Health Commission.

As a result of these stresses, and the existing and developing problems, there are doubts about the capacity of the system to develop further and to increase the effectiveness of the services it provides, and about the efficiency with which it uses the substantial community resources available to it. This raises some questions about the ability of the system to maintain indefinitely the present levels of service. These doubts are shared by many within the system, and they contribute markedly to the fairly widespread frustration felt by many officers.

The Committee notes the generally high level of professionalism with which the on-the-road operations of the Ambulance Services are carried out in response to calls to emergencies. It appears that response times to such cases are usually satisfactory, the training and operational standards of the emergency crews are of a high standard, and most of the equipment available in vehicles is also of good and reliable quality. As a result, the scope for rapid and dramatic improvement in the effectiveness of service provided to the public is not large: those situations or patients not adequately cared for at present tend to be those that are most difficult to treat, because of their isolation, the nature of their illness or accident, or some similar reason.

Despite these reservations, the Committee believes that with a small number of major changes and numerous minor changes, the State's Ambulance Services will be able to achieve considerable gains in the quality of service provided and in the efficiency with which resources are used, without losing some of the present highly desirable characteristics.

## 1.4 Outline of Report

Chapter Two describes the organisation and operation of Victoria's Ambulance Services, including the types of services provided, the management of the Services, and the ambulance-related organisations which have developed in Victoria. Chapter Three gives an overview of ambulance services in other states of Australia, and in the United States and Canada, particularly focussing on the organisation, funding, training and quality of patient care provided by these other services.

Chapter Four assesses the performance of Victoria's Ambulance Services in terms of their stated objective, then evaluates the contemporary relevance and appropriateness of that objective. The Chapter recommends a new fundamental objective for the Services. The organisational structure of the Ambulance Services, including the number of Services, the internal management of each and the central management of the system of Services, is examined in Chapter Five, and recommendations are there made for new organisational arrangements.

Chapter Six reviews the financial management of the Services, examining the formulation of budgets, the funding arrangements, and the accountability of the Services to the public and the Government, and some changes to these aspects of Ambulance Services are recommended. A number of issues related to the personnel requirements of Ambulance Services, and the conditions affecting ambulance personnel are discussed in Chapter Seven and a number of changes are recommended.

Chapter Eight considers a number of operational aspects of Ambulance Services, examining the extent to which ambulance operations are efficient and the extent to which they provide optimum quality of patient care. Recommendations to improve effectiveness and efficiency of operations are made. Chapter Nine recommends a framework for the initial implementation of the organisational changes recommended in the Report, and also discusses the likely cost implications of these changes.

## CHAPTER TWO: AMBULANCE SERVICES IN VICTORIA

### 2.1 Development of the Present System

Victoria's first ambulance service was established in Melbourne by the St John Ambulance Association in the 1880s and was funded by charitable donations. The first motor ambulance went into service in 1910. No charges were levied for services provided and consequently the organisation experienced serious financial difficulties together with an ever increasing level of demand for patient transport. This led to the establishment in 1916 of the Victorian Civil Ambulance Service as a state-wide organisation separate from the St John Organisation, and to the introduction of charges for transport services. The activities of the St John Ambulance Association and Brigade in Victoria were then limited to the teaching of first aid and the provision of first aid assistance, which roles they retain to the present day. While the Victorian Civil Ambulance Service provided an adequate ambulance service for the Melbourne metropolitan area, the level of service provided in country areas varied. Attempts to establish country branches of Victorian Civil Ambulance Service were sometimes successful, but in many areas responsibility for the provision of ambulance services fell to the local municipal council, to the local hospital or to small, independent and voluntary bodies.

In 1948 the Hospitals and Charities Commission was established and ambulance services for Victoria were included in its responsibilities. In an attempt to provide a 24 hour a day service by full-time trained ambulance personnel to all people in the State, the Commission decided that the Victorian Civil Ambulance Service should continue to serve the Melbourne metropolitan area but that services to country districts should be provided by regional ambulance services managed by regional committees. Headquarters for each of the fifteen non-metropolitan regions were established in provincial centres that were on main highways and which had major hospitals, and the boundaries tended to reflect the existing pattern of patient transfers. All of the regional ambulance services were functioning by 1954.

Today, ambulance services in Victoria are provided by these same regional organisations. While the same boundaries apply, there is a great deal of co-operation between adjacent services and boundaries are usually not rigidly adhered to in operations. The existing boundaries are shown on the map in Figure 2.1.

Some small local Services continued to operate until comparatively recently: for example, the Upper Yarra District Ambulance Service operated until 1981 when it was taken over by the Goulburn Valley Ambulance Service, and Heyfield and District Ambulance Service operated until 1975 when it became part of East Gippsland Ambulance Service. Some lists of Services still include these Services.

Ambulance Services vary considerably in size and area. Table 2.1 shows the area covered by each Service, its population, the numbers of staff associated with each Service, the number of stations in each Service and how many vehicles each uses.

Sixteen Services are staffed by permanent, full-time personnel. A seventeenth Service, the Alexandra and District Ambulance Service, is staffed wholly by volunteers and serves a very much smaller population than any of the other Services. Each Ambulance Service is a separate employing authority, although salaries and conditions of employment of ambulance personnel are largely consistent throughout the State. While all Services maintain a headquarters and branch stations, twelve Services, generally those with a large land area to cover, have some branches staffed only by volunteer ambulance officers who are called upon to provide transport for patients when the need arises. These volunteers are paid casual wage rates for the time spent on ambulance work, but not for the considerable time spent on training.

Ambulance Service - Melbourne serves most of the Melbourne metropolitan area and manages the Air Ambulance Service which serves the entire State. The Peninsula Ambulance Service is responsible for the provision of ambulance services to that portion of metropolitan Melbourne south east of Clayton.

Some of Victoria's Ambulance Services provide services to adjacent parts of New South Wales. The North West Victoria District Ambulance Service has a voluntary branch station in Wentworth, New South Wales, and other Services transport patients across the border as required. Similarly, the New South Wales Ambulance

Figure 2.1 Areas Covered by Existing Ambulance Services

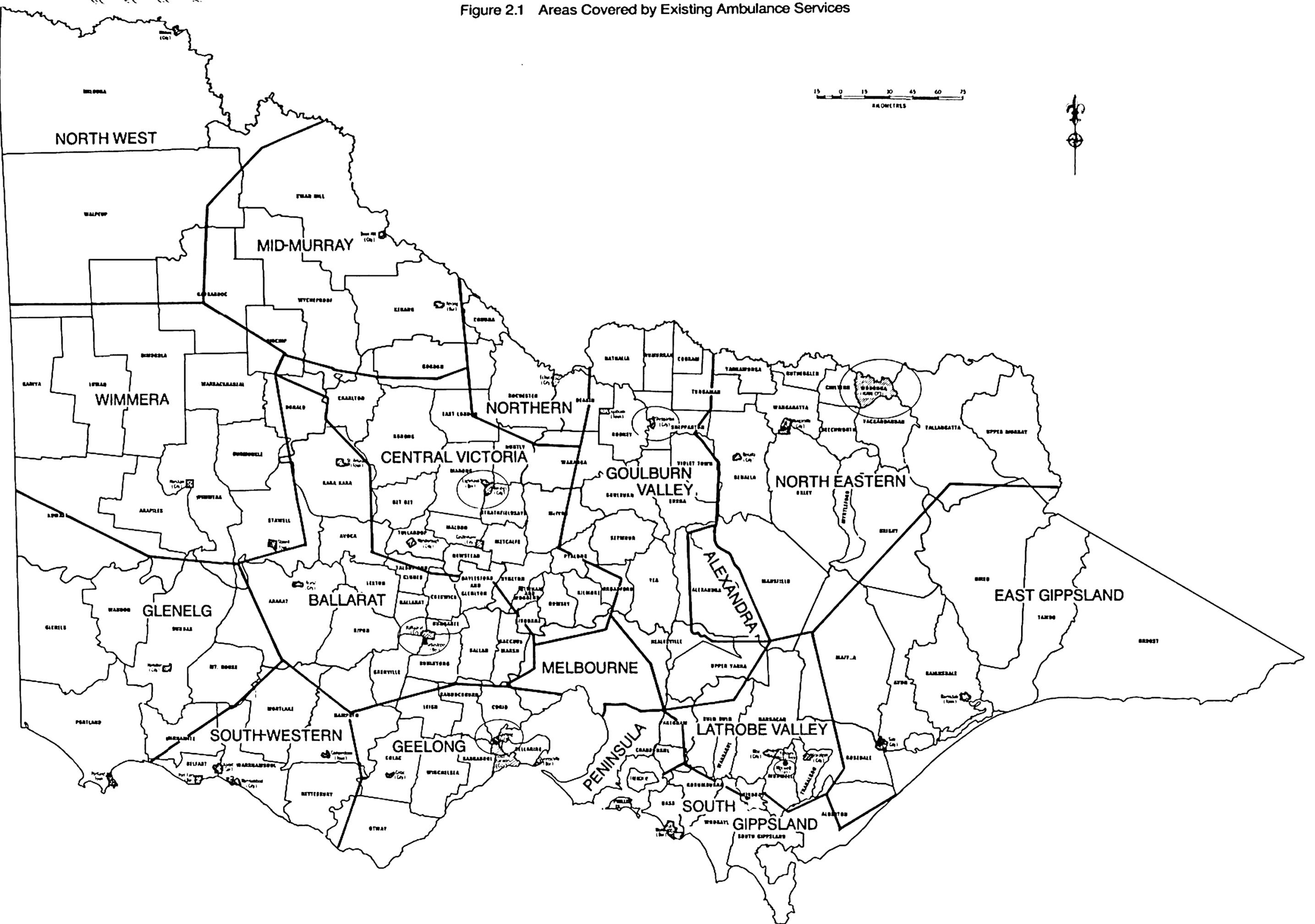


TABLE 2.1

## SIZE OF VICTORIA'S PRESENT AMBULANCE SERVICES

Service	Area (Square Kms)	Population	Staff (Perm+Cas.)	Stations	Vehicles (Amb.+Other)
Alexandra	1900	4 360	0 + 39	2	4 + 0
Ballarat	17 500	158 000	67 + 27	11	26 + 12
Central Victoria	16 250	124 000	87 + 0	11	29 + 11
East Gippsland	30 000	70 000	39 + 78	11	22 + 5
Geelong	8 750	260 000	68 + 25	8	15 + 13
Glenelg	20 250	51 000	32 + 15	9	16 + 10
Goulburn Valley	20 000	110 000	66 + C	10	24 + 13
Latrobe Valley	6 250	114 000	65 + 13	5	17 + 13 + + Helicopter
Melbourne	3 250	2 500 000	642 + 0	17	100 + 75 + + Air Ambulance
Mid-Murray	15 000	32 000	37 + C	5	10 + 9
North Eastern	25 000	108 000	71 + 19	15	33 + 8
Northern Victoria (NSW)	6 000 + 1 500	28 000	30 + 0	3	8 + 7
North West (NSW)	30 000 + 35 000	47 000	45 + 30	6	13 + 6
Peninsula	2 500	400 000	131 + 0	8	21 + 20 + + Helicopter
South Gippsland	5 000	40 000	33 + 3	7	15 + 3
South Western	10 000	55 000	42 + 21	7	13 + 8
Wimmera	21 250	58 000	42 + C	9	18 + 10

The size of Victoria's new Ambulance Services is detailed in Table 5.1. Compiled by the Public Bodies Review Committee from Health Commission of Victoria Statistics on Area and population covered by the Services, and from information provided by the Ambulance Services. Population figures are estimated figures at June 1981.

"C" means an unspecified number of casual officers.

Service responds to requests for ambulance transport from Victoria, particularly in the northern areas of east Gippsland. The Air Ambulance Service transports emergency patients to Melbourne from northern Tasmania and from the Bass Strait Islands on occasions, and provides some services in southern New South Wales.

The Services all provide:

- emergency on-site care to sick or injured people, and transport to a hospital or clinic where medical attention is available;
- transport to or from or between hospitals for patients who require stretcher transport, medical supervision in transit, or skilled handling;
- assistance to communities in first aid training;
- a standby facility at public events where illness or injury of some participants is anticipated by the organisers, such as marathons, large open air concerts, and race meetings; and
- participation in disaster planning exercises and in the response to disasters.

Ambulances operated by Ambulance Service - Melbourne and by the headquarters stations of non-metropolitan Services are crewed by two ambulance officers. The staffing levels of many country branch stations do not provide for two officer crews at all times, although staff numbers allocated to such stations have been increased over the last few years to allow greater use of two officer crews.

Ambulance services are available for 24 hours a day throughout the State, although at night transport is normally provided for emergencies only. All metropolitan and some non-metropolitan stations have staff rostered on duty for night work. Smaller stations, with less anticipated demand for ambulance services at night, have officers on call overnight.

\* \* \* \* \*

## 2.2 Ambulance Operations

### Emergency Care and Transport

Emergency treatment of the victims of sudden severe illness, or of trauma resulting from accident or violence, and the transport of these patients to an appropriate medical centre in the shortest possible time are the primary tasks of Ambulance Services. Staff training, staffing levels, and the design of vehicles and equipment are organised primarily for their achievement. The importance of the ambulance officers' role in providing emergency medical assistance is sometimes overlooked by those unfamiliar with the full range of Ambulance Services' work, who not infrequently consider ambulance officers to be solely drivers of vehicles. There is ample evidence in medical literature to confirm that early specialised treatment, such as clearing airways, minimising blood loss, and attaching splints to injured limbs, contributes much to keeping recovery periods to a minimum and, often, to saving lives. These are the tasks for which Victoria's ambulance officers are trained.

All Ambulance Services respond virtually without question to all emergency requests made by doctors, the police or by individuals. There are approximately 25 000 emergency transports in non-metropolitan Victoria each year, and almost 37 000 transports are provided by Ambulance Service - Melbourne and the Peninsula Ambulance Service. The number of emergency patients carried by the non-metropolitan services in 1982-83 ranged from 185 by the Alexandra and District Ambulance Service to 4807 by the Geelong and District Ambulance Service.

The standard ambulance in use is the Australian General Purpose Ambulance and standardised equipment is carried in each vehicle. The vehicle bodies are custom-built and are fitted to a Ford F100 chassis - a light truck. The Australian General Purpose Ambulance is usually fitted to carry two standard ambulance stretchers, and has the capacity to carry two additional stretchers in emergencies where many people are injured. Some Services also use stretcher carrying ambulances based on station-wagons for long-distance transports, although these provide much less room for attending the patient. Transport by helicopter or fixed wing aircraft is also available.

Since 1971, the capacity of Ambulance Services in the Melbourne metropolitan area to administer more sophisticated life saving treatment in cases of extreme illness or injury has been enhanced by the introduction of Mobile Intensive Care Ambulances (MICA). Five of these specially equipped and staffed vehicles are now operated by Ambulance Service - Melbourne and one by Peninsula Ambulance Service. The units operated by Ambulance Service - Melbourne are based at hospitals. The Peninsula MICA unit is based at the Service headquarters during the day, and at one of the branches overnight. The treatments available from MICA officers which are not provided by standard ambulance officers include the administration of intravenous drugs, cardiac monitoring and defibrillation, and endotracheal intubation.

In 1980, the Health Commission of Victoria, the body which in 1978 succeeded the Hospitals and Charities Commission as the main Government authority concerned with health, commissioned Professor L J Opit and Dr David Christie to assess the efficacy of the MICA Service and to make recommendations about its future. One of the report's recommendations was that the standard ambulance emergency service be upgraded in terms of staff training and equipment to a level approaching the MICA standard. This proposed development is known in Victoria as Advanced Life Support (ALS), and the progressive introduction of ALS techniques to standard ambulance operational procedures was under active consideration at the time Ambulance Services were referred to the Committee. Some other state ambulance services use ALS techniques, although the range of procedures included varies from state to state (see Chapter Three). The term ALS is used in different places to mean slightly different things. In this Report the definition accepted at the 1983 Convention of Australasian Ambulance Authorities is used (Summary of Proceedings, section 2.15):

"For the time being Advanced Life Support means the use of one or more of the following: 'MAST' (Medical Anti-Shock Trousers) suit; endotracheal intubation; insertion of an intravenous cannula and initiation of IV fluids; cardiac monitor/defibrillator; or the administration of drugs other than oxygen and inhalational analgesic agents".

Two specialised emergency services operate for the transport of babies and children. Both also provide suburban and country hospitals with a specialist consultative service for advice on the care of sick or injured babies and children. The Newborn

Emergency Transport Service (NETS) was established in 1976 and the Paediatric Emergency Transport Service (PETS) was introduced in 1979. These services provide for specialised medical staff to go to suburban or country hospitals, taking specialised intensive care equipment which is not usually available in general hospitals. After the condition of the baby or child is stabilised by the specialists, it is transported to Melbourne by the specialised staff in a road or air ambulance, or by helicopter. NETS is based at the Royal Women's Hospital, although medical staff from other major hospitals are rostered to participate in the specialist medical retrieval teams. PETS is operated by the Royal Children's Hospital.

Emergency medical assistance and transport is also provided by life-saving organisations, the Southern Peninsula Rescue Service through its rescue helicopter based at Sorrento, on some occasions by some of the companies involved in oil and gas operations in Bass Strait, and on rare occasions by the armed forces. St John Ambulance Brigade can provide a stand-by first aid facility at public events and both the Brigade and the Red Cross Society offer medical assistance in disasters.

### Non-emergency Transport

Transport of patients to or from or between hospitals for appointments and other non-urgent transfers account for the largest proportion of ambulance work. A total of just over 61 000 emergency transports occurs in Victoria each year, whereas non-emergency transports total almost 560 000 with just over half of these provided by Ambulance Service - Melbourne and Peninsula Ambulance Service. Each Service, with the exception of Alexandra and District Ambulance Service, maintains vehicles which cannot carry stretchers for use for non-urgent transports when a stretcher is not required.

The availability of trained officers and appropriate vehicles has resulted in Ambulance Services being involved in the transport of patients in non-urgent circumstances. Many patients transported are seriously ill, elderly, frail or disabled and while many can walk, they are not always able to cope with public transport. Those attending clinics or hospitals for appointments or who are being transferred from one hospital to another often suffer from a chronic or long-term ailment, and while medical assistance would not normally be required during transit the patient requires observation and basic nursing care. Officers responsible for ambulance

transport have the capacity to respond should the patient's condition deteriorate during the journey, are skilled in the handling of patients to minimise their discomfort, and can provide re-assurance and support. Some Services employ Clinic Transport Officers to attend to such patients. These officers generally have some first-aid training, but not the full training of an ambulance officer, although a number of fully-trained ambulance officers, who are unable to perform emergency ambulance work, are employed as Clinic Transport Officers.

Other organisations are also involved in non-emergency patient transport. The Red Cross Society provides a transport service for walking patients of all ages between their homes and hospitals or clinics, organisations such as the Spastic Society and others provide their own transport for clients, community service organisations of many kinds often assist with transport to clinics, surgeries or activity centres, and taxis are often used by individuals and by some groups.

#### Air and Helicopter Ambulance Services

The Air Ambulance Service commenced in 1959 and initially offered a limited service for certain categories of emergencies. In 1974 the Service was incorporated into the operational structure of Ambulance Service - Melbourne, and an Assistant Superintendent of Ambulance Service - Melbourne is now responsible for its operation. The Service transports a total of about 6700 patients each year, with the ratio of emergency cases to non-urgent cases being very small. In 1982-83, 650 000 kilometres were flown by Air Ambulance aircraft involving over 6200 hours of flying time.

The air operations of Air Ambulance are carried out by a fleet of nine twin-engined Cessna 402 aircraft crewed by pilots rated for instrument flying and double-certificated nurses with training in treatment on Air Ambulance. The aircraft are chartered under contract, for which tenders are called every three years. The aircraft transport patients requiring emergency or specialist treatment to and from Melbourne and other parts of the State, and occasionally from adjacent areas of other States. Most Air Ambulance flights carry a number of patients as the aircraft are all fitted to accommodate up to two stretcher and three sitting patients.

Some equipment available to Air Ambulance aircraft is the same as that of standard road ambulance vehicles, although the standard stretchers are not used. Some drugs are carried on flights. Their use must be authorised by a doctor. Emergency

equipment is not carried unless an emergency is anticipated. Ambulance aircraft can communicate with ground stations during flight, enabling nursing staff to seek advice on or authorisation for treatment should a patient's condition change. Communications are dependent on radio frequency ranges, and are not normally available throughout the entire flight. Air Ambulance provides transport for NETS and PETS when appropriate. Most flights within Victoria take less than 90 minutes, and only those to the Mildura area approach two hours.

The Latrobe Valley District and Peninsula Ambulance Services each operates a helicopter ambulance for emergency transport, and, when space is available, for routine transport to and from Melbourne. Neither helicopter service is part of Air Ambulance and the operations of the different services are not co-ordinated.

#### Authorisation for Ambulance Transport

Apart from emergency transport, all Services require the transport of patients by ambulance to be authorised by a medical practitioner or a hospital. The aim of this practice is to ensure that ambulance services are not used frivolously or when not necessary. The Health Commission of Victoria has issued Ambulance Services with guidelines outlining which categories of patients are eligible to be transported by ambulance. It is the responsibility of Ambulance Services to inform doctors in their regions of the guidelines.

\* \* \* \* \*

## 2.3 Management, Staffing and Finance

### Management

The Hospitals and Charities Act 1958 requires that Ambulance Services register as benevolent societies, and that each Service have a Constitution and By-Laws. Each Service is managed by a Committee of Management elected by the contributors, where a contributor is any person who donates a sum of \$2 or more - in addition to the standard subscription - to the Service. Ambulance Service - Melbourne is the only exception to this practice: members of that Committee of Management have been appointed by the Governor in Council since 1975.

The responsibilities of Committees of Management include the appointment of a superintendent, who also serves as secretary of the Committee, appointment of other staff, development of the Ambulance Subscription Scheme for their Service, financial management of the Service, and the provision of buildings, vehicles and associated communications equipment. Most country branch stations, both those staffed by permanent staff and by volunteer or casual staff, have a locally constituted Branch Auxiliary Committee to assist with some local aspects of the Service, most particularly with fund raising. It is common for each Branch Committee to be represented on the Service's Committee of Management.

The responsibilities of the Health Commission of Victoria for Ambulance Services are set out in the Hospitals and Charities Act:

#### "Section 22

The Commission shall:

- (a) require all ambulance services to be registered with the Commission and supervise the management of such services;
- (b) provide for the registration and cancellation of registration, in manner prescribed by the regulations, of ambulance services and any other matters in relation thereto that may be prescribed by the regulations;
- (c) inquire into the administration and management of ambulance services;
- (d) provide for the granting of subsidies for ambulance services and conditions relating to such grants."

The Commission exercises control over the Services through its determination of the level of State Government subsidy to each Service and of the number of staff who can be employed. Its involvement with Ambulance Service operations is limited to attaching conditions to the grant of subsidies. These conditions are contained in circulars issued to Services by the Commission.

Several advisory committees have been established to advise the Commission on matters relating to ambulance policy and operations. Committees currently in existence include:

- . Ambulance Advisory Committee (no longer active);
- . Ambulance Design Sub-Committee;
- . Ambulance Medical Sub-Committee; and
- . Ambulance Equipment Working Party.

In addition, the Commission establishes working parties or committees from time to time to investigate and advise on particular issues, such as guidelines for the use of ambulance transport, the use of helicopter ambulances, the amalgamation of Ambulance Service - Melbourne and Peninsula Ambulance Service, the physical capacity required for ambulance employment, and infection control in ambulances.

In 1983 the Hospitals Division of the Commission established mechanisms for the holding of liaison meetings with the Victorian Ambulance Services Association, the Ambulance Employees Association and the Victorian Ambulance Administrative Officers Association. In a letter, the Commission has told the Committee that any of these parties could call a meeting to discuss any matter, but only one such general meeting - the inaugural one - has so far been held.

### Staffing

To be employed as an ambulance officer applicants must have successfully completed a Year 11 course with a pass in English and preferably in Science and Mathematics as well, be physically fit and hold a current driver's licence. Only men are recruited to be ambulance officers, although the employment of women was under consideration within the Health Commission at the time Ambulance Services

were referred to the Committee. Some Services employ women as clinic transport officers.

Individual Ambulance Services employ successful applicants as "student ambulance officers" who enrol in the Certificate of Applied Science (Ambulance Officer) Course conducted by the Ambulance Officers' Training Centre (AOTC) in East Melbourne on behalf of the TAFE Board. The Certificate level course was introduced in 1978 and as an accredited TAFE Certificate is a nationally recognised qualification.

The course extends over three years and requires that student ambulance officers attend the Centre for around six weeks in each six month period. Instruction is both theoretical and practical, and is integrated with in-service clinical and ambulance experience. The AOTC is staffed by experienced qualified ambulance officers, nurse educators and teachers, and has a medical practitioner on its staff. The Centre is managed by a Committee of Management and is responsible directly to the Health Commission.

The continuing education of ambulance officers is undertaken within the Services, although the AOTC has some capacity for conducting refresher and skills updating courses. Each Service, with the exception of the South Gippsland District Ambulance Service, has an in-service training officer on its establishment, but the nature of the officer's duties and of the training provided varies between Services. Most in-service training officers have other duties in addition to those relating to training.

To be eligible for promotion to the next rank above Ambulance Officer, that of Station Officer, officers must complete three specified units of the standard TAFE Supervision Certificate, and a unit on the medical aspects of ambulance work at the AOTC. Courses for Senior Station Officers and for Assistant and Deputy Superintendents are currently under review by the AOTC with a view to designing courses which will increase the management skills of senior officers.

Finance

The total expenditure by or directly on behalf of the Ambulance Services for the year 1982-83 was \$50 357 000, on which the outcome was an overall deficit of \$660 000. The smallest budgets for individual Services were \$83 000 for Alexandra and \$697 000 for Northern, and the largest were \$4 716 000 for Peninsula and \$19 590 000 for Ambulance Service - Melbourne. The total capital budget was \$2 922 000, and receipts for capital purposes totalled \$2 376 000. The smallest capital expenditures were zero for Alexandra and \$14 000 for North West, and the largest \$288 000 for East Gippsland and \$426 000 for Ambulance Service - Melbourne.

There are three main sources of income for the Services: the Subscription Scheme, fees for services provided, and Government grants. For the Services taken together, the distribution of income between these sources in 1982-83 was as shown:

<u>Source of Funds</u>		<u>\$</u>	<u>Per Cent</u>
Subscription Scheme		15 441 000	31.4%
Fees for Services		14 758 000	30.0%
Government Maintenance Grants			
Ordinary	14 379 000		
Motor Vehicle	2 404 000		
Special	83 000		
Insurance	1 033 000	17 899 000	36.4%
Other		389 000	0.8%
Deficit		630 000	1.3%
		<hr/>	
Total Operating Income		49 117 000	100%
Government Capital Grant		1 240 000	
		<hr/>	
Total Income		<u>50 357 000</u>	

Table 2.2 gives some financial details for each of the Services, and it shows the very large differences between them.

The budgetary cycle begins each year in January, when all the Services submit to the Hospitals Division of the Health Commission their financial estimates for the coming financial year. The Hospitals Division forwards these budgets and its

TABLE 2.2

## Financial Operations of Victoria's Ambulance Services

Service	Budget \$	Sources of Income (%)				Expenditure (%)				Surplus or (Deficit) and % of Budget	
		Govt. Grants	Fees	Subscription	Other	Staff	Transport	Admin.	Other		
Alexandra	83 000	1.1	62.8	32.9	3.2	23.3	19.6	49.0	-	6 724	8.1%
Ballarat	2 111 000	30.4	37.6	27.6	0.6	75.5	14.5	7.5	2.5	(77 273)	3.7%
Central Victoria	2 731 000	43.7	31.1	20.9	1.5	79.3	12.1	6.6	1.9	(73 261)	2.7%
East Gippsland	1 424 000	47.7	27.4	20.7	1.3	68.2	22.0	7.8	1.9	(42 257)	3.0%
Geelong	2 023 000	11.7	40.3	42.7	1.5	80.3	6.7	8.8	3.9	(76 290)	3.8%
Glenelg	883 000	47.0	23.2	25.5	1.4	75.6	9.9	8.9	5.5	(25 316)	2.9%
Goulburn Valley	2 225 000	40.7	33.5	22.1	0.7	78.2	13.6	6.3	2.0	(68 660)	3.1%
Latrobe Valley	2 295 000	49.0	30.0	20.0	1.0	67.1	17.1	9.5	1.8	99 648	4.3%
Melbourne	19 590 000	28.0	26.2	43.7	0.1	77.9	9.6	7.6	4.9	(388 860)	2.0%
Mid-Murray	1 097 000	61.5	23.0	15.0	0.3	73.0	16.3	7.5	1.4	24 880	2.3%
North Eastern	2 418 000	45.5	33.5	19.0	1.1	74.2	18.5	5.6	1.8	(20 265)	0.8%
Northern Victoria	697 000	43.7	34.8	16.3	1.2	79.7	13.8	5.0	1.5	(27 964)	4.0%
North West Vic.	1 297 000	61.8	17.1	17.8	0.6	87.8	4.8	6.0	1.4	(35 045)	2.7%
Peninsula	4 700 000	34.5	27.5	35.4	2.6	73.0	13.2	8.9	3.2	83 954	1.8%
South Gippsland	1 028 000	50.8	24.0	20.5	1.1	76.2	13.8	7.5	2.4	(37 031)	3.6%
South Western	1 329 000	52.4	25.7	21.1	0.8	75.8	12.8	6.3	1.5	49 010	3.7%
Wimmera	1 330 000	54.1	25.0	19.2	1.6	67.8	24.2	6.2	1.7	1 513	0.1%

Table compiled by the Public Bodies Review Committee from 1982-1983 Annual Financial reports by the Ambulance Services to the Health Commission of Victoria.

assessment of priorities for any proposed expansions or enhancements of services to the Finance Division, which incorporates them into its budget proposals for the full Commission. The Commission in turn forwards its total budget to the Department of Management and Budget, including its assessment of priorities for ambulance services in comparison with its other responsibilities. The State Budget is brought down in September, and in October or November the Commission advises Services of their approved budget for the financial year.

Income: Charges are calculated for all transports of patients by ambulance vehicles. For transport provided to subscribers, the charges are not billed to the subscriber but are debited against the Service's income from the Subscriber Scheme. Subscribers to any other Ambulance Service in Victoria or in most other areas of Australia are also not charged. Charges for transport of pensioners and the indigent are waived in accordance with a requirement of a policy directive of the Hospitals and Charities Commission in 1954. In other cases, Services refrain from imposing charges when hardship would result, but they do on occasion take legal action to recover fees for transport provided. Charges for transport are billed to non-subscribers and to bodies such as Motor Accident Board, workers' compensation and other insurers, hospitals for inter-hospital transports, and to the Commonwealth Department of Veterans' Affairs, for patients within the responsibilities of these organisations, whether or not the patient is a subscriber to an Ambulance Service.

On some occasions, an ambulance vehicle is requested, but for one reason or another its services are in fact not required. There is no person to charge in these cases, and so no charges are levied. Ambulance Services are sometimes requested to carry blood or medical equipment although this happens less frequently now than in the past. Although the costs of doing this are separately identified, most Services refrain from charging for this service.

The cost of ambulance transport is high. For a standard stretcher-carrying ambulance, the cost of the first 10 kilometres of patient travel is \$104. From 11 to 100 kilometres the cost is an additional \$2.40 for each kilometre, from 101 to 300 it is \$1.60 for each kilometre, and over 301 kilometres it is \$0.80 per kilometre. A one-way trip from Hall's Gap in the Grampians to Melbourne costs about \$850. The maximum charge for any patient journey originating and concluding in Victoria is \$1120, which represents 900 kilometres.

Subscriber Scheme: In 1976 uniform subscription rates and uniform benefits for subscribers to all Ambulance Services in Victoria were approved by the Hospitals and Charities Commission, following agreement among the Services and representations from the Victorian Ambulance Services Association. This resulted in a decrease in income for some Services, an increase for some others, but an increase in total Ambulance Service revenue. For the last three or four years the rates have been set by the Commission and approved by the Minister.

To encourage Ambulance Services to develop a strong Subscription Scheme, each Service is permitted to transfer to a reserve fund at its discretion up to 25 per cent of the annual net surplus from the Scheme, or up to 9 per cent of the gross revenue of the Scheme, whichever is the greater. This reserve fund can then be used for either capital or operational development of the Service.

Government Grants: The Health Commission pays "maintenance" grants of several kinds to Ambulance Services. These totalled \$16 866 000 in 1982-83. The largest of these grants are the ordinary maintenance grants, which are paid monthly to each Service to cover the difference between the approved annual operating budget and the total revenue generated by the Service. These grants thus cover the net operating costs of Services within the approved budget level.

Maintenance grants for motor vehicles are paid to Services by the Commission for the full cost of purchase of replacement vehicles less the revenue obtained from the sale of the old vehicle. The Commission arranges annual contracts for the supply of Australian General Purpose ambulances for all Services, but Services arrange their own purchases of all other vehicles subject to Commission approval. Vehicles that represent an expansion of existing fleets are purchased from capital funds.

Special grants are ad hoc maintenance grants for items not considered to be recurrent in nature, or for items specifically requested or supported by the Commission. The Health Commission also pays insurance premiums for Ambulance Services, covering industrial special risk, workers' compensation, public liability, and - for Services choosing it - comprehensive motor vehicle insurance. Total insurance costs were \$1 033 000 in 1982-83.

Capital Funding: Ambulance Services generate funds for capital expenditure from the transfers from subscription revenues described above, from interest earned on invested capital funds, from the sale of assets, and from donations.

Government grants for capital works come from the Works and Services Account, and in 1982-83 totalled \$1.24 million. About one-half of this was for construction projects, with the rest being shared between planning, property, minor works, radio replacement, and vehicle and workshop equipment, with very small amounts going also to medical equipment and computer equipment.

Government grants for capital works supplement the Ambulance Services' own funds for approved projects, at levels of subsidy that vary from one type of project to another. The normal levels range from 50 per cent for some projects (for example, medical and office equipment) to 75 per cent for others (such as radios and associated equipment), although greater or lesser subsidies may be paid under certain circumstances.

Reporting: Ambulance Services use accrual accounting in their operations and in their annual financial estimates. To match Health Commission procedures, these statements must also be converted to a cash basis.

Detailed monthly statements of operations and of finances are forwarded to the Commission. The nature and sophistication of internal controls on funds varies from Service to Service, but many Services have comparatively low levels of financial expertise available within their offices.

All Services produce annual reports which they present to annual general meetings of the contributors, but no consolidated annual report is produced on the provision of ambulance services throughout Victoria.

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## 2.4 Ambulance Organisations

There exist statewide and national organisations of ambulance personnel which make valuable contributions to the development of ambulance services in Victoria.

The Ambulance Employees' Association of Victoria (AEA) is the industrial association representing ambulance officers. It undertakes negotiation and advocacy work with the Victorian Ambulance Services Association, the Victorian Employers' Federation (to which most services belong), and individual Ambulance Services. The Association also assists ambulance officers in keeping up to date with developments in emergency care and ambulance transport, is concerned with matters relating to the health and welfare of ambulance officers, and regularly publishes a journal, Ambulance World, to communicate professional and industrial news to members.

The Institute of Ambulance Officers (Australia) was established in 1972. A central aim of the organisation is to facilitate recognition of the professional status of ambulance officers. The Institute develops codes of practice, and conducts competitions and seminars on topics of professional importance. It also publishes a journal, Response.

The Victorian Ambulance Administrative Officers' Association is an industrial association which represents and negotiates on behalf of ambulance personnel who are covered by the Ambulance Superintendents and Senior Administrative Officers Award.

The Victorian Ambulance Services Association (VASA) was established in 1954 as an association of Ambulance Services and Ambulance Service managers. It is registered with the Industrial Relations Commission as an association of employers. VASA coordinates the efforts of Committees of Management and provides a forum for the development of consistent, statewide policies on ambulance operations, and for the exchange of ideas and experiences. Three sub-committees monitor developments and recommend policy changes on industrial relations, uniforms and on the Ambulance Subscription Scheme and transport fees. VASA also establishes working parties from time to time, which, like the sub-committees, may include representatives of other organisations. The decisions of VASA are advisory only, and it has no power to require any of the separate Services to accept its decisions.

The Victorian Ambulance Superintendents' Council (VASC) was formed in 1951 to provide superintendents of all Ambulance Services with an opportunity to exchange ideas and advice. The Council has been particularly concerned with the training and qualifications of ambulance officers for senior positions in the Services.

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## CHAPTER THREE: AMBULANCE SERVICES ELSEWHERE

This Chapter briefly describes some of the main characteristics of ambulance services in the other states of Australia, and in Canada and the United States of America. It does not give a complete description of any of these other services, but provides some basis of comparison for Victoria's Ambulance Services, by showing how some of the major features of ambulance work are dealt with elsewhere. This is intended to give some yardstick against which to assess the performance of Victoria's Services. In addition it provides some ideas for change and improvement, and for insights into some of the problems that other services have encountered that Victoria should try to avoid.

### 3.1 Other Australian Services

#### New South Wales

Ambulance services in New South Wales are provided by one statewide Service, which has its headquarters in Sydney. The Service employs about 1900 uniformed ambulance officers and almost 400 non-uniformed staff. Prior to 1972, there were 56 separate district Ambulance Services in New South Wales. These were amalgamated to 13 regions along local government boundaries in 1972, and uniform rates for contributors (subscribers) were introduced in 1974.

The Ambulance Services merged with the Health Commission in 1977, and each of the 13 Regional Ambulance Superintendents became directly responsible to the Regional Director of Health. Metropolitan Sydney retained one Ambulance Superintendent, although it encompassed four Health Regions. A Division of Ambulance Services was established in the Health Commission, and it was later re-named the Division of Health Transport and Emergency Care Services.

A major inquiry into ambulance services, chaired by Mr J N Gleeson, reported in July 1982, with 83 recommendations. Virtually all of these have been accepted, and

are being or have been implemented. The inquiry was established following the development of a number of serious difficulties within the services, and it was given quite broad terms of reference. Its recommendations generally sought to clarify the role and function of ambulance services, and to strengthen their activities in the areas of greatest need.

In July 1983 the Service was restructured to one statewide Service, under the control of an Ambulance Directorate within the Health Department but with no direct Departmental control, along the lines of the recommendations of Mr Gleeson's report. This was in response to the considerable difficulties generated by the dual responsibility of Regional Ambulance Superintendents, to both the Regional Director of Health and to the central Ambulance Division. (The New South Wales Health Commission was replaced by a Department of Health on 1 January 1983.) The Directorate has about 70 staff, including some carrying out administrative and computing work for the Sydney area. The one Ambulance Service operates through the same regions as does the Health Department, but there is no operational control by Health Department officers. The head of the Ambulance Directorate has direct access to the Minister of Health, although there is close liaison with the permanent head of the Department. Ambulance Regional Superintendents must liaise with Regional Directors of Health, in particular in relation to future developments, but the latter have no direct authority over Ambulance Services. Local advisory committees continue, and in some areas are very successful at raising funds.

The subscription scheme (called a contribution scheme) was abandoned early in 1983, and was replaced by a Health Insurance Levy of 30¢ per month (single) on basic health insurance tables. The introduction of Medicare in February 1984 removed the basic health insurance tables and thus the ambulance levy. Several health insurance funds then commenced an ambulance insurance scheme, which in some senses amounted to re-introducing the contribution scheme. The total annual operating and capital cost of the service is about \$85 million for 1983-84, of which just over 70 per cent comes from consolidated revenue, and most of the remainder from transport fees. There may be further changes to funding arrangements in the future.

A Paramedic Service is operated by the Service, along similar lines to the Mobile Intensive Care Ambulance (MICA) in Melbourne. Two units operate in Newcastle, one in Wollongong and ten in Sydney: six extra units for Sydney were announced in March 1984, to make a total in Sydney of 16.

The Committee headed by Mr Gleeson recommended a careful review of the "comparative benefit of the Paramedic Service" in relation to the "life saving potential of using the same resources in another way"; this proposal was prompted by suspicions that the resources being devoted to the Paramedic Service might be more advantageously used elsewhere in the Ambulance Service. A subsequent committee reviewed "the benefit of the Paramedic Service" (not the comparative benefit), and while it concluded that "an accurate estimate of its value" could not yet be made, it recommended that the Service be extended by the six extra units announced early in 1984.

The New South Wales Air Ambulance operates three aircraft from Sydney and one from Dubbo. Its methods of operation and type of aircraft are rather different from those of Victoria's Air Ambulance, largely due to the very different sizes of the two States. New South Wales prefers larger, pressurised aircraft, but this limits the number of landing places the Service can use. In 1982-83 it flew 2162 flights totalling 6595 hours; it carried 4154 routine patients and 1215 emergencies.

An Ambulance Training School is operated by the Service, which now includes rescue training as well. While the nature and style of paramedic training is similar to the training of MICA officers in Victoria, the training of general ambulance officers is not yet to the Certificate of Applied Science level of Victoria. Upgrading to this level is expected in the near future.

Women have been employed as ambulance officers for several years, and the Service reports no major difficulties resulting.

Volunteer officers (termed honorary officers) have generally been phased out.

Following Mr Gleeson's inquiry, strict "Ambulance Transport Guidelines" were developed. These were issued in September 1983, and were sent to every medical practitioner in the State. The intention of the "Guidelines" is to confine the use of ambulance transport to cases in which there is a clear medical need, and mechanisms for review of inappropriate transport were introduced. These procedures appear to have been successful, and the total number of routine transports has dropped by over 25 per cent. This is a reflection of the very large number of medically unnecessary transports previously undertaken.

The Royal Flying Doctor Service operates in western New South Wales and in all other states except Victoria. Although its role is not primarily the transport of patients, it does of course do this when necessary.

### Queensland

A major review of ambulance services in Queensland was completed in August 1980, although no action has been taken on the recommendations of that review. At that time, as now, there were 98 separate bodies corporate providing services across the State, each with its own elected Committee of Management. All are described as Centres and Area Committees of the Queensland Ambulance Transport Brigade. The Brigade is headed by a State Council, which reports to the Minister of Health but operates independently of the Department of Health. The duties of the Council include advising the Minister, ensuring that the separate Committees comply with the Ambulance Services Act, and co-ordinating the services provided by the Committees.

In eight areas, including the major city of Maryborough, ambulance services are provided by Hospital Boards, not by local committees of the Queensland Ambulance Transport Brigade. The separate Services' Committees operate with a substantially lower level of co-ordination than do the Victorian Services, and set their own rates for subscriptions (termed contributions) and for transport charges to contributors for transport outside the area covered by each Service. These rates and charges vary markedly across the State, although transport charges to non-contributors are now standard. About 40 per cent of total income is provided by government grants. About 40 per cent of ambulance officers are volunteers, or "honorary officers".

Levels of training of ambulance officers vary quite substantially across the State, and no advanced life support or MICA-type service operates. The review in 1980 recommended the introduction of a hospital-based and largely medically-staffed "mobile advanced life support" group, and although the proposal was not then taken up, a pilot scheme in conjunction with the National Heart Foundation may be in operation in Brisbane by the end of 1984. The 1980 review also recommended higher levels of co-ordination between the separate ambulance Centres and higher minimum levels of training.

The Queensland Air Ambulance operates independently of the Queensland Ambulance Transport Brigade, and is funded directly by the Health Department. In addition to the Queensland Air Ambulance, several Centres of the Queensland Ambulance Transport Brigade operate their own aircraft. For example, in early 1983, the Bundaberg Centre, on behalf of itself and seven smaller adjacent Centres, purchased a new Cessna 402 aircraft to operate an Air Ambulance service throughout the Wide Bay - Burnett area. This aircraft was chosen because, as the longest journey in the area is about 80 minutes, little or no advantage was seen in using pressurised aircraft. Of the unpressurised aircraft available, the Cessna was perceived to be the most suitable operationally, as well as being economical to buy and to maintain. The aircraft uses the same stretchers as do the road ambulances.

The Mackay Centre of the Brigade is at present the only one to employ women as ambulance officers.

Late in 1983 an Inter-departmental Committee was established by Cabinet to investigate the possibility of amalgamating the Ambulance and Fire Brigade Services throughout Queensland. By early October 1984, no action had resulted from this investigation.

### South Australia

Ambulance services are mainly provided by St John Council for South Australia, acting through the St John Ambulance Service. This Service provides metropolitan services in 47 of the 54 country services, the remaining eight being independent. The St John Ambulance has both professional and volunteer officers operating from the same stations, an arrangement which has produced industrial and financial problems, particularly in Adelaide itself. A MICA-type service has recently been introduced on a trial basis, and there are plans to upgrade officers' skills in the metropolitan area to provide a paramedical type of care linked with major hospitals. A medical retrieval system has been operating since the late 1970s, using medical staff from and links with the major public hospitals. In 1982, 406 retrievals were mounted, using helicopter, fixed wing, and road ambulances. North West Victorian Ambulance Service has used this service on a number of occasions.

Funds for the Service come from subscriptions, transport fees and government grants, as in most other States. The high proportion of volunteer officers makes the South Australian service perhaps the lowest cost for the population served in Australia. Transport fees and subscription rates are not greatly different from elsewhere, but the government contribution is proportionally smaller.

In April 1983, Professor Opit of Monash University Medical School and the Alfred Hospital submitted a report to the South Australian Minister of Health entitled Preliminary Report on an Enquiry into the South Australian Ambulance Service, which concentrated on the industrial problems of the Service. Professor Opit found difficulty in establishing the legal basis for the present system of operation of the Service.

There are few interactions between the Service and the South Australian Health Commission. Training for career officers is carried out at a Training Centre, and consists of the St John First-Aid and Casualty Care Transport Certificates. Although four days each year are provided for each officer for updating and refreshing skills, Professor Opit quotes officers as considering this activity as having "practically ceased". The Service employs small numbers of women as full-time and as volunteer ambulance officers.

In mid-1983, the South Australian Legislative Council appointed a Select Committee to inquire into the St John Ambulance Service, with particular reference to the relations between volunteers and paid staff. This Committee had not reported by early October 1984.

### Western Australia

The St John Ambulance Association provides ambulance services throughout Western Australia, for which it utilises both professional and volunteer officers. In eight country centres, volunteers support professionals to ensure that two attendants are present when necessary. There are 93 country branches operated solely by volunteers, and there is a total of about 1400 volunteers. Although there are no women employed as professional ambulance officers, over 40 per cent of the volunteers, or between 600 and 700, are women. The total annual budget of the Service is about \$11 million, with some 39 per cent of income from government subsidy. The remainder comes from transport fees and subscriptions.

The Association has recently prepared and published high-quality, detailed manuals, including: Regulations and Procedures for Sub-centres (branches), Code of Conduct, Ambulance Training Centre Manual, Ambulance Training Centre Skills Manual, Counter Disaster Manual, and Medical Protocols. Some of these manuals are revised every six months, and the rest are revised annually.

Over five years ago it was decided to make some advanced life support techniques available to as many people in the community as possible. This meant selecting those techniques with the greatest potential for reducing morbidity and mortality, training all senior ambulance officers in these techniques, equipping all vehicles appropriately, and progressively introducing the techniques to all professional officers. Cardiac monitoring and defibrillation, and the MAST suit, have been introduced on all professionally crewed vehicles.

Intravenous infusion and intubation have not yet been implemented, largely because of the more complex natures of the techniques and because the Service considers them to be less useful in reducing morbidity and mortality.

Skills maintenance courses are held for all ambulance officers, and each two officer crew comes in for a complete day twice per year at which each officer has the personal attention of one trainer for refreshing or updating any skills or learning how to use any new or updated equipment.

"This is probably the most valuable training factor that has ever been introduced into this service, and has greatly improved skills, confidence and morale amongst Ambulance Officers" (letter from St John Ambulance, Perth).

Training is carried out at an Ambulance Officer Training Centre and at the Sub-centres. In 1984 the Training Centre commenced basic training as a Certificate of Applied Science, along the lines of the Victorian model.

### Tasmania

The Tasmanian Ambulance Service commenced operation as a single statewide organisation in 1983, ambulance services having previously been provided by four regional Ambulance Boards. The Service is now managed by the Director of Ambulance Services, whose powers are set out in the Ambulance Service Act 1982. Nine municipalities have continued to organise their own ambulance service,

operated by the local hospital, council or branch of the Red Cross. The Tasmanian Ambulance Service is responsible for the registration of these services.

A Tasmanian Ambulance Advisory Council advises the Director and the Minister for Health Services on any matter relating to ambulance services throughout the State, and Regional Ambulance Service Advisory Councils have a similar role for ambulance services in each of the three regions. A Medical Advisory Council advises the Director.

In 1983-84, a budget of \$6 million was approved. Forty per cent of this was funded directly by the State Government, while a further forty per cent was contributed by those municipalities which are provided with ambulance services from the statewide organisation. There is no subscription scheme. Municipalities' payments are calculated from a formula included in the legislation, and are raised through placing a levy on all rate payments. Municipal contributions are to be phased out by 1987, at which time the State Government will meet the full cost of the Service.

Ambulance officers are trained to the Certificate of Applied Science (Ambulance Officer) level, using the course developed in Victoria. Student ambulance officers who fail to complete the course satisfactorily have their employment terminated. Following completion of the Certificate course and further experience, ambulance officers are also trained in Advanced Life Support techniques. Initial ALS training is for sixteen weeks and includes theoretical and practical training undertaken in hospitals, at the Training Centre and on the road. ALS-trained officers are re-accredited every 18 months, and are employed in ambulance stations in all parts of the State. The Training Centre also participates in the training of voluntary or part-time ambulance officers who work with the registered municipal services. Women are recruited as ambulance officers in Tasmania.

Early in 1984 the Service introduced a new design of ambulance vehicle, based upon the F100 chassis. This design allows the one vehicle to act as an intensive care ambulance carrying one stretcher, as a standard ambulance carrying two, or as a transport vehicle with three or four sitting patients.

An air ambulance is based in the north of the State. It is chartered when transports are necessary.

## 3.2 Other Countries

### United States of America

Ambulance services in the United States operate quite differently from services in Australia, and as a result great care needs to be taken in making any useful comparisons.

One fundamental difference is that in the USA, routine and emergency patient transports are usually carried out by different organisations. It is usually the case that routine services are provided by private companies that operate as commercial, profit-making enterprises. Emergency services, on the other hand, are provided by a range of types of organisations, frequently with little contact with the routine transports. In some cities, multiple competitive services operate (Atlanta) or multiple services exist without fully integrated co-ordination (New York City). The most common arrangement is for emergency medical transports to be carried out by the fire brigade, which is usually a department of local government. Many of the largest (Los Angeles) or most well-known (Seattle) emergency medical transport services in the US are provided by the Fire Department. This arrangement is also found in some parts of Europe, although the trend there is towards separating ambulance and fire services, as Stockholm did in 1981.

In rural areas and in small or medium-sized towns, volunteer emergency services are common. Smaller numbers of communities have hospital-based services, services provided by the Police Department, or miscellaneous other arrangements. Fewer than ten per cent of US ambulance services are provided by a separate ambulance service in the Victorian pattern (usually called a "third service" in the US, after police and fire brigade).

Another characteristic of US ambulance services is that their levels of training, equipment and service vary far more than is the case in Victoria. With so many different arrangements, few state-wide organisations and no enforceable nation-wide standards, the quality of the services offered ranges from the outstandingly good to the very poor.

Basic Training: The most common terminology for a basic emergency ambulance officer in the US is "Emergency Medical Technician - Ambulance" (EMT-A). Although there are other attempts at standardisation, the most widely accepted training programme for these officers is based on Emergency Medical Technician - Ambulance: National Standard Curriculum (3rd edition, 1984) published by the National Highway Traffic Safety Administration of the Federal Department of Transportation. The Committee notes this involvement of the US Federal Government in ambulance work, which is in contrast to the Australian practice.

This Curriculum document outlines a basic course of 33 lessons requiring a minimum of 100 hours of training, plus a minimum of 10 hours of in-hospital training. All basic life support topics are covered briefly in the course, but there are no references to any advanced life support techniques and there is no general medical science component.

The level of training of this Curriculum is quite clearly not as high as the level of the Certificate of Applied Science (Ambulance Officer) course developed and taught at the Ambulance Officers' Training Centre.

Equipment: The different roles of ambulances in Victoria and the US and the differing practices of their medical professions make close comparisons of the equipment carried by ambulance vehicles of limited value. In general, it is clear that all Victorian ambulances carry equipment which meets or exceeds the standards for Essential Equipment for Ambulances recommended by the Committee on Trauma of the American College of Surgeons (May 1983 revision). The lack of central or even state-wide control in the US, and the very large number of independent emergency ambulance services there, make consistent data very difficult to obtain, but it appears to be generally accepted that many US services do not meet these recommended standards for equipment.

Advanced Life Support: The concept of "advanced life support" services being made mobile and taken out of the hospital environment to the scene of accidents or - in particular - cardiac incidents developed in Belfast, Northern Ireland, in the mid-1960s. The first US experiments with this approach were in New York City (attached to a hospital) and in Miami (through the Miami Fire Department) shortly after.

By the mid-1970s, advanced life support services were being provided in 214 locations across the US, although again the levels of service provided varied enormously. Training programmes varied from approximately 100 hours to 1200, and hospital experience from 16 to 800 hours. In 1976 the title "Emergency Medical Technician - Paramedic" (EMT-P) was adopted as standard, and in 1977 the Department of Transportation released its Emergency Medical Technician - Paramedic: National Training Course. This course is now widely used as the standard, although certification of paramedics is a State rather than a Federal responsibility.

The general standards of training and service provided by Emergency Medical Technician - Paramedics in the US are very similar to those of MICA officers in Melbourne or Paramedic officers in Sydney, Newcastle and Wollongong. There are no major techniques in use in the US that are not also used in Australia.

Most paramedic services in the US operate under comparatively close medical supervision. Although in general the units are not physically based at hospitals, they work closely with the medical staff at an appropriate hospital and they are usually required to obtain - or at least seek - medical approval for each intervention. If for some reason they cannot make contact with medical staff, they are usually allowed to initiate standard protocols but must seek medical endorsement as soon as possible.

One major difference between emergency medical services in the US and the ambulance service provided in Victoria is that in the US advanced life support techniques are frequently provided in comparatively small cities or in rural areas - and in some cases by volunteers. In 1976, an article in the magazine Paramedics International discussed volunteer paramedics:

"Use of volunteer paramedics includes some built-in obstacles. Initial training must be accomplished during hours taken from home, family and other interests. Providing volunteer manpower coverage for the unit requires training large numbers of paramedics per unit. Volunteer ambulance services usually exist in rural and suburban areas, thus they receive relatively few calls for service. The minimal emergency activity must be divided among large numbers of trained personnel. This apportionment of calls further reduces each paramedic's exposure to significant medical emergencies. Skill decay is the quotient of this calculation.

"Continuing education is the absolutely essential element of quality in a volunteer paramedic service....it can be done with good leadership, medical and hospital support, and greater concern for quality than image..

"In most areas (of the USA), 90% of all fire and ambulance services are provided by volunteers. Many of those volunteers can and will become paramedics" (The Paramedics, p 13).

The most highly developed American system of emergency care is in the City of Seattle, in Washington State: it has resulted in Seattle being known as the safest place in the world in which to have a heart attack. The programme is based on: widespread training of residents in cardiac-pulmonary resuscitation (CPR) and in recognising heart attacks, training all firefighting personnel - who provide the normal emergency ambulance service with basic life support - in CPR, and sending basic life support vehicles to incidents when the "mobile intensive care paramedic units" are not able to reach the patient in two to five minutes.

Seattle's paramedics operate under tight medical control, and complete comprehensive reports on all their cases. Records are then computerised, and medical researchers have gained considerable information from these records.

Emergency Medical Services Systems: Emergency medicine as a segment of general medicine is far more generally recognised in the US than it is in Australia. The American College of Emergency Physicians was established during the 1960s, while the Australian College of Emergency Medicine only became a reality in 1984. There is no chair in Emergency Medicine or in Trauma in any Australian medical school, but many of the best known medical schools in the US have chairs and sometimes quite large departments of emergency medicine.

The concern for emergency medicine goes further, and in many parts of the US quite elaborate emergency medicine systems have been developed. These have developed since the publication by the US National Academy of Sciences - National Research Council of "Accidental Death and Disability: The Neglected Disease of Modern Society" in 1966. This landmark study made 24 recommendations that became some of the main goals for the emergency medical services systems and has been reprinted a number of times by the US Department of Health, Education and Welfare.

In Pennsylvania, for example, there is an Emergency Medical Services Systems Act of 1976, the purpose of which is to encourage the creation, expansion and improvement of Emergency Medical Services throughout that State. In the portion of the State surrounding the city of Pittsburgh, and containing some four million people, the Service co-ordinates training for basic and paramedic EMTs, for emergency department nurses and for emergency department physicians. Training includes Advanced Cardiac Life Support and Advanced Trauma Life Support courses for doctors, nurses and EMTs.

A major part of the Service's activities is devoted to providing assistance and guidance to the 313 separate Ambulance Services in the area, but it has no formal control over them. The far less fragmented nature of Ambulance Services in Victoria makes such an activity inappropriate here. The Service also works with hospitals and specialised medical centres such as burns, spinal injuries, and poisons, and it circulates information and training aids to EMTs, nurses and physicians. As in most parts of the US, direct medical command and control of the use of any ALS techniques by EMT-Paramedic is required.

Systems more-or-less similar to this operate in many parts of the US. Some pay more attention to in-hospital facilities, such as trauma centres, cardiac emergency centres, and the like. The New York City Emergency Medical Service, for example, has published detailed standards for trauma centres and for emergency departments that require extremely high levels of medical skills to be available at very short notice 24 hours a day.

The State of Washington also has a well-developed system of Emergency Medical Services. The basic approach of this system is described by Cvitanovic:

"The ambulance service is only one vital component of the total (emergency medical service) system. The emergency medical services system creates a coordinated response to the immediate needs of the patient. Its planners, coordinators, and administrators must consider and provide for coordinated working relationships with hospitals, public service agencies, and other providers of health care which the emergency medical services system is dependent on to insure functionality. Total care from the scene of an accident or onset of illness through rehabilitation should be the goal of the emergency medical services planners and implementers....

"The system incorporates the following components:

1. Provision for adequate manpower coverage with appropriate skill levels, ie. EMT's, Paramedics, Nurses and Physicians.
2. Training and continuing education for the various manpower categories.
3. Implementation of central dispatch and single access communication system.
4. Adequate transport systems to meet the characteristics of the area(s) being served.
5. Easily accessible emergency medical facilities with 24 hours per day, 7-days per week coverage.
6. Critical care units,.....called trauma centres, for the continuous provision of critical care.
7. The effective utilization of public safety personnel.
8. Insuring consumer participation in systems development.
9. Access to care without demonstrating the ability to pay.
10. Provision of patient transfer to follow-up care facilities and rehabilitation.
11. Coordinated patient record keeping.
12. Consumer information and education.
13. Systems review and evaluation.
14. Disaster planning.
15. Mutual aid agreements."

Emergency medical services in Washington State and elsewhere in the US generally seek to develop an integrated pattern of treatment of emergency cases, covering pre-hospital care, transport to an appropriate and well-equipped hospital, and in-hospital care.

### Canada

By reason of its size, population distribution, history, and basic social and political structure, Canada is in many respects a good comparison with Australia and frequently a useful source of ideas.

Ambulance services in Canada are provided by over 800 separate operators, about two-thirds being private operators, usually certified by the appropriate province. Only one province, British Columbia, has a single province-wide Service run by a government agency - the Emergency Health Services Commission. The Commission is established by the Health Emergency Act 1979, and it has powers to operate ambulance services throughout the province, recruit, train and licence emergency medical assistants (EMAs - ambulance officers), and generally provide or assist other organisations to provide emergency health services. The Act also explicitly authorises an EMA to "perform emergency procedures that he has been trained for and that he considers necessary to preserve the person's life or health until the services of a medical practitioner are available". Regulations made under the Act detail a number of matters, including training requirements for EMAs at both basic and advanced life support levels. Other provinces have mixtures of private, volunteer, hospital-based, municipal, fire brigades, St John, and provincial government as the providers of ambulance services.

The minimum levels of training of ambulance officers vary markedly, although it is difficult to compare these with Victorian practice. The lowest level is an 8-hour St John Ambulance Emergency First-Aid Course in Alberta. In contrast, Ontario requires an 8-month course in ambulance and emergency care, and British Columbia has a minimum requirement of 210 hours of instruction in industrial first-aid and practical ambulance procedures. A survey in 1980 showed that only three of the ten provinces met the lower of the two training standards recommended by the American College of Surgeons Committee on Trauma.

The highly fragmented nature of the services makes data on operating methods, characteristics and costs difficult to obtain, but the 1980 survey showed that none of the provinces met the standards for equipment on vehicles recommended by the American College of Surgeons Committee on Trauma. The survey also showed that there is no significant correlation between the cost to the user and the level of equipment provided on vehicles.

MICA-type services were then available in Vancouver and Victoria, British Columbia, and in Calgary, Alberta, but "Montreal was forced to abandon its attempt to provide paramedic-staffed ambulance services because of a lack of legislative backing and an inadequate general ambulance program" (Goldstein, p 376).

One of the nearest approaches to the Victorian system is the new arrangement in Edmonton, Alberta (population 560 000). The Edmonton Ambulance Authority was formed in 1981, as a statutory agency operating for the City of Edmonton with a board of eleven members. The annual budget is about \$6 million, most of which comes from user fees and the balance from a subsidy from the City Council. About one-third of the officers are trained in at least some advanced life support techniques. The service operates 25 vehicles from eight stations, and makes about 35 000 trips each year.

The Authority operates a "Multiple Patient Unit", which is basically a bus converted to carry up to five stretcher patients and an attendant each or, in an emergency, 10 stretchers and seven walking patients. The unified and independent nature of this new agency has apparently attracted some attention in Canada. On an approximate pro rata comparison with Melbourne, its costs appear to be comparable, its vehicle numbers low and its number of trips low.

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## CHAPTER FOUR: PERFORMANCE AND OBJECTIVES OF AMBULANCE SERVICES

The Parliamentary Committees Act 1968 specifies that in reviewing a public body, the Committee shall inquire into "whether or not the objects of the body are worth pursuing in contemporary society", and "whether or not the body pursues its objects efficiently, effectively and economically". Throughout this Report, the efficiency and effectiveness of Victoria's Ambulance Services are explored in terms of the specific matters in the Committee's terms of reference and of the issues which the Committee's investigations have shown to be important. The purpose of this Chapter is to examine the overall performance of the Ambulance Services in meeting their objectives, and to assess the contemporary relevance of those objectives.

It is inappropriate for the Committee to review the objectives of the Ambulance Services and to assess their past performance in the light of some new set of objectives which the Committee considers may be appropriate for the Services in the future. Any assessment of past and current performance must be in terms of the objectives by which the Services have been operating up to the present time. It is a separate task of the Committee then to assess the relevance and value of those objectives.

### 4.1 Assessment of Current Performance

When the Hospitals and Charities Commission was given responsibility for Victoria's Ambulance Services in 1948, it prepared a model Constitution and By-laws, the adoption of which was a pre-requisite for registration as an Ambulance Service under the Hospitals and Charities Act. The model Constitution and By-laws included a definition of the objective of the Ambulance Services, which the separate Services adopted in turn as each was registered with the Commission. This objective, which the Services have retained unaltered, is:

"To organise and conduct an ambulance transport service for all necessary ambulance cases including indigent persons, within each Service's region as approved by the Hospitals and Charities Commission".

Practical difficulties arise in evaluating the performance of Ambulance Services in terms of this objective. The objective does not provide any obvious measures for use in assessing the effectiveness of the Ambulance Services and no objective measures appear to have been developed within the Ambulance Services for such a purpose. The inadequacy of the model objective becomes more apparent when one considers what is meant by the term "an ambulance transport service" and what constitutes "necessary ambulance cases". This objective provides no explanation of these expressions. It gives no guide to an appropriate formulation of priorities or to the allocation of resources within Ambulance Services, and gives no direction to Services about vital matters such as the criteria upon which transport of patients should be based or the extent or nature of any treatment that may be given to patients. In fact, this objective makes no reference whatsoever to any treatment of those being transported.

Nevertheless, there are some measures which can be used to give a general indication of the performance of the Ambulance Services. Firstly, public perception and the frequency of complaints against the Services is one indicator of the effectiveness of some aspects of the work of the Ambulance Services. With a permanent staff of almost 1500, and a total of about 600 vehicles, Victoria's Ambulance Services performed over 655 300 ambulance transports during 1982-1983. In addition, the Services provided air transport - by fixed wing aircraft and helicopters - for almost 7900 patients in the same year. Given the size of ambulance operations and the large numbers of people transported by Ambulances Services, the Committee considers the very low number of complaints about the Ambulance Services to be an indication that the service they provide is of a high quality. In its submission to the Committee, the Ministry of Consumer Affairs stated that it has "not in the past received complaints involving the Ambulance Service". The Committee received only one or two public complaints related to the quality of Ambulance Services, and complaints to the Services themselves, some of which the Committee has examined, were most often concerned with matters such as inter-hospital transfers which generally reflect only indirectly on the quality of the Ambulance Services. The Committee believes that few other agencies of this size and operating in any field as sensitive as emergency or routine health transport would have such a record.

Medical personnel who made submissions or gave evidence, or with whom the Committee spoke, were also generally impressed by the high quality of patient care provided by ambulance officers. The delay in the introduction of Advanced Life Support techniques was criticised, but this appears to reflect a confidence of doctors in the capabilities of ambulance personnel to cope with the additional demands of providing such advanced techniques. Long delays for patients using the clinic transport service provided by Ambulance Service - Melbourne received considerable criticism from hospitals and from the medical profession, although the quality of the service was not disputed. This was the most severe criticism of Ambulance Services' performance received by the Committee, and it appears to be a valid and substantiated complaint which must be addressed. This issue will be discussed further in Chapter Nine.

A third measure of the performance of the Ambulance Services is through comparison with ambulance services elsewhere. The examination of other Ambulance Services in Chapter Three indicates that on most aspects of the provision of services, Victoria's Ambulance Services compare very favourably with the services in other Australian states and in other countries. The development of ambulance training in Victoria and the introduction of the Certificate of Applied Science (Ambulance Officer) has provided a model upon which most other Australian states have developed their own ambulance training. The recognised high quality of ambulance training in Victoria plays a major part in the high standard of patient care provided by ambulance officers, although Victoria has not yet introduced any advanced life support techniques into the standard operating procedures as have some other states.

Victoria's Ambulance Services are much less fragmented than are those of the United States and Canada, where numerous different arrangements exist for the provision of ambulance services. In Victoria there is also a much greater degree of standardisation of training and equipment, as well as generally higher standards on these aspects of ambulance services.

Dr Jane Hendtlass, who has had extensive research experience with emergency services in Australia and overseas, including with ambulance services, reinforced the favourable comparison between Victorian and other ambulance services. She stated to the Committee:

"Victoria has a jolly good system (of Ambulance Services)...Victoria is going ahead of the other places I have seen in the expertise it is offering patients in emergency services at present" (evidence, p 364).

Another measure of the performance of Ambulance Services is their response time to calls for assistance, an issue which is discussed in Chapter Eight. While each Service records some data on its response times, the data is not uniformly collated or analysed. Data is thus not available for the Committee to assess objectively ambulance performance in terms of response times in all areas of the State. In rural areas, concerns were expressed with the adequacy of ambulance coverage and the implications of this for response times, and some concerns were expressed that the response times of MICA were frequently too long, but the Committee heard few complaints about the response times of standard ambulances to calls for emergency assistance.

The Committee concludes that the Ambulance Services have up to now provided Victoria with a high quality service. The objective of the Services, and the structures that have developed to meet those objectives, have been generally appropriate for the greater part of the last thirty or thirty-five years.

\* \* \* \* \*

## 4.2 Changes Affecting Ambulance Services

In more recent years there have been a number of changes in the demands placed upon Victoria's Ambulance Services, and in the economic and social environment within which they must operate. Five of these changes are particularly significant.

Since Victoria's Ambulance Services were organised into their present form in the 1950s, there has been a great expansion in the demand for ambulance transport throughout Victoria. The population growth in Victoria, the increased incidence of road accidents and the increased specialisation of medical facilities - particularly centred in Melbourne - have all contributed to the additional demands placed on the Services. The way in which the Ambulance Services have responded to this demand with highly trained personnel, well-equipped ambulances, and the establishment of ambulance stations throughout the State is to be commended. In responding to this challenge, attention and resources have necessarily been devoted to operational aspects of the Services. This has been one major factor reducing the attention and resources devoted to upgrading the management skills and the organisational systems of the Services. Ironically, as the Services have grown in size and complexity, the need for development of these management skills and systems has increased.

A second change is the increase in the level of treatment provided by ambulance officers. The progression from basic first aid training to more sophisticated first aid, then to the advanced life support training undertaken by MICA officers and soon to the widespread use of advanced life support techniques, has involved a steady and continuing increase in training, re-training and equipment requirements. This increase in the complexity of the Ambulance Services' training and treatment places additional demands on the medical, management and organisational skills required.

The increased demand for Ambulance Services has been compounded by the development of high community expectations for the provision of Ambulance Services. The community has come to expect and demand a very high quality of service, illustrated by pressures for the extension of Mobile Intensive Care services outside Melbourne. These high expectations appear to be in part a result of the high quality of service provided by the Ambulance Services. The community also expects

ready access to services, and many people who pay an annual subscription to the Ambulance Services feel they are entitled to ambulance transport whenever they want it, even when there may be no medical need. This expectation is fuelled by the lack of any clear and well-publicised criteria for ambulance transport, and by the lack of clear explanation of any limitations on the use of ambulances in the promotional material used for the Subscription Scheme.

Greater competition for Government funds between all public sector agencies, and thus the need for maximum efficiency in the use of resources, is another change that affects Ambulance Services and all other Government agencies. There is far more competition now for the use of all of the community's resources than was the case a few years ago. Over the last five to eight years, in all areas of government activity, economic efficiency has been given much greater importance, as the increasing demands of the community have brought more and more pressure on the available resources. This increased competition for available resources has forced government and semi-government agencies to apply far more stringent criteria to their use of resources.

The fifth change is the steady increase in the demands for greater accountability for the use of the community's resources, be they of money, people, skills, or natural resources. No agency of Government has been immune to these demands. The establishment of this Committee is one manifestation of this quest for greater accountability. Another is the passage of the Annual Reporting Act 1983, which requires those agencies covered by it to produce quite specific information about their operational and financial performance.

The changes listed above have resulted in a large number of difficulties developing in the operations and management of Ambulance Services: these difficulties are discussed in detail in the following chapters of this Report.

The maintenance of the high quality of Ambulance Services despite these growing problems seems to be mainly the result of two factors. The first is the very high commitment of personnel to ambulance services and their general concern for the quality of the service they provide. The second factor seems to be that some of the problems confronting Ambulance Services are yet to have their fullest impact: with changes that are occurring in the Ambulance Services and in the environment in

which they operate, some of the problems that now exist are likely to develop further and to become more serious unless strong measures are taken now.

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### 4.3 Assessment of Contemporary Relevance of Objectives

The inadequacy of the statement of objectives noted in Section 4.1 is by no means unique to Ambulance Services. In its previous inquiries, the Committee has found the objectives of other organisations to be similarly general. However, concern with the accountability of public bodies to the community and to Parliament has grown substantially in recent years. It is noted in Section 4.2 that accountability involves assessing public bodies in terms of their effectiveness, which in turn requires clear objectives against which to assess the organisations' activities.

In evidence and in submissions to the Committee, few people questioned the model objective. Some Services quoted this objective, and then went on to state their own objectives more specifically. These latter statements usually referred to both emergency and non-emergency transport, to treatment as well as to transport, and to the role of Ambulance Services in counter-disaster and public education activities. The role of Ambulance Services as outlined by the Victorian Ambulance Services Association in its submission was fairly representative of other definitions used by Ambulance Services and included in submissions (p 3):

- "(i) Emergency treatment, care and transport of the sick and injured persons to appropriate treatment centres.
- (ii) Transport of non-urgent patients where ambulance facilities are deemed appropriate.
- (iii) The combatance of disaster situations as part of the medical plan.
- (iv) Public education in first aid and related subjects including inter-action with other agencies and organisations engaged in similar activities..."

In discussions regarding the role or objectives of Ambulance Services and in submissions, there was considerable concurrence on the particular elements of the ambulance role. But apart from the general model objective found in the Constitution and By-laws of Ambulance Services, there appears to be no standard, detailed statement of objectives. The Mid-Murray Ambulance Service has recognised this weakness, and it has developed what it describes as a "policy of operations", which is comparatively detailed and which it has circulated to medical and para-medical personnel in the Service's area: however, it too is more a detailed set of criteria than a statement of objectives.

The Committee considers that statements of ambulance objectives such as that of Victorian Ambulance Services Association quoted above, while an improvement on the objective outlined in the model By-laws, are still inadequate, because they are more statements of functions than statements of objectives. That is, they concentrate more on what an Ambulance Service does than on why the Service exists at all.

This is a common characteristic of statements of organisational objectives, on which the Committee has commented in other reports (Ninth, Tenth, Twelfth), and while such statements may have been adequate in the past, the Committee is of the view that the major changes outlined above make statements of this kind inadequate for contemporary conditions.

In the Committee's view, there are several major difficulties with such statements. First, if there is no clear, widely known and generally accepted statement of why the organisation exists, it is all too easy for the functions the organisation carries out to eventually be seen as, in effect, the goals of the organisation. That is, a function or a number of functions that initially is no more than a means towards achieving the basic objective of the organisation itself becomes an objective. Similarly, a secondary or peripheral objective can become a dominant influence on the organisation. As circumstances change over the years, this type of "goal displacement" can become a serious inhibition to developments that might enhance the organisation's capacity to meet what was its original but unstated or inadequately expressed objective.

Second, such statements fail to provide any guidance to Ambulance Services on priorities. The consequences of objectives which do not clearly define the role of or priorities for ambulance transport have particularly serious implications for the allocation of resources. For example, it is apparent that the provision of clinic transport services evolved because Ambulance Services had vehicles and staff who were necessarily not occupied full-time on emergency duties, and therefore were seen to have the capacity to undertake the extra function. The clinic transport services have gradually become an accepted part of the work of Ambulance Services. Now, vehicles are acquired and staff are employed specifically for that service and also to ensure that there is still an adequate supply of vehicles and staff on standby for emergency work. Despite this, there are considerable delays in clinic transports as well as assertions that the emergency transport role is less

effective because there are not adequate vehicles on standby as they are all out performing clinic transports.

Third, as has been illustrated in Section 4.1, this kind of statement of objectives gives little indication of how to assess the effectiveness of the Ambulance Services. Because of the competition for the limited resources available, it is becoming increasingly important that all agencies of government specify their objectives as clearly as possible, so as to justify their continued claims on a share of the community's resources.

Since its formation in 1980, it has been one of the major aims of this Committee to encourage clear specification of objectives. The Committee has concluded that the lack of guidance in the present statement of ambulance objectives has contributed directly to a number of problems within Ambulance Services. The specific problems, and the information which has led the Committee to this conclusion, are discussed in detail in the following chapters. In summary, the major problems revealed by this analysis are:

- a lack of order and priorities in programmes for expansion and development of Victoria's Ambulance Services;
- inappropriate use of ambulance services;
- uncertainty over the role of clinic transport, overloading of this service, and a consequent decrease in the reliability of this service; and
- inadequate integration of Ambulance Services with medical services.

The existing statements of objectives appear to have been adequate as the separate Services developed towards their present forms. However, because of the growth of the Services, the advances in medical techniques both in ambulances and in hospitals, and the changing economic and social environments, the objectives as expressed at present do not provide sufficient guidance and direction for continued development of the management and operations of Ambulance Services.

The Committee concludes, therefore, that the objectives of Ambulance Services are not at present expressed in a form that is relevant to the needs of contemporary society.

#### 4.4 Recommended Objectives

There is one task that Ambulance Services carry out that no other organisation or group in the community can: the rapid response to urgent requests for emergency medical treatment and transport. The Committee believes that this must be the clear, unchallenged primary role of Ambulance Services. Accordingly, a new statement of objectives for Services must make this very clear.

The Committee believes that the statement should also emphasise that Ambulance Services are part of a much broader group of activities within the community whose basic objective is to save lives and to reduce the effects of illness and injury. That is, the statement of objectives should emphasise that Ambulance Services exist to contribute to the reduction of morbidity and mortality throughout the community. The role of Ambulance Services is to do this through the provision of pre-hospital care.

In the Committee's view, "pre-hospital care" includes a number of major features. One is the rapid response to urgent calls for assistance already mentioned. A second is that Services need to provide specialised transport for patients as appropriate to the nature of their injury or illness, to a centre at which definitive medical care of a type appropriate to the injury or illness can be given. A third feature is the provision of specialised medical skills necessary to maintain life when it is threatened and while transport to definitive medical treatment is in progress.

Another major feature of pre-hospital care is that it is pre-hospital: it is not and must not become more than this. Ambulance Services are a crucial means towards definitive medical treatment, but they are very rarely that treatment itself. Particularly as Advanced Life Support techniques become more widely available around the State, temptations may arise to use some of these skills when they are perhaps not necessary or when it would be better for the patient if the treatment were to be delayed until the patient had been moved rapidly to an appropriate hospital and handed on to the hospital's staff. The Committee considers that it would be a serious misuse of the special role and responsibility of ambulance officers if either of these were to happen.

The final feature of the pre-hospital care concept is that pre-hospital and hospital care must be closely integrated operationally. The Committee believes it to be essential that there be high levels of co-ordination and operational integration between Ambulance Services and hospital emergency departments. The medical techniques and methods used by Ambulance Services must be recognised and accepted by specialists in emergency medicine in hospitals. Some of the kinds of treatment patients are likely to receive in emergency departments must be familiar to ambulance officers, to assist them in carrying out their treatment. Proposals for change or improvement by either group should be discussed with and understood by the other, in order to ensure that developments in one area can be complemented by the services of the other. Joint review and analysis of individual cases should be frequent, in an endeavour to discover ways of improving of the overall treatment of trauma and illness.

In the process of equipping themselves to pursue the primary objective of reducing morbidity and mortality by the provision of pre-hospital medical care, Ambulance Services acquire high levels of specialised medical and transport skills. The Committee recognises that there are other ways in which these skills can be used to benefit the community. It therefore considers that an appropriate secondary objective of Ambulance Services is the provision of other services that are related to the reduction of mortality and morbidity in which the specialised skills of Ambulance Services are required. Such services would include those inter-hospital and other transfers for which the medical or transport skills are genuinely required, first-aid training, counter-disaster planning, and so on.

The Committee does, however, believe it to be essential that these activities be a secondary activity, and that they be part of Ambulance Service work only insofar as they require the specialised skills and facilities of those Services.

**Recommendation 4.1:** The Committee recommends that the following statement of objectives should be adopted by all of Victoria's Ambulance Services:

The primary objective of the Ambulance Services of Victoria is to contribute to the reduction of mortality and morbidity throughout the community by the provision of pre-hospital medical care, including:

- providing rapid response to requests for assistance in any kind of medical emergency;
- providing specialised transport facilities to move victims of medical emergencies to definitive medical treatment;
- providing specialised medical skills to maintain life when it is threatened and while transport is in progress; and

the secondary objective of the Ambulance Services is to:

- provide related services in which specialised medical or transport skills are necessary.

\* \* \* \* \*

## CHAPTER FIVE : ORGANISATIONAL STRUCTURE

The Committee's terms of reference require that the suitability of the existing organisational structure within which Ambulance Services operate be reviewed.

It is apparent that the structural relationships between the various organisations and their respective responsibilities are not always clear or appropriate. The Committee is of the view that the existing organisational arrangements cause considerable operational and management difficulties for Ambulance Services: these difficulties decrease the effectiveness of their service to the public and the efficiency with which the resources available to Services are used.

This Chapter identifies some of the serious deficiencies in the present structure, and it recommends new arrangements for the organisational structure in some detail. The discussion is divided into the following sections:

- . number and boundaries of Ambulance Services, including the difficulties of the present arrangements, recommendations for the abolition of most existing Services, and recommendations for the creation of a smaller number of larger Services (Section 5.1);
- . recommendations on the establishment of the new Services, and descriptions of and recommendations for their internal organisation (Section 5.2);
- . discussion and recommendations on the role, structure and functions of Committees of Management of Ambulance Services and of District Ambulance Committees (Section 5.3); and
- . recommendations for new structural arrangements for the central management of Ambulance Services across Victoria (Section 5.4).

## 5.1 Number and Boundaries of Ambulance Services

### 5.1.1 Difficulties Resulting from the Present Arrangements

Throughout its investigations, the Committee has been presented with a wide range of views on the strengths and shortcomings of particular elements of the existing organisational arrangements. Several organisations are involved with the provision of ambulance services apart from the Services themselves. Some of these have responsibilities prescribed in legislation, some have been established to provide advice, and others are voluntary associations which have formed to provide linkages between the individual Services.

The number of Ambulance Services that should operate in Victoria was addressed in many submissions, by witnesses who appeared before the Committee, and in many informal discussions. A frequently stated advantage of the present organisational arrangements is that they provide the opportunity for significant community participation in the management of Ambulance Services, through the system of Committees of Management. The involvement of local people in both management and fund-raising, the comparatively small size of the region served by each Service and perhaps the fact that boundaries have been stable for over 30 years, all encourage community identification with the Services, particularly in non-metropolitan areas.

As has been noted in Chapter Two, the seventeen existing Services and their boundaries were established in the years 1948-1955. The boundaries were drawn up around provincial centres which were on main highways and which had major hospitals, and tended to reflect the then patterns of patient movements. Operationally, boundaries are not usually regarded as "Berlin walls", and are generally treated with pragmatic flexibility at the operational level. The Committee did, however, hear of some instances where the boundary between Ambulance Service - Melbourne and the Peninsula Ambulance Service through the south-eastern suburbs of Melbourne interfered with the optimum deployment of vehicles. Only limited concern was expressed to the Committee about the location of existing boundaries between Services, although of course Services and others have had over thirty years in which to adjust to them. Some Ambulance Services expressed to the Committee reservations about the location of the alternative boundaries which

would be necessary if there were any change to the number of Ambulance Services, or if there were any realignment of boundaries to accord with the regional boundaries recently adopted by the Health Commission.

The existing Ambulance Service boundaries are unique and do not correspond to the boundaries adopted by any other agency that has any relationship to ambulance work, such as the Health Commission, the State Emergency Service, the Country Fire Authority, or the Victoria Police. The Committee considers that differing boundaries do not assist or encourage regional co-ordination of policies and operations, and could complicate the organisation of effective responses to disasters. While a high degree of co-operation was evident between related services in almost all areas, the Committee believes that a greater degree of standardisation of these boundaries is highly desirable.

The number of Services and their independence from each other are factors which have had a significant bearing on their capacity to manage effectively the financial, manpower and capital resources available to the ambulance industry as a whole. It has limited the flexibility and in some cases the efficiency with which staff and vehicles have been allocated.

The Committee has been told that the planning and management of Ambulance Services have frequently been undertaken from the perspective of individual Services, with limited regard for the circumstances of adjacent Services or of the implications of particular decisions for the management of Services across the State as a whole. The absence of any central authority with executive power over the Services has been a major weakness that has contributed to this problem.

The Committee has been most impressed with the role of the Victorian Ambulance Services Association (VASA). This Association has made a very valuable contribution to voluntary co-ordination and to co-operative policy development, and as a result parochial approaches by the separate Ambulance Services are much less common than might be expected given the number and independence of Services. One clear demonstration of this that should be recognised is the consistent use of the description "Ambulance Service Victoria" on vehicles and uniforms throughout the State - although no such organisation actually exists.

The lack of full co-ordination however, is shown in matters such as the varying levels of ambulance service available to some non-metropolitan communities. For example, ambulance officers from the Warragul Branch Station of the Latrobe Valley District Ambulance Service pointed out that although Warragul's population considerably exceeds that of either Echuca or Leongatha, ambulances operating from those centres have two officer crews, whereas those in Warragul do not.

Ambulance Services have experienced particular problems in administration, personnel matters, their relationship with the Health Commission of Victoria and in some aspects of operations. The Committee considers that these difficulties are to a large extent due to the large number of Services, to their small size, and to the inadequate co-ordination between them, although other matters are also relevant, such as the limited resources available, the fragmentation of responsibilities between the Health Commission and Committees of Management, and the approach that the Commission has adopted towards Ambulance Services. Difficulties in administration, personnel matters and operations caused largely by the present arrangements are detailed in this section - difficulties of the relationship with the Health Commission are discussed in Section 5.4 below.

Given that all Services perform basically the same functions, there is great potential for replication of administrative effort, and numerous examples have been described to the Committee. For instance, many Ambulance Services consider that computing facilities would enable administrative functions to be streamlined and that they would facilitate the extraction of management information. Some Services have purchased computing equipment. The costs of purchasing different computer systems and separately developing appropriate programmes are regarded by some Services as beyond their resources at this stage, and yet several other Services have independently taken on this task.

Because of the large number of Services in Victoria, many non-metropolitan Services are not large enough to justify the employment of staff with management, financial, personnel or other specialist expertise. As a result, responsibility for these matters rests with Superintendents and Committees of Management who may or may not have the experience or knowledge to manage this aspect of the Services' resources. The training of senior managers is considered in Chapter Seven.

The poor relationship between Ambulance Services and the Health Commission is examined later in this Chapter. It should be noted here that the large number of Services with which the Commission has to deal contributes to the apparent shortcomings in its responsiveness to the needs and demands of the Services. The Commission is required to communicate with seventeen separate Ambulance Services. In addition, it must deal with the Ambulance Officers' Training Centre, the various committees and working parties it has established, and ambulance organisations such as Victorian Ambulance Services Association and the Ambulance Employees Association. In a submission to the Committee, the North West Victoria Ambulance Service recognised that the number of independent Services impacted upon the relationship between the Commission and Ambulance Services. It commented:

"One of the main reasons that may account for the lack of understanding could be due to the Commission not being able to negotiate with one executive body that in turn fully represents the actual view of all Ambulance Services" (submission, p 12).

Issues relating to personnel are discussed in detail in Chapter Seven. The number and autonomy of Services has, however, had some particular implications for personnel management matters. The Committee has been told of inconsistencies in personnel and industrial relations practices between Services, despite the existence of a common negotiated award. An internal Health Commission document commented that a weakness of the existing situation in respect of industrial relations was that:

"autonomous Ambulance Services faced with industrial disputes tend to react inconsistently and without regard to accepted industrial standards or consideration of flow-ons to other Ambulance Services" ("Industrial Relations in Ambulance Services in Victoria", p 8).

While some local arrangements are no doubt necessary, Services occasionally have differing interpretations of important provisions of the award, and this has resulted in industrial disputation. Day-to-day industrial relations matters are handled within each Service and no Service other than Ambulance Service - Melbourne employs an industrial relations or personnel manager. The employment of specialised staff is difficult to justify in the smaller organisations. The lack of any ambulance-oriented central agency also means that an industrial difficulty in one Service can easily develop into a major problem involving the Health Commission and the Victorian

Employers Federation, as well as a number of Services and the Ambulance Employees Association.

Another consequence of the small Services is that they have limited flexibility to accommodate individuals who may not be compatible with some others. While larger Services can transfer an officer to another station or re-organise a roster, smaller Services have fewer options for this kind of sensitive personnel practice.

Many ambulance personnel expressed their concern that in order to take up employment with another Service, they must first resign, and then be re-employed. While there is no formal provision for the portability of long service and other forms of leave, Services take account of officers' prior employment with other Services when calculating officers' long service leave entitlements. The transfer of sick leave credits is negotiated between the officer and the employing Service.

The large number of Services and the small size of many of them have also presented difficulties in developing or maintaining effective in-service training schemes. In-service training officers are often operational members of staff who are diverted to relief duties, particularly in the smaller Services. This thin spread of resources - of staff and also of equipment to assist training - contributes to the professional isolation felt by some ambulance officers. In-service training is discussed in detail in Section 7.2.

Matters relating to the operational aspects of Ambulance Services are discussed in Chapter Eight. One important operational consequence of the number of Ambulance Services is an inadequate level of operational co-ordination between the Services, which results in some duplication of transport operations, particularly from non-metropolitan centres to Melbourne. The lack of flexibility in the deployment of vehicles and the lack of exchange of information has meant that it is not uncommon for two or three neighbouring Services to send ambulances to Melbourne, where with multiple loading and improved co-ordination, fewer ambulances could perform the transports.

### 5.1.2 Proposed New Non-Metropolitan Ambulance Services

This Section contains the Committee's proposals for new Ambulance Services in non-metropolitan Victoria. New Ambulance Services for the Melbourne metropolitan area are considered in Section 5.1.3, and the Alexandra and District Ambulance Service and the Ambulance Officers' Training Centre are discussed in Section 5.1.4. The creation of an authoritative central agency to serve all Ambulance Services in Victoria and to be called the Victorian Ambulance Commission is discussed in Section 5.4.

The Committee considers that much of the evidence presented to it and outlined above indicates that the existing non-metropolitan Ambulance Services are too small to operate efficiently and effectively in the future. The large number and small size of those Services have clearly caused or contributed substantially to many of the problems that have been described to the Committee. There is no doubt that Victoria's Ambulance Services need to be organised in a way which will make available to all Services higher levels of management, financial and administrative expertise. Larger Services than those that exist at present would justify the employment of such professionals. Larger Services would also provide more flexibility in the deployment of staff and vehicles.

The establishment of a single statewide Service - as operates New South Wales - has been considered by the Committee. Such an organisational structure was seen to have significant disadvantages for adoption in Victoria, in that the opportunity for community input into the management and planning of Services would be substantially reduced. The Committee believes that to place most of the functions currently undertaken by members of Committees of Management in a voluntary capacity into the hands of single Government agency is out of step with more general trends towards devolution of power and responsibility to smaller geographic areas and towards maximising the involvement of the local community in decision-making on matters that impact upon services available in the district. Given that operational control of ambulance dispatch will always have to be undertaken on a decentralised basis, the Committee sees little advantage in having only one Ambulance Service organisation for the State.

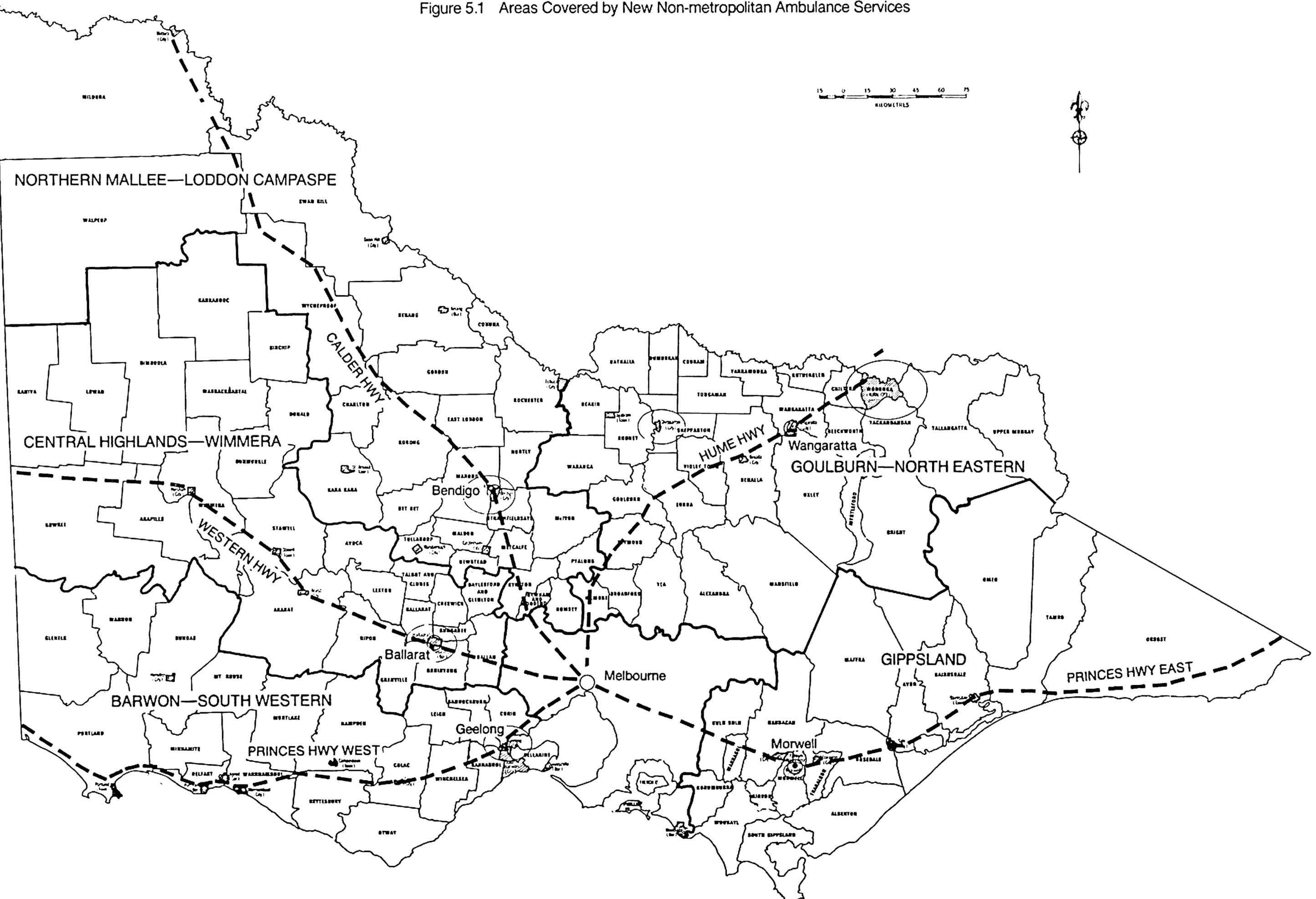
In the non-metropolitan area, the Committee has concluded that the requirements for a structure which will provide the greatest opportunity for an increased management capacity, without reducing the opportunity for and the motivation of individuals in the community to assist with the management of the Ambulance Service, would be by establishing five non-metropolitan Ambulance Services with boundaries identical to those of the Health Commission. These boundaries are based on the standard regions preferred for all Government agencies in Victoria, and are also identical to those now used by the Education Department.

Although the Committee does not propose that Regional Directors of the Health Commission will have anything more than an advisory or liaison role in respect of Ambulance Services (see discussion in Section 5.4), there are advantages in adopting the Health Commission's regional boundaries rather than those of the State Emergency Service and the Country Fire Authority, or simply amalgamating the regions served by Ambulance Services at present. The Committee believes that Ambulance Services are a health-related activity and the adoption of Health Commission regions is consistent with this recognition. The reasons for continuing with the current arrangement whereby the Minister of Health retains responsibility for ambulance activities are described in Section 5.4.

The establishment of one Service to each non-metropolitan Health Commission region will facilitate the identification of the total resources used on health services in particular regions. It will also encourage the development of closer operational co-ordination with hospitals. While the Committee acknowledges that regional boundaries in a comparatively closely populated State such as Victoria are ultimately arbitrary, it can see no compelling reason why those adopted by the Health Commission, and which are consistent with the boundaries used by most other State Government agencies concerned with the delivery of human services, should not be adopted. The boundaries proposed by the Committee are shown in the map in Figure 5.1.

The Committee notes that some witnesses considered that Ambulance Service regions should correlate with those of other emergency services. The Director of the Victorian State Emergency Service, Mr R J Aitken, told the Committee that:

Figure 5.1 Areas Covered by New Non-metropolitan Ambulance Services



"...rather than proliferating a number of different boundaries, from the disaster operational control point of view, boundaries should be standardised as far as possible" (evidence, p 784).

Mr Aitken pointed to the difficulties encountered when the staff of one State Disaster Plan region (the regions used by both the State Emergency Service and the Country Fire Authority) had to deal with two or three separate other services. The Committee considers that the establishment of five major non-metropolitan Services will significantly reduce the instances where the State Emergency Service or the Country Fire Authority must relate to more than one Ambulance Service, and that the ambulance response to disasters will be enhanced because many vehicles and staff may be allocated to the scene more readily than is presently the case. Mr Aitken "recognised that it is not always possible for all services to have boundaries that conform with the other services mainly because most other services have a primary role other than disaster" (evidence, p 784).

The establishment of five new major non-metropolitan Ambulance Services coinciding with Health Commission regions would result in each Service being considerably larger than are present Services, and in the Services being much closer to one another in size. Ambulance Services of the sizes indicated would all be of sufficient size to justify the employment of management professionals and to facilitate the transfer of staff, vehicles and other resources within the area served. At present, the variations between the smallest and the largest Services are very great, as is shown in Table 2.1. Table 5.1 indicates the approximate staffing numbers and size of each of the proposed Services.

It is recognised that in some places the boundaries may not be regarded as entirely suitable. In particular, the placement of Echuca and the surrounding district in the Loddon Campaspe - Northern Mallee Ambulance Service has been brought to the Committee's attention. Some individuals associated with the Ambulance Service in Echuca suggested that that area would be better placed in the Goulburn - North Eastern Service, because most patients transfer to Shepparton rather than Bendigo. Data published in the report of the Murray Valley Health Services Planning Group in February 1984 does not support this contention, and the Committee considers that the boundaries of the preferred Government regions should be retained. However it is apparent that, for reasons of history and current practice, significant difficulties may arise with placing some cities and towns that are close to a boundary in one

TABLE 5.1

## PROJECTED SIZE OF VICTORIA'S NEW AMBULANCE SERVICES

Service	Area (Square Kms)	Population	Staff (Perm+Cas.)	Stations	Vehicles (Amb.+Other)
Barwon-South Western	32 189	303 930	135 + 52	22	39 + 31
Central Highlands -Wimmera	45 493	168 130	111 + 27 *	20	44 + 22
Northern Mallee -Loddon Campaspe (NSW)	56 784 + 36 500	221 850	193 + 30 *	22	55 + 33
Goulburn - North Eastern	39 254	213 940	135 + 19 *	24	55 + 21
Gippsland	40 923	199 700	133 + 94	21	50 + 21 + Helicopter
Alexandra	1 895	4 560	0 + 39	2	4 + 0
Metropolitan	11 062	2 922 510	794 + 9	33 + MICA	147 + 95 + Helicopter
TOTAL	227 600	4 034 620	1501 + 270 *	144 + MICA	394 + 223 + Helicopter

The size of Victoria's present Ambulance Services are outlined in Table 2.1.

Compiled by the Public Bodies Review Committee from information provided by Victoria's Ambulance Services, Australian Bureau of Statistics, Estimated Resident Population in Local Government Areas, Victoria, 30 June 1981, 1982 and Preliminary 1983.

\*As some Services did not specify the number of casual officers, this number is not the total number of casuals.

region rather than in the other. The Committee considers that anomalies which may occur are best resolved by informal agreement between the Regional Superintendents and Committees of Management of the respective Services, with the involvement of the central agency only where necessary. This is the procedure used by the Education Department to resolve these kinds of anomalies, including in the Echuca area. The Committee is not aware of any other major difficulty of this type that adoption of these boundaries would cause.

In any event, for operational purposes boundaries should never be regarded as rigid and impermeable, and have not been so regarded in the past.

**Recommendation 5.1:** The Committee recommends that the following bodies should cease to exist:

Ballarat and District Ambulance Service,  
Central Victoria District Ambulance Service,  
East Gippsland Ambulance Service,  
Geelong and District Ambulance Service,  
Glenelg District Ambulance Service,  
Goulburn Valley Ambulance Service,  
Latrobe Valley District Ambulance Service,  
Mid-Murray District Ambulance Service,  
North-Eastern Victoria District Ambulance Service,  
North West Victorian Ambulance Service,  
Northern District Ambulance Service,  
South Gippsland District Ambulance Service,  
South-Western Victoria Ambulance Service, and  
Wimmera District Ambulance Service,

and that the successor bodies be:

Barwon-South Western Ambulance Service,  
Central Highlands - Wimmera Ambulance Service,  
Northern Mallee - Loddon Campaspe Ambulance Service,  
Goulburn - North Eastern Ambulance Service, and  
Gippsland Ambulance Service.

**Recommendation 5.2:** The Committee recommends:

- (i) that the
  - Barwon - South Western Ambulance Service,
  - Central Highlands - Wimmera Ambulance Service,
  - Northern Mallee - Loddon Campaspe Ambulance Service,
  - Goulburn - North Eastern Ambulance Service,
  - and Gippsland Ambulance Servicehave the same boundaries as the regions of the same names used by the Health Commission of Victoria;
- (ii) that all of the staff employed and all of the property owned throughout the areas served by the existing Ambulance Services be transferred to the ownership of whichever new Ambulance Service is to be responsible for the provision of ambulance services in the district surrounding the place where staff and property are currently located;
- (iii) that any contract, agreement or arrangement to which an existing Ambulance Service is a party become a contract, agreement or arrangement with whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the contract, agreement or arrangement predominantly applies;
- (iv) that any legal or other proceeding or claim to which any existing Ambulance Service is a party or has an interest become a legal or other proceeding or claim involving whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the proceeding or claim predominantly applies; and
- (v) that any financial and other liabilities and obligations of any existing Ambulance Service become liabilities and obligations of whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the liability or obligation predominantly applies.

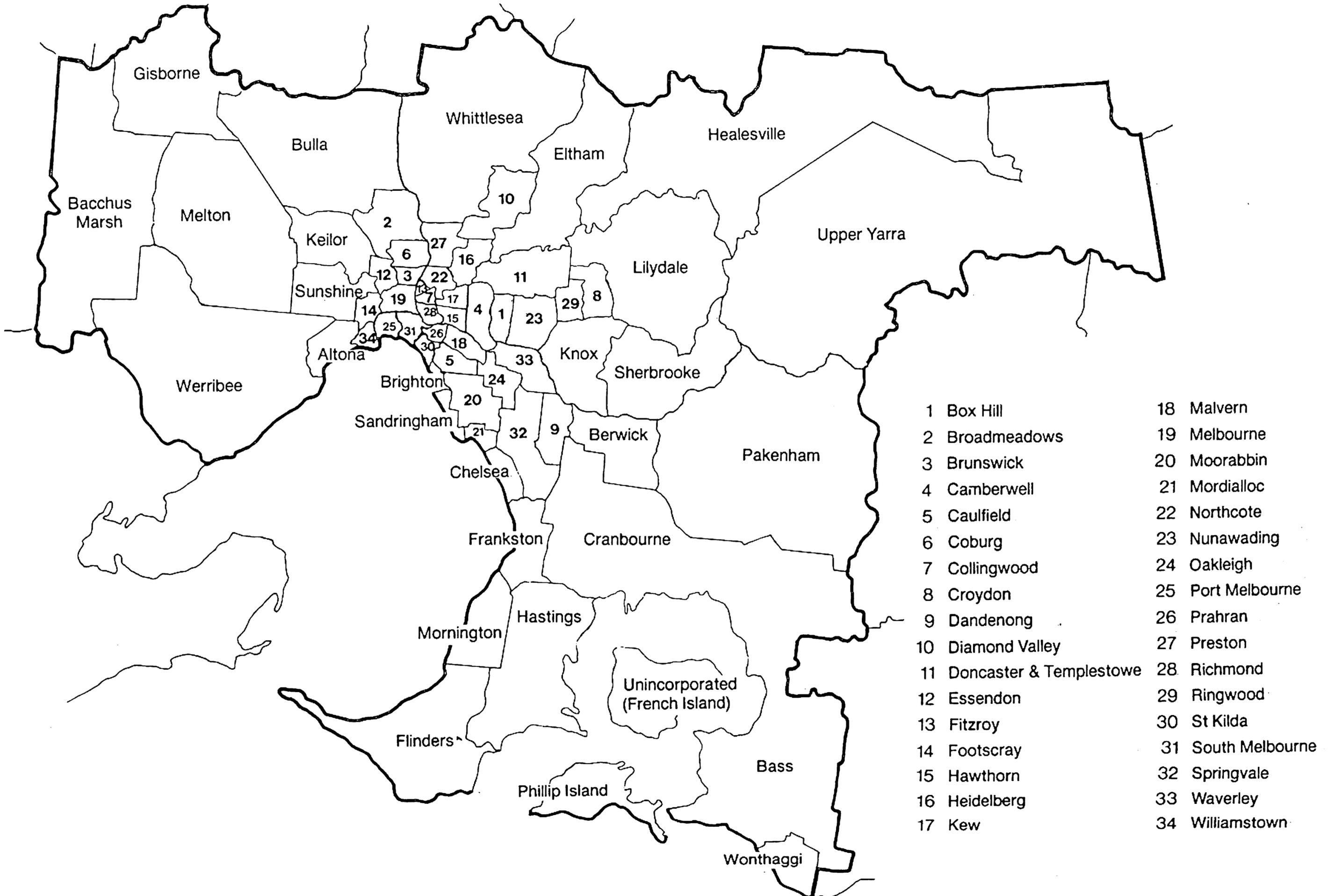
### 5.1.3 Proposed New Metropolitan Ambulance Service

The question of whether metropolitan Melbourne should continue to be served by more than one Ambulance Service was raised throughout the inquiry. In March 1982 the Health Commission approved in principle the amalgamation of the Peninsula Ambulance Service and Ambulance Service - Melbourne, and a Planning Committee on Ambulance Service for the Melbourne Metropolitan Area was established to develop a detailed plan for amalgamation. The Public Bodies Review Committee has been provided with a copy of the Planning Committee's report, which describes the benefits of amalgamation in terms of staff economies, better co-ordination and more varied career opportunities. The work of the Planning Committee was suspended early in 1984 pending the outcome of the Public Bodies Review Committee's review.

The Committee considers that the existing boundary between Ambulance Service - Melbourne and Peninsula Ambulance Service, which passes through densely populated suburbs, is not justified, and that a new single Ambulance Service should serve the metropolitan area. The new Service should cover all of the area now served by Ambulance Service - Melbourne and Peninsula Ambulance Service, as well as the local government areas of Werribee, Bacchus Marsh, Melton, Gisborne, Upper Yarra, Bulla, Pakenham, Cranbourne, Bass, Wonthaggi, Phillip Island, Whittlesea and Healesville, which are now served at least partially by non-metropolitan Services. The incorporation of these outer metropolitan areas in the area of the metropolitan Service is warranted, because of significant changes in population and in the patterns of patient flow since the establishment of the existing boundaries. Residents of these areas would only rarely travel to the major hospital in the region in which they are now placed: most transports of patients from these areas now are towards Melbourne rather than away from it. This metropolitan Service thus covers the same area as the three metropolitan regions of the Health Commission. The area covered by the proposed metropolitan service is shown in Figure 5.2.

Although some areas proposed for inclusion in the metropolitan area are predominantly rural in character (for example, Wonthaggi, Phillip Island, and some parts of the Mornington Peninsula) the Committee has concluded that they are best located in the single metropolitan Service and that alteration to the Health Commission boundaries is not warranted. It is likely that the tendency for patients

Figure 5.2 Area Covered by New Metropolitan Ambulance Service



to be transported from these areas to Melbourne rather than to centres in the non-metropolitan area will increase in future, with the expansion of the fringe metropolitan area, the increasing size and specialisation of metropolitan hospitals, and the relocation of some specialist medical facilities to the outer metropolitan area. Predominantly rural areas of the Metropolitan Ambulance Service should retain staffing levels appropriate to their workloads.

**Recommendation 5.3:** The Committee recommends:

- (i) that Ambulance Service - Melbourne and the Peninsula Ambulance Service cease to exist; and
- (ii) that the successor body be the Metropolitan Ambulance Service.

**Recommendation 5.4:** The Committee recommends:

- (i) that the Metropolitan Ambulance Service provide ambulance services throughout the three metropolitan regions of the Health Commission of Victoria;
- (ii) that the staff employed and the property owned by Ambulance Service - Melbourne and Peninsula Ambulance Service be transferred to the ownership of Metropolitan Ambulance Service, together with the staff employed and property owned by non-metropolitan Ambulance Services and located in areas currently served by those Services which are to be served by the Metropolitan Ambulance Service;
- (iii) that any contract, agreement or arrangement to which Ambulance Service - Melbourne or Peninsula Ambulance Service is a party become a contract, agreement or arrangement with Metropolitan Ambulance Service, and that the same should apply also to any contract, agreement or

arrangement to which any other existing Ambulance Service is a party if the area to which the contract, agreement or arrangement predominantly applies is included in the area to be served by Metropolitan Ambulance Service;

- (iv) that any legal or other proceeding or claim to which Ambulance Service - Melbourne or Peninsula Ambulance Service is a party or has an interest become a legal or other proceeding or claim involving Metropolitan Ambulance Service, and that the same should apply also to any legal or other proceeding or claim to which any other existing Ambulance Service is a party if the area to which the legal or other proceeding or claim predominantly applies is included in the area to be served by Metropolitan Ambulance Service; and
- (v) that any financial and other liabilities and obligations of Ambulance Service - Melbourne or Peninsula Ambulance Service become liabilities and obligations of Metropolitan Ambulance Service, and that the same should apply also to any financial and other liabilities and obligations to which any other existing Ambulance Service is a party if the area to which the financial and other liabilities and obligations predominantly applies is included in the area to be served by Metropolitan Ambulance Service.

#### 5.1.4 Alexandra and District Ambulance Service and the Ambulance Officers' Training Centre

##### Alexandra and District Ambulance Service

The Committee received strong representations from members of the community served by the Alexandra and District Ambulance Service in support of the retention of the existing arrangements for that Service, in which ambulances are crewed entirely by casual officers. The Committee was also told on a number of occasions by people from outside the Alexandra District that the Service was an anachronism,

that the training of its casual officers was poor, that the standard of patient care that it provided was inadequate, and that it should be absorbed into a larger Service.

Some witnesses expressed reservations about the quality of care provided by the casual officers, but these were not supported by the evidence of actual incidents provided to the Committee. Such comments tended to come from ambulance officers attached to other Services who maintained that all Services should be staffed solely by full-time fully qualified ambulance officers.

In view of these strongly contrasting views, the Committee has given special consideration to the case of Alexandra. As well as receiving numerous submissions concerning the Service, the Committee also visited Alexandra to inspect its facilities and to talk with those who operate the Service. It recognises that the Alexandra Service is unique and that no other Service in Victoria is in any way similar. The Alexandra Service is too small to have encountered the problems of the smallest professional Services. Its circumstances and the solution proposed for it are not necessarily relevant to other parts of the State.

The administrative needs of the Alexandra Service are small and far more straightforward than are those of other Services. The Service has a large amount of its administrative tasks computerised, and it appears to use a computer proportionally more than any other Service. Its vehicles and the equipment in them are up to the standards of other Services. The Committee was impressed with the initiative shown by the Service in obtaining a new ambulance from Queensland, of a design that the Service considered to be an improvement over the standard Victorian vehicle.

The Service appears to have adequate numbers of volunteers available at both its Eildon and Alexandra branches, and there was no evidence to suggest that there were serious difficulties in recruiting new volunteers, although the lack of women volunteers was noted by the Committee. As with casual officers elsewhere in the State, the standard of initial training of the officers is not particularly high, but the continuing training appears to be more thorough and better organised than in most other places. Medical practitioners in Alexandra take an active part in this training, and practitioners in both Eildon and Alexandra reported high standards of patient care from the Alexandra Service.

The Service shares a co-ordinated disaster control room with other emergency services, and it has conducted at least one large-scale disaster training exercise in conjunction with the Australian Army. The Committee was shown a video of this exercise, which was made for training purposes. The control and communication arrangements to ensure a rapid response to emergencies appear to be adequate, and the details provided to the Committee of the Service's response to a motor accident on the Goulburn Valley Highway between Molesworth and Catkin in March 1984 that involved 20 patients showed both a high level of organisation within the Service and a high level of co-operation with the Goulburn Valley Ambulance Service. The Service is also provided at very little direct cost to either the local community or to the Government.

The Committee has therefore concluded that the Service should remain in existence.

**Recommendation 5.5:** The Committee recommends that the Alexandra and District Ambulance Service continue to exist and that it continue to provide ambulance services to that area included in its present boundaries.

There appears to the Committee to be some justification for increasing the level of interaction between the Alexandra Service, and the Goulburn-North Eastern Ambulance Service within whose boundaries the Alexandra Service is located, and with the ambulance community at large. The Committee believes that officers of the Alexandra Service could benefit from more involvement with professional ambulance officers, particularly during training sessions.

**Recommendation 5.6:** The Committee recommends:

- (i) that the Alexandra and District Ambulance Service have access to financial, operational and administrative advice from the Goulburn-North Eastern Ambulance Service, and be invited to participate in disaster or other training and planning exercises conducted by the larger Service;

- (ii) that the Alexandra and District Ambulance Service have access to assistance and advice on skills maintenance from the Goulburn-North Eastern Ambulance Service and from the Ambulance Officers' Training Centre; and
- (iii) that should the Alexandra and District Ambulance Service be in future unable or unwilling to continue to provide all aspects of ambulance service to the district in a satisfactory manner, it be absorbed into the Goulburn-North Eastern Ambulance Service.

### Ambulance Officers' Training Centre

The role and function of the Ambulance Officers' Training Centre will be considered at some length in Chapter Seven of this Report. It is, however, appropriate to state here that the Committee believes that the Centre should continue to exist, and that it should have major roles in the initial and in-service training of ambulance personnel, and in investigations and development work related to all aspects of ambulance work.

**Recommendation 5.7:** The Committee recommends that the Ambulance Officers' Training Centre continue to exist.

\* \* \* \* \*

## 5.2 Establishment and Organisation of the New Ambulance Services

The Committee considers it important to explain some aspects of the formation of the new Services. In no sense do they represent a "takeover" of any area or of any existing Service by any other existing Service. The Committee is recommending the abolition of all existing Services, except the Alexandra and District Service. It is then recommending that entirely new Ambulance Services be established to provide ambulance services across Victoria.

The location of the Headquarters of the new Services in cities that are at present the Headquarters of an existing Service does not imply that the Service presently based in that city is taking-over any other Services. In particular, the Superintendent/Secretary at present located in that city has no special claim to the position of Regional Superintendent of the new Service.

### 5.2.1 Legislative Requirements

The Committee has considered the extent to which the Hospitals and Charities Act 1958 can accommodate the changes proposed for Victoria's Ambulance Services in this Report. It has concluded that the Act no longer provides an adequate or appropriate framework for the establishment and management of Ambulance Services. Apart from the necessity for revised legislation to reflect the Committee's recommendations on the future role of the Health Commission, which is discussed in Section 5.4, the Committee believes that the continuation of the existing legal basis for Ambulance Services - that is, their registration as benevolent societies in accordance with Section 22 of the Hospitals and Charities Act 1958 - is no longer appropriate. The Committee concludes that new legislation is necessary to establish and to govern the management of the new Ambulance Services.

**Recommendation 5.8:** The Committee recommends:

- (i) that all seven Ambulance Services be established by an Ambulance Service Victoria Act in which each Service should be separately named;
- (ii) that the new Act repeal Section 22 of the Hospitals and Charities Act 1958, amend Section 3, and provide for the continuation, revocation or amendment of any regulations made under that Act which relate solely to Ambulance Services; and
- (iii) that the new Act provide that any reference in any other Act or regulation or other instrument of a legislative character to Ambulance Services be taken as a reference to the Ambulance Services established by this Act.

### 5.2.2 Common Identity

Although the Committee is recommending the establishment of a set of eight organisations each of which will have a significant degree of autonomy, it considers that a common identity for personnel, vehicles, property, stationery, and the like to be highly desirable to militate against reducing any of the statewide esprit de corps that now exists, and to minimise the likelihood of confusion in the minds of those members of the public who may need to call an ambulance.

The Committee has earlier in this Chapter recognised the major achievement of the existing Services in voluntarily developing a very high level of statewide identification of and with "Ambulance Service Victoria", and it considers that this should be retained.

The Committee considers that its recommendations generally will reduce substantially the inconsistencies in approach to management and operational issues, but it believes that the continuation of the "Ambulance Service Victoria" name and emblem is extremely important in maintaining a consistent image for both Ambulance Service employees and for the public throughout the State.

**Recommendation 5.9:** The Committee recommends:

- (i) that all Ambulance Services collectively be known as "Ambulance Service Victoria"; and
- (ii) that the emblem and name "Ambulance Service Victoria" continue to be used throughout the State on vehicles, uniforms, and in other appropriate places.

### 5.2.3 Organisation of Services

The recommendations that appear in Section 5.4 establish a central agency to be responsible for the development and enforcement of policies on ambulance services for all Victoria. The Committee considers that although each individual Service should be responsible for the management of the resources available to it, its management and operations must be in accordance with policies approved by the central agency recommended in Section 5.4 of this Report.

The location of the Headquarters of each of the new Services is of some significance. The important factors that determine where these should be are:

- close proximity to a major hospital;
- well-placed in terms of the present and the developing major flows of both patients and motor traffic, given the importance of ambulance services to the effective management of victims of motor accidents;
- substantial ambulance workload at present; and
- reasonably central to the region covered by the Service.

In few of the new Services does any city meet all of these needs perfectly: however the Committee considers that there is in practice little alternative to the Headquarters being located in the cities listed in Recommendation 5.10.

The officer at the head of each of the new Services, including the Metropolitan Ambulance Service, should be known as the Regional Superintendent of that Service. The Regional Superintendent will have a large number of tasks, of which one of the

most important will be communication and co-operation with the Regional Director of Health. It may be appropriate for the new Services to strengthen their management structures further by giving some Senior Station Officers or Assistant Superintendents a specific field of activity or "portfolio" within the organisation, as is done by at least one Service now.

For two major reasons, there is a need for an additional, locally-oriented organisational level within Ambulance Services: to co-ordinate and conduct ambulance operations, and to provide the mechanism for community involvement.

Operational control of ambulance work would be difficult to carry out effectively from only one centre in each Service, and smaller districts are desirable for this aspect of ambulance work. The local geographic knowledge that ambulance officers develop is important in keeping ambulance response times to a minimum, and such knowledge may not be available if the ambulance control function were to be undertaken by only one centre in what will be comparatively large areas. Several matters such as the co-ordination of staff and vehicle utilisation and some aspects of Services' management can be appropriately handled at a level less remote from ambulance officers in the field or from the community served by particular ambulance stations.

The Committee considers that operational decision-making which is too far removed from those who implement the decisions or who receive the resulting Service can stifle initiative and innovation. In addition, officers of the central station where the decisions are made can readily become overburdened with detail about services to areas of which they may have only scanty direct knowledge. This can have a consequent negative impact on the Services' responsiveness to the operational needs of particular districts, to changed circumstances, or to ideas and suggestions that may be placed before it for consideration.

The second reason for requiring an additional organisational level is to provide for local input into the operations and planning of the provision of Ambulance Services. The Committee considers this to be of very great importance, particularly in non-metropolitan areas. The future role of Committees of Management is discussed in Section 5.3.

The Committee is thus recommending that each Ambulance Service be divided into a number of Control Districts, each headed by a District Superintendent.

Control Districts should be formed, abolished or amalgamated as workloads, technology, and standards of service change. The power to carry out these actions should rest with each Service, although a public explanation should be provided and any changes must be within the policies approved by the Victorian Ambulance Commission. The Committee considers that greater flexibility in linking the standard of service provided by each branch to the workload of the branch should be introduced.

Control Districts should be established around the Service Headquarters city, although there should not be a District Superintendent in charge of these Districts. Instead, the functions of District Superintendent should be performed by the Deputy Superintendent, in addition to his role of assisting the Regional Superintendent in management of the Service as a whole.

The following recommendations give details of the organisational structure that the Committee believes should apply to the Services.

**Recommendation 5.10:** The Committee recommends:

- (i) that the Headquarters for each major Service be established as follows:
- Metropolitan Ambulance Service in Melbourne;
  - Barwon - South Western Ambulance Service in Geelong;
  - Central Highlands - Wimmera Ambulance Service in Ballarat;
  - Northern Mallee - Loddon Campaspe Ambulance Service in Bendigo;
  - Goulburn - North Eastern Ambulance Service in Wangaratta; and

- . Gippsland Ambulance Service in Morwell;
- (ii) that each Service have a chief executive officer known as the Regional Superintendent; and
- (iii) that the Alexandra and District Ambulance Service maintain its Headquarters in Alexandra, and that its chief executive officer be known as the Superintendent.

**Recommendation 5.11:** The Committee recommends that the Headquarters of each Service perform the following functions:

- (i) in the area surrounding the Headquarters, the functions of a Control District as outlined in Recommendation 5.14;
- (ii) the functions necessary for the management of the Service as a whole, including:
  - . monitoring operations of Control Districts;
  - . allocating resources and priorities between Control Districts;
  - . transferring vehicles and staff between Control Districts in response to changing needs;
  - . managing the Service's personnel, industrial relations, financial, skills maintenance, and administrative functions;
  - . liaison with the Regional Director of the Health Commission on the interaction between the Commission and public hospitals and the Ambulance Service; and

- negotiating with and making submissions to the Victorian Ambulance Commission.

**Recommendation 5.12:** The Committee recommends:

- (i) that each Service be divided into Control Districts for operational and control purposes;
- (ii) that the Ambulance Service Victoria Act provide for the establishment, amalgamation and abolition of Control Districts by Services;
- (iii) that the Act require that Services proposing the abolition or amalgamation of Control Districts explain their reasons publicly and make a final decision only after consultation with the community; and
- (iv) that each Control District, except that based on the Headquarters of each Service, be managed by a District Superintendent.

**Recommendation 5.13:** The Committee recommends:

- (i) that Control Districts initially be based in the following centres in the non-metropolitan Services:
  - Barwon - South Western Ambulance Service in Geelong, Hamilton and Warrnambool;
  - Central Highlands - Wimmera Ambulance Service in Ballarat and Horsham;
  - Northern Mallee - Loddon Campaspe Ambulance Service in Bendigo, Swan Hill, Mildura and Echuca;

- Goulburn - North Eastern Ambulance in Wangaratta and Shepparton;
  - Gippsland Ambulance Service in Morwell, Sale and Leongatha;
- (ii) that Control Districts initially approximate the regions served by existing Ambulance Services, with adjustments as necessary to match the new boundaries of the Services;
- (iii) that the Metropolitan Ambulance Service establish three Control Districts, covering the following areas:
- Northern Metropolitan Control District, generally the area north of the Yarra River;
  - Southern Metropolitan Control District, generally the area between the Yarra River and Mordialloc Creek; and
  - Westernport Control District, generally the area south of Mordialloc Creek; and
- (iv) that each Metropolitan Control District have a control centre located:
- for Westernport Control District in Frankston; and
  - for the Northern and Southern Control Districts in any appropriate location, not necessarily separate.

**Recommendation 5.14:** The Committee recommends that Control Districts perform operational functions in accordance with the Service's approved policies, including:

- (i) receipt of calls for emergency assistance and of bookings for non-emergency transports;
- (ii) deployment of staff and vehicles to emergency calls and to non-emergency transports;
- (iii) skills maintenance of full-time ambulance officers and of casual officers under the direction of the Service's skills maintenance officer;
- (iv) personnel management and industrial relations when matters are only of relevance to that Control District;
- (v) locally-based aspects of financial management, such as preparation of invoices for ambulance transports, wages calculations, collection of fees and subscriptions;
- (vi) liaison with local doctors and hospitals on matters of common concern; and
- (vii) liaison and communication between local ambulance officers and local communities and the headquarters of each Service.

#### 5.2.4 Communications within Ambulance Services

Such a system of decentralised management of operations by Control Districts and overall management by Service Headquarters requires that each has access to a range of operational and management information. If accurate and up to date information on matters such as estimated and actual workload on a day-to-day basis and on how the staff and vehicle resources located in the Control District are utilised on a day-to-day basis is not available, the District Superintendent's approach

to his or her duties is likely to be more ad hoc and less rational than is desirable. The lack of adequate management information for existing Superintendents has, in the Committee's view, been a factor behind several of the complaints about the current state of Ambulance Service management.

A considerable amount of work has already been carried out within the Health Commission on computerising some administrative procedures for Ambulance Services, such as debtors files. Much of this is in operation already in Ambulance Service - Melbourne, and is being made available to other Services, with on-line access to and updating of information. The systems at present in place allow the extraction of some statistical data, but not as extensively as the Committee believes is appropriate. In addition, there is no provision at present for data entry in control rooms as calls come in, nor is there yet any use of computers for routine operational matters.

With larger Services, Headquarters staff will be considerably handicapped in the conduct of their duties if the Regional Superintendent of the Service does not have access to information on estimated and actual workloads, resource utilisation and response times in each Control District in the Service over longer periods. Each Regional Superintendent's capacity to monitor accurately the operations of Control Districts or to respond to changing circumstances by transferring staff and vehicles will be substantially reduced. The Committee believes that, in order to avoid either excessive control by Service Headquarters over Control District operations or the ineffective functioning of the Service Headquarters in its Service-wide management responsibilities, up-to-date and accurate information about the resources available, and about the probable and actual workloads on a daily basis and over longer periods is necessary for both the Control Districts and for the Service Headquarters.

The Committee considers that it is now comparatively easy and not expensive to provide Ambulance Services with computer systems which will allow the ready collection, collation and analysis of management and operational information, and its transfer between geographically separate centres in a form which meets the information requirements of all parties. The installation of such a system would also assist with streamlining many office procedures, such as roster preparation, the preparation and despatch of accounts, the extraction and collation of statistics and performance indicators, and financial accounting. Without such a system for the

collection and exchange of information, the Committee's proposals for regionalised management and local operations will not work optimally.

**Recommendation 5.15:** The Committee recommends that a network of linked microcomputers be installed in each Service, with terminals in each Control District, to allow each Control District access to the operational and financial data it requires to manage the day-to-day operations while also allowing the Service Headquarters access to the consolidated data it requires to plan and manage the activities of the Service as a whole.

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### 5.3 Committees of Management

#### 5.3.1 Present Operations of Committees

The present functions and composition of Committees of Management have been outlined in Chapter Two. The Committee has generally been impressed by the commendable voluntary efforts of Committees of Management in management and fund raising. It is the knowledge of the members of the local community and its characteristics which contributes to the close community - Ambulance Service interface which was regarded as very important by many people. The Committee is of the view that, at its best, Ambulance Service management in Victoria is an example of how Government and community organisations can work together to provide an important service. Mr Mijo Darveniza, President of the Goulburn Valley Ambulance Service Committee of Management, summed up the views of many Committees of Management when he said:

"Our Service strongly recommends the current committee system in the ambulance service as the only formal means of getting community interest into the decision-making process..." (evidence, p 202).

In many respects, the conditions which prevailed at the time of the establishment of the system of Committees of Management some 30 years ago no longer apply. The most notable changes include the increasing professionalism of ambulance work, the much greater size of Ambulance Services and the consequent need for greater management skills, and the financial climate for such activities. It is now appropriate to question the future role of such Committees, particularly in relation to the powers and responsibilities of the Health Commission.

While there is a great deal of support for the continuation of Committees of Management, the Committee found that their usefulness varies markedly from Service to Service. Some appear to have a "rubber stamp" role for the actions of the Superintendent, while others have a very real involvement in the management of their Service. Similarly, the views of ambulance officers about the role of Committees of Management varied from Service to Service and ranged from a strong team approach by all involved in the Service, to the Committee of Management being regarded as an irrelevant anachronism made up of people who were not representative of the community and who knew little about the realities of ambulance work today.

The Committee heard of concerns regarding the size of Committees of Management, and the appropriateness of their knowledge and experience to the task of managing the Ambulance Service. In its submission to the Committee, the Victorian Ambulance Administrative Officers Association stated that:

"Management of Services under the present Committee of Management system appears to be unwieldy, taking into consideration that some regions have many branch stations, each of which nominates a representative to the regional committee. The size of some Committees of Management is not conducive to efficient and effective management."

Mr W Long, Secretary of this Association, gave evidence before the Committee and remarked that appropriate people to serve on Committees of Management are those:

"who are involved in community work within their own business...The owner of a business has the necessary expertise. A professional or semi-professional man has the expertise in one way or another" (evidence, p 267).

Other witnesses and submissions suggested that ambulance users, such as pensioners, and the staff of Ambulance Services should be represented on Committees of Management.

In order to obtain more information about the members of Committees of Management, the Committee sent questionnaires to all Services for distribution to all members of their Committees. The total response was 149 from a total of 209 members of Committees, a response rate of 71 per cent, which is quite high for surveys such as this. The rates for individual Services ranged from 29 per cent to 92 per cent. Further details of responses are shown in Appendix Six, and these show some substantial differences between Services. Ideally, a Committee of Management should have a range of ages of its members, a variety of backgrounds, and a mixture of long-serving members and comparative newcomers. Some Committees show this structure. Some other Committees do not have this variety in their membership, although it is notable that most have some members who have only recently joined the Committee.

Two further points emerge from the data shown in the Appendix. First, about half the Committees have no member with a medical, nursing or ambulance background, and second, the number of women on the Committees is extremely small. This Committee considers both these features to be undesirable as they tend to support the often stated view that Committees are not representative of the community they serve and have few useful and relevant skills.

Overall, the data revealed by this survey provide no support for suggestions that Committees of Management cannot attract young, new members. Members of some Committees also show a desirable range of characteristics. The suitability of members cannot be shown by a survey such as this: but the clear success of many of the Committees and the high regard in which many are held strongly suggest that the members are quite able to carry out their tasks adequately.

The Committee was concerned about the limited franchise for Committee of Management elections: in accordance with Section 48 the Hospitals and Charities Act, only contributors are able to vote. The Act defines a contributor as a person who has made a donation of at least \$2 to the Service's funds. It was reported to the Committee that not all Services regularly advertise annual general meetings, nor do

they publicise what individuals would have to do should they wish to stand for election for the Committee of Management or to vote at such elections. This sometimes led people to comment that Committees were a "closed shop", and not really open to the community of which they are a part and which they purport to represent.

The respective responsibilities of Committees of Management and the Health Commission was of considerable concern. Superintendent John Perry of the Wimmera District Ambulance Service summed up the views of several Committees and Superintendents when he told the Committee that:

"Over the years the scope to run Services properly has been taken away from Ambulance Services by the Commission but in the process the Commission has left the responsibility, including the legal responsibility, with Ambulance Services' Committees of Management and staff. We contend that is not only unfair but also as a management concept it is ridiculous" (evidence, p 126).

### 5.3.2 Committees of Management in the New Services

The Committee has concluded that interested local residents have generally made a most important contribution to the development and management of Ambulance Services in Victoria, and that there was no evidence to suggest that their enthusiasm or commitment would be reduced in future. The Committee notes that while locally-based Committees of Management have been successfully managing Ambulance Services for over 30 years, a number of other Government agencies are now endeavouring to create locally-based organisational structures to provide for the involvement of local people in decision-making about services important to the well-being of their communities.

The Committee's recommendations on the future structure of Ambulance Services (Sections 5.1 and 5.2) and on the creation of a central agency (Section 5.4) provide a framework which maintains opportunities for Committees to continue to have a significant role in ambulance activities. The Committee has, however, taken account of several of the criticisms it has heard about the Committee of Management system, particularly regarding the limited franchise, the lack of employee representation, and the confusion and fragmentation of responsibilities between the Health Commission and Committees of Management.

Several witnesses also expressed concern about the age structure of Committees and suggested that the limited recruitment of new individuals to serve on them would inevitably lead to a reduction in their effectiveness and usefulness as the numbers of people willing to serve diminished. The survey referred to above showed that 62 per cent of the members of Committees of Management are over 50, and 38 per cent are between 30 and 50. The Committee believes that such an age profile is not uncommon in community organisations and nor is it inappropriate. In view of the data shown by this survey, the Committee does not accept that there are insufficient numbers of potential new Committee members prepared to be involved in the Ambulance Service.

The Committee has therefore concluded that the basic arrangement whereby a Committee of Management is responsible for the management of each Service and for the oversight of its operations should continue: thus the management of each new Ambulance Service should be by a Committee of Management.

There should also be a Control District Ambulance Committee established in each Control District. These Committees should be advisory only, without a direct role in the management of the Ambulance Service unless acting in accordance with delegations made by the Service's Committee of Management. It would be untenable to recommend that any direct management responsibilities be vested in Committees at the Control District level, as it would reduce the extent to which the Ambulance Service Committee of Management and the Regional Superintendent could in fact manage. The Committee recognises that limiting the role of Control District Ambulance Committees to the provision of advice and to the management of community support activities may mean that some people serving on Committees of Management at present will in future have no management responsibility. The Committee is, however, of the view that those who do serve on Ambulance Service Committees of Management will be able to exercise management responsibilities far more effectively than is now the case. The Committee hopes that individuals who are now members of Committees of Management but who may not serve on an Ambulance Service Committee of Management in future will continue to be involved in ambulance activities through District Ambulance Committees. Their support and knowledge will be of great assistance to the new Committees of Management, particularly during the implementation of this Report's recommendations.

The franchise for election to Committees was raised frequently throughout the inquiry. The Committee proposes that at least half of the members of each Control District Ambulance Committee be elected by optional ballot of all subscribers (not contributors) who reside in the Control District. Subscribers can then participate in the management of the Ambulance Service through Control District Ambulance Committee nominees to the Service's Committee of Management. (The continuation of the Subscription Scheme and the abolition of the category of "Contributor" are recommended in Section 6.2.)

The Committee has also been very aware of the efforts of Auxiliary Committees, which currently support Branch stations and which are usually represented on the existing Committees of Management. It considers that Auxiliary Committees should continue to exist and to be represented on the Control District Ambulance Committee.

It is of considerable concern to the Committee that the employees of Ambulance Services are somewhat isolated from both the members and the decision-making processes of Committees of Management. This remote management style is not consistent with modern management practices, which emphasise employee participation and industrial democracy. In 1983, Parliament enacted legislation to provide for employee representation on hospital committees of management and the Committee can see no reason why this should not also apply to Ambulance Committees at the Control District, Service and central agency levels.

The following set of recommendations detail how the Committee believes that Management and Advisory Committees should continue to play major roles in the operation and management of Ambulance Services across the State.

**Recommendation 5.16:** The Committee recommends:

- (i) that each of the five major non-metropolitan Services be managed by a Committee of Management made up of:
  - two members from each Control District Ambulance Committee within the Service elected by the members

- of that Committee for a one-year term except where there are only two Control Districts in which case three members from each Control District Ambulance Committee are to be elected, or when there is only one or no Control District Committee in which case six members elected directly by subscribers;
- one member elected for a one-year term by optional ballot of all employees of the Service;
  - the Regional Director of the Health Commission;
  - one nominee of the Minister of Health; and
  - the Regional Superintendent; and
- (ii) that the President of the Committee of Management be elected by the members of the Committee from amongst the members other than the Regional Superintendent, and have a deliberative and a casting vote.

**Recommendation 5.17:** The Committee recommends:

- (i) that the objectives, powers and responsibilities of Committees of Management be specified in the proposed Ambulance Service Victoria Act;
- (ii) that the functions of each Committee of Management be:
  - to manage the Ambulance Service in accordance with the policies and standards determined by the Victorian Ambulance Commission;
  - to manage the Service's relations with the Victorian Ambulance Commission;

- . to participate in the selection and approve the recruitment and promotion of staff;
  - . to select the Regional Superintendent;
  - . to decide on priorities for resource allocation within the Service; and
  - . to liaise and co-ordinate with the Regional Director of Health;
- (iii) that Committees of Management be empowered to delegate any of their powers and responsibilities to Control District Ambulance Committees and to revoke or amend any such delegation; and
- (iv) that the proposed Ambulance Service Victoria Act include a provision to enable the Minister of Health, acting on the advice of the Victorian Ambulance Commission, to dismiss a Committee of Management and to appoint an Administrator or to call for nominations for the election of a new Committee.

**Recommendation 5.18:** The Committee recommends that in each of the major Ambulance Services:

- (i) each Control District have an Ambulance Committee;
- (ii) at least half of the members of the Ambulance Committee be elected for one-year terms by optional ballot of all subscribers who reside within the Control District;
- (iii) nominations for election to the Ambulance Committee be called by advertisement in the local press;

- (iv) one member of the Ambulance Committee be elected for a one-year term by optional ballot of all employees who work in the Control District at the time of the ballot;
- (v) every Auxiliary Committee which exists within the Control District be entitled to nominate one member to be a member of the District Ambulance Committee for a one-year term;
- (vi) the District Superintendent be a member of the District Ambulance Committee;
- (vii) elections under item (ii) be conducted at the Annual General Meeting of each Ambulance Committee, and under items (iv) and (v) be conducted immediately before the Annual General Meeting and the results presented to that Meeting;
- (viii) if at the Meeting it is clear that there is no medical practitioner on the Ambulance Committee, the Committee be required to invite an appropriate medical practitioner resident in the District to join the Committee as a full voting member until the next Annual General Meeting; and
- (ix) the President of the Committee be elected by Committee members from the members other than the District Superintendent, and have a deliberative and casting vote.

**Recommendation 5.19:** The Committee recommends that the functions of Control District Ambulance Committees be:

- (i) to provide advice to the District Superintendent on all matters relevant to the planning and operation of the Ambulance Service in the Control District;
- (ii) to provide advice to the Service's Committee of Management and where appropriate to the Regional Superintendent on all

matters relevant to the planning and operation of the Ambulance Service in the Control District, and throughout the Region and the State;

- (iii) to undertake any management functions that may be delegated to the Ambulance Committee by the Service's Committee of Management; and
- (iv) to plan, undertake and promote community participation in the provision of the Ambulance Services at all levels, including through the encouragement of Auxilliary Committees attached to individual branches.

**Recommendation 5.20:** The Committee recommends:

- (i) that the proposed Ambulance Service Victoria Act provide for the establishment, amalgamation and abolition of Control District Ambulance Committees by the Committee of Management of each Service; and
- (ii) that Control District Ambulance Committees be formed where possible but that they not be compulsory.

In the metropolitan area, the Committee believes that the Committee of Management should be appointed by the Governor in Council, as is presently the case for the Ambulance Service - Melbourne Committee of Management. The Committee recognises - and wishes to acknowledge publicly - the high level of competence of the Peninsula Ambulance Service Committee of Management and the contribution made by several individuals who live in those outer metropolitan areas which will in future be within the area served by the Metropolitan Ambulance Service. The Committee does, however, consider that the population of metropolitan Melbourne at large does not have the same level of personal identification with and commitment to the Ambulance Service as is evident in non-metropolitan communities. The recommendations of this Report provide for the establishment of

Control District Ambulance Committees in the metropolitan area should residents choose to form them, and for such Committees to be represented on the Metropolitan Ambulance Service Committee of Management. The Committee anticipates that residents of the Westernport Control District in particular will so choose.

**Recommendation 5.21:** The Committee recommends:

- (i) that the Metropolitan Ambulance Service be managed by a Committee of Management of between seven and ten members;
- (ii) that the members be as follows:
  - . three nominees of the Minister of Health to represent community interests;
  - . one of the three metropolitan Regional Directors of Health, nominated by the Chairman of the Health Commission;
  - . a representative directly elected by all employees of the Service;
  - . one nominee of each Control District Ambulance Committee, if such Committees have been formed in accordance with Recommendation 5.18;
  - . one nominee of the Minister of Health to represent the medical specialities closely related to ambulance operations; and
  - . the Regional Superintendent;
- (iii) that the members of this Committee be appointed by the Governor in Council;

- (iv) that the members of this Committee serve for terms of office of three years; and
- (v) that the President of the Committee be elected by Committee members from the members other than the Regional Superintendent, and have a deliberative and a casting vote.

### 5.3.3 Structure of Ambulance Services

**Recommendation 5.22:** The Committee recommends:

- (i) that each Ambulance Service consist of:
  - a Committee of Management, with the task of ensuring that the Service pursues its objectives effectively, efficiently and economically;
  - a chief executive officer, to be known as the Regional Superintendent, who is responsible to the Committee of Management for all aspects of the operations and management of the Service;
  - such other staff as are necessary for the Service to pursue its objectives; and
  - such District Ambulance Committees and Auxiliary Committees as will assist the Service in the pursuit of the objectives of the Service; and
- (ii) that the objectives of each Ambulance Service be that specified in Recommendation 4.1 of this Report.

## 5.4 Central Management of Victoria's Ambulance Services

### 5.4.1 The Present Role of the Health Commission

The legislative basis for Government involvement with ambulance services is described in Section 2.3, and was described by the Health Commission in an internal document provided to the Committee by the Minister of Health as "fairly weak" ("Comments on present legislation concerning Ambulance Services in Victoria and other States", p 2). It reflects the 1948 situation when Ambulance Services were established as benevolent societies, and it provides an inadequate framework for Government involvement with the ambulance industry today, including its substantial financial contributions.

The remedies available to the Commission for enforcing compliance with conditions it sets out in circulars include the cancellation of a Service's registration, appointment of an Administrator instead of a Committee of Management, or ceasing the payment of subsidies. These sanctions are so severe that they have been used only once. In 1973, the Committee of Management of the Victorian Civil Ambulance Service resigned in accordance with one of the recommendations of the Victorian Civil Ambulance Service Inquiry. It was replaced with an Administrator. The Committee of Management for Ambulance Service - Melbourne, which succeeded the Victorian Civil Ambulance Service, is now appointed by the Governor in Council rather than being elected by contributors.

Almost all Ambulance Services, associated organisations and individuals concerned with ambulance work, expressed dissatisfaction with the way the Health Commission exercises its responsibilities in respect of the provision of ambulance services. There is no doubt that the Commission has devoted minimal staff resources to the ambulance function, and that those few staff who have worked on ambulance matters have had considerable difficulty in dealing effectively with the demands of Ambulance Services, due to their relatively low level in the Commission and to the fragmentation of responsibilities for Ambulance Services within the Commission between the Hospitals Division, Building and Services Division, Personnel Division and Finance Division.

The Minister of Health was the first witness to give evidence to the Committee in this inquiry. He was critical of the level of staff resources the Health Commission had allocated to ambulance work:

"To supervise...expenditure on behalf of the Government, until October of last year the Health Commission had an administrative officer Class 4 (mid-1984 salary level \$24403-\$25643). I remind the Committee that this was supervising the expenditure of an organisation larger than fifteen government departments...there were various other staff members available on an as required basis; but one would have to say that day-to-day activities were carried out by that one officer...there is now a Class 7 officer available. There was also, and continues to be, the assistance of Mr Dennis Wilson from Geelong on a consultancy basis for one day a week. There is also now for the first time virtually a budget officer who can look at ambulance budgets" (evidence, p 2).

When appearing before the Committee, Mr Tony Ryan, a Commissioner of the Health Commission, "entirely agreed" that the area in the Commission with responsibility for Ambulance Services was totally under-resourced and almost unable to carry out its full responsibility. Mr Ryan added that the difficulty was one of priorities, and that requests for additional resources for ambulance work had to be considered against similar requests for a variety of other activities (evidence, p 712).

The Committee recognises that the task of applying strict financial controls to Ambulance Service operations and relaying tough budgetary decisions to a dedicated and enthusiastic ambulance community is not an easy one. The lack of confidence that Ambulance Services and others have in the capability of the Commission to initiate or develop policy, or to respond to changing circumstances in the ambulance industry, is in part a reflection of their dissatisfaction with the level of financial and staff resources available.

However, the Committee considers that there are serious communication problems between Ambulance Services and the Commission which are evidence, at least in part, of poor administrative practices. A great many people to whom the Committee spoke told of extremely long delays in receiving responses from the Commission sometimes on quite urgent matters, and of circulars from the Commission or requests for information which showed an extraordinary lack of knowledge of the ambulance industry. Clear evidence of some of these delays and of some of these requests has been provided to the Committee. Many Ambulance Services

particularly objected to being required to provide extensive financial and operational documentation which appeared to be ignored.

Many people who appeared before the Committee emphasised that they considered the few staff in the Commission who were allocated to ambulance work to be competent, conscientious and concerned. Mr Peter Newbold, Executive Director of the Ambulance Officers' Training Centre, said:

"when we are critical of the Commission we are not critical of the officers that we are dealing with. Some of those officers are as frustrated as we are. They are frustrated at the resources they have and the system we operate in which is causing the problem" (evidence, p 645).

Members of several Ambulance Service Committees of Management and some senior ambulance personnel commented that Mr Paul Gabriel, an officer of the Health Commission's Patient Transport Administration Section, has always been most helpful and responsive in his dealings with Services, but his authority to make decisions is limited because of his comparatively junior classification. The Committee itself has been impressed with the knowledge and dedication of some Commission officers, and considers it probable that their efforts have often been thwarted by the complex organisational structure within which they operate.

The slowness or absence of responses to particular suggestions or problems and the lack of knowledge of ambulance activities evident in many circulars and letters from the Commission appeared to be among the greatest irritants to Ambulance Services. The following remarks made by witnesses who appeared before the Committee are indicative of the widespread frustration with the Commission:

"Ambulance officers ask for certain things to happen and their requests move on to that jelly at 555 Collins Street and nothing seems to happen" (Dr Andrew Bacon, specialist anaesthetist involved in training ambulance officers, evidence p 369).

"...the last edition of MICA drugs and protocols was revised some 18 months ago and was forwarded to the Health Commission, but as yet it has not been approved" (Dr Frank Archer, Ambulance Services' Medical Officer, Ambulance Officers' Training Centre, evidence p 794).

"We cannot emphasise too strongly the adverse effect on the service of the gross ineptitude of the Health Commission over the years which amounts to a complete disinterest in ambulance matters ...." (Mr Bill Lumley, President, Peninsula Ambulance Service Committee of Management, evidence p 448).

"Early in January, I wrote to the Commission and although 'phone calls have been made, I have received no response ... that hampers any forward planning, forward moving" (Mr Kevin Devereaux, Superintendent, Northern District Ambulance Service, evidence p 224).

"Our attitude towards the Commission is that those officers that one deals with do the best that they can within what they are allowed to do. However, decision making at the higher levels involves a number of delays which can be extremely long" (Mr S E Stone, President, North Eastern Victoria District Ambulance Service Committee of Management, evidence p 237).

The absence of a focus for decision-making on Ambulance Service matters was also raised by witnesses who appeared before the Committee. Such a lack of a focus is a clear consequence of the fragmented organisational structure; not only are responsibilities fragmented between Ambulance Services and the Commission, but also within the Commission, and between the Commission, the Ambulance Officers' Training Centre and the various advisory committees and working parties which have been established. This problem was highlighted by medical witnesses in relation to the particularly important matter of control over MICA protocols. Dr Frank Archer told the Committee:

"I have no decision-making role even on medical matters. I find it difficult to get someone who can make decisions for me...If there is to be a change (to the MICA drugs and protocols) one of the officers may ring me with a suggestion. I am in no position to say Yes or No...If I take it further it goes to the ambulance medical sub-committee which is a consensus committee (that) may or may not make a decision at that point. If it does make a decision then it usually goes ahead and implements that decision, but my right to do so is challengeable" (evidence, p 794).

Dr David Hunt, Director of Cardiology at the Royal Melbourne Hospital, also expressed concern about the vague organisational arrangements applying to medical control of MICA. He asked:

"To whom is MICA or its medical policies accountable? How do we who run coronary care and intensive care units or a cardiologist or an

anaesthetist have an input to MICA? To whom do we make complaints if we believe things could be done rather differently? What can be done to try to use the vast amount of data that MICA has collected over the years?" (evidence, p 591).

Many witnesses commented that communications with the Commission have improved since the appointment of Superintendent Dennis Wilson of the Geelong and District Ambulance Service as a part-time consultant to the Commission in 1981. An officer of the Commission remarked that Superintendent Wilson had been:

"heavily relied on to bring ambulance understanding and knowledge - technical knowledge and a knowledge of the personalities in the field - to the Commission" (Mr Paul Gabriel, evidence, p 715).

Further evidence of the reservations held by people concerned with Ambulance Services about the Commission's performance in the ambulance area has been the emergence of the Victorian Ambulance Services Association as an organisation for voluntary statewide policy formulation - a role which falls within the responsibilities of the Commission as outlined in the Hospitals and Charities Act 1958.

The Committee has reservations about the effectiveness of some of the advisory committees and working parties that have been set up by the Commission. Very few ambulance officers know of their existence, and there appeared to be no focus for the consideration, let alone implementation, of their recommendations. The role of some of these advisory groups is explored further in Chapter Eight.

The Committee has seen a number of internal Commission documents which make it clear that some policy and investigatory work on ambulance services is undertaken within the Commission, more than most Services appear to recognise. Examples of this include some work on possible alternative scheduling and rostering methods, and on computerising various aspects of both administrative and operational tasks. It is clear that much of this work is performed without consultation with appropriate organisations or individuals, and there has been little communication between the Commission and Ambulance Services as to what is being investigated, or why certain types of information are requested. In some areas this leads to direct duplication with work being done within Ambulance Service - Melbourne in particular, and the investigations of the use of computers to assist the dispatch of vehicles is a clear example of this.

Given the disappointment and dismay that Ambulance Services expressed about the performance of the Commission, the Committee was intrigued to read in a Commission document provided by the Minister for Health that:

"... some change to the existing legislation must take place in the near future if the Health Commission is not to be continually frustrated by unco-operative ambulance services in the exercise of its responsibilities for the overseeing, supervision, maintaining and co-ordination of health services" ("Comments on present legislation concerning Ambulance Services in Victoria and other States", p 2, our emphasis).

The level of Commission officers who work on ambulance matters and their consequent lack of authority to make substantive decisions, the very small numbers of staff allocated to the function, and the low priority apparently given to ambulance matters within the Commission, are all important factors contributing to the poor relationship between Ambulance Services and the Commission. The Committee is of the view that the lack of clear, effective communication channels both between and within the relevant organisations, and the lack of focus for decision-making are perhaps the most serious consequences of the existing organisational framework.

#### 5.4.2 The Victorian Ambulance Commission: Establishment and Functions

No evidence has been received in support of abandoning some form of statewide co-ordinating agency, and although all Ambulance Services indicated to the Committee that a stronger central policy making organisation was necessary, there was not agreement on what the respective responsibilities of the central agency and of the separate Services should be. The Committee has concluded that Ambulance Services both require and justify the establishment of a stronger and more responsive central agency:

- to make and enforce decisions on policy matters and to provide a single point for such decision-making;
- to co-ordinate certain aspects of ambulance activity;
- to provide some services required by all Ambulance Services throughout the State; and

- . to make recommendations to the Minister of Health on financial and other matters of significance to Ambulance Services statewide.

Several ambulance personnel agreed that an organisation performing a similar role to that which has evolved for the Victorian Ambulance Services Association but "with teeth" was necessary. Mr Colin Thomas, President of the North West Victorian Ambulance Service Committee of Management, summed up the views of many of his colleagues when he said:

"I would like to see a more dynamic and representative organisation established which is geared around the understanding of Ambulance Services and having that body responsible for policy making on Ambulance Services in Victoria; an umbrella organisation similar to the Victorian Ambulance Services Association" (evidence, pp 64-65).

The Committee notes that the proposal to establish a central agency to undertake these functions is not a new one. Such central agencies have been established in most Australian States and in several overseas countries. The Report of the Victorian Civil Ambulance Service Inquiry in 1973 stated that (pp 41-42):

"In a compact State, such as Victoria, at this stage of development, we consider it essential to establish an executive Board with responsibility for planning, training, co-ordination and overall control of the development of the State Service with greater authority over individual ambulance services and to exercise the financial powers now vested in the Hospitals and Charities Commission...The main functions to be exercised by the Board should be:

1. To rationalise and develop the State Ambulance Services.
2. To control the training of Ambulance Officers and higher ranks.
3. To undertake development and standardisation of ambulance vehicles, equipment and procedures.
4. To operate the Air Ambulance Service, as an interim measure.
5. To oversight budgeting and finances of all Services and allocate grants from the Government.
6. To negotiate with the unions representing employees on matters of common interest to more than one regional Service outside the scope of Wages Board determinations.
7. To approve all appointments of Deputy Superintendent and above in the State to increase flexibility in appointment.

8. To oversight operational standards of Ambulance Services in the State".

The Committee notes that although this inquiry considered such a board to be "essential", it still does not exist eleven years later.

The question of whether the ambulance function would be more appropriately placed in the Ministry for Police and Emergency Services rather than in the Ministry of Health was raised on occasions throughout the inquiry. Ambulance personnel and representatives of ambulance organisations generally maintained that ambulance work is primarily a health related activity and as such should continue to be a part of the Health portfolio. The Committee recognises that co-operation and co-ordination between Ambulance Services and other emergency services is necessary and, in times of disasters, critical, but concludes that the existing arrangement where the Minister of Health is responsible for Ambulance Services should be continued.

When considering the location of the central agency within the Health portfolio, the Committee has been very much aware of the existing shortcomings of the Health Commission's handling of ambulance matters, as has been described above. The implications for Ambulance Services of the devolution of responsibility for many functions of the Commission to regional offices would be substantial, should an Ambulance Division be created within the Health Commission - a proposal suggested to the Committee by a number of witnesses. It is likely that such an arrangement would result in Regional Directors of Health having line responsibility for Ambulance Services within their region.

The Committee has concluded that the placement of the central agency within the Commission's organisation is not the preferred alternative for three important reasons. First, the Commission's performance in managing its ambulance responsibilities has been poor. The Committee recognises that it is difficult for a relatively small, specialised function such as ambulance services to receive sufficient attention when it is located in a large and diverse organisation such as the Commission. As a result of the perceptions of ambulance personnel about the Commission's performance in the past, few have any confidence in the ability of the Commission to manage the ambulance function satisfactorily.

The New South Wales experience outlined in Section 3.1 provides a second reason for not including ambulance services with the other areas of the Health portfolio when the operations are regionalised. In New South Wales, difficulties similar to those at present experienced by Victoria's Ambulance Services in their dealings with the Health Commission were compounded by placing the New South Wales Ambulance Services under the control of Regional Directors of Health. The extent and nature of involvement of Regional Directors in ambulance activities varied throughout the State, often resulting in divergent practices and standards of patient care. There was no central focus for decision-making on ambulance policy matters, ambulance personnel felt that their career paths had been limited, and the retention of a central ambulance authority - necessary for some purposes - provided added confusion over authority and responsibility. New South Wales has now established a single statewide agency for ambulance services, with Regional Directors of Health having only advisory and liaison roles on ambulance matters.

The third reason is that the Committee believes input from the ambulance community is essential if the responsiveness of the central agency to ambulance needs is to be maximised. The establishment of a central agency as a Division within the Commission would not be conducive to such an arrangement as it would be difficult for input from ambulance personnel to come from other than advisory committees and working parties. The effectiveness of such advisory groups is doubtful, as there is necessarily no compulsion for the Commission to accept or act on their recommendations.

The Committee found the evidence of Mr Tony Ryan, a Commissioner of the Health Commission of Victoria, most useful in its deliberations on the future organisation of Ambulance Services. Mr Ryan told the Committee that he "would come down in favour of a statutory authority" (evidence, p 716). He went on to say that:

"The (Health) Commission's role, in these circumstances, ought to be limited...There is real worth in the proposal that it be a separate authority...

"...the Minister of Health, no matter what structure was finally developed, would expect the central health authority to express its views to him" (p 717).

The Committee agrees with this view.

The fundamental objective of the Commission should be to encourage, assist and as necessary require the Ambulance Services to pursue the objectives specified in Recommendation 4.1 of this Report. In the following recommendations the Committee lists what are to be the major functions of the Commission. Most of these derive from either the functions currently performed by the Health Commission or by Victorian Ambulance Services Association or from functions that submissions or witnesses have proposed. One extra function that the Committee considers to be appropriate is the provision of secretarial and administrative support to the Appeals Board. At present this is provided by the Victorian Employers' Federation, and the Committee believes that this task would be more appropriately handled by the new Commission.

Another new function is the fostering of close operational relations between Ambulance Services and hospitals and hospital staff. Although this is largely a matter for the separate Services, the Committee believes it to be important that the Commission encourage a more operationally integrated approach to emergency medicine.

**Recommendation 5.23:** The Committee recommends that the proposed Ambulance Service Victoria Act establish a Victorian Ambulance Commission, that the Commission report to and be subject to the direction of the Minister of Health.

**Recommendation 5.24:** The Committee recommends that the general functions of the Victorian Ambulance Commission be to determine policies on ambulance services throughout the State and to undertake certain operational activities, and that its specific functions be:

- (i) to formulate and approve policies for the provision of Ambulance Services throughout the State;
- (ii) to determine priorities for the expansion and development of Ambulance Services;
- (iii) to set standards for operations, recruitment, skills maintenance, and financial management and auditing, and to

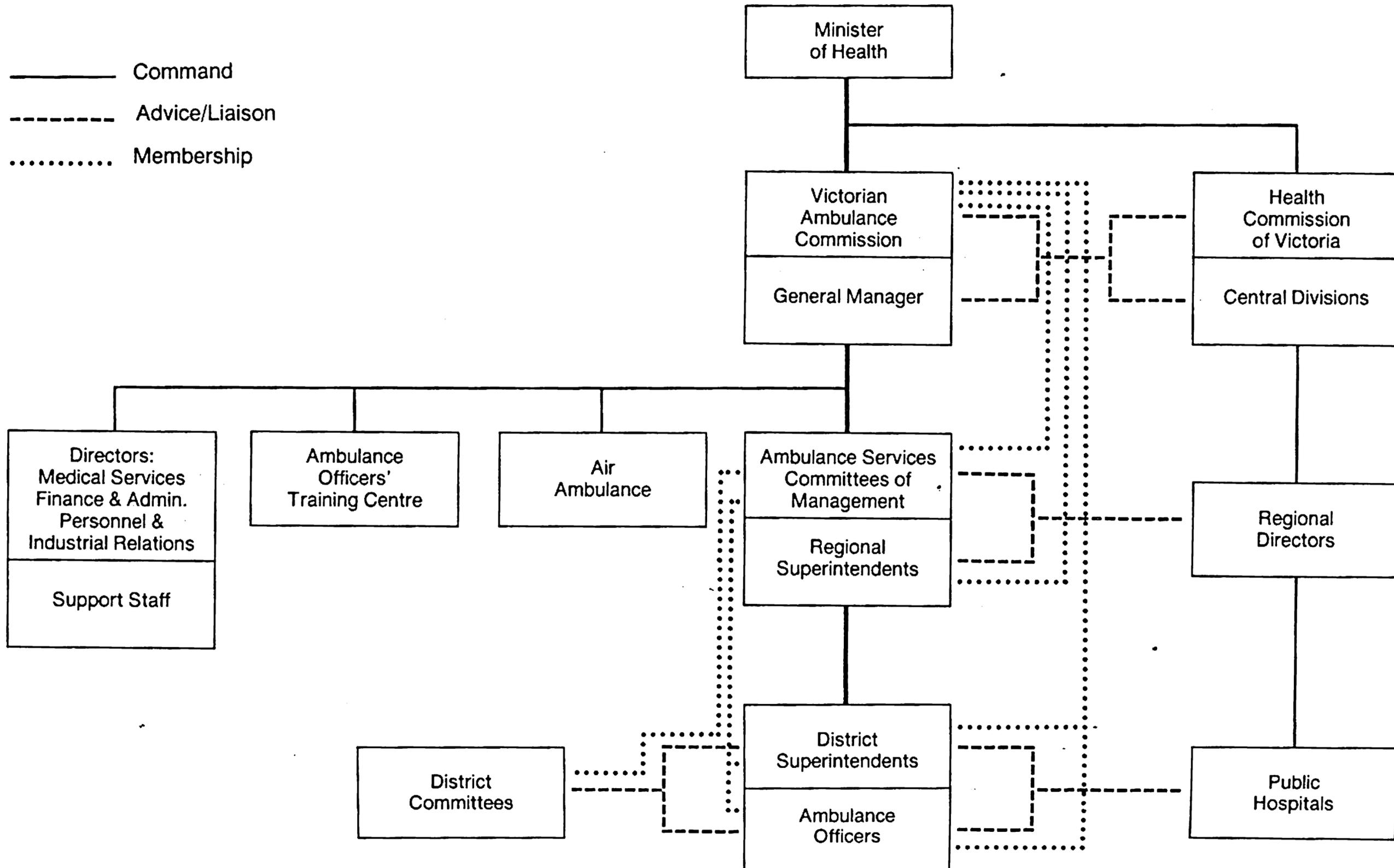
monitor the performance of all Ambulance Services against these standards;

- (iv) to determine guidelines for the assessment of proposals to establish or disband control districts or branch stations;
- (v) to collect and analyse statistics and other information on the performance of Ambulance Services;
- (vi) to develop procedures and systems for the collection and analysis of data for the preparation of output-oriented performance measures;
- (vii) to employ staff for the Office of the Victorian Ambulance Commission;
- (viii) to act as the employing authority of all the full-time staff of all Ambulance Services, and to maintain a statewide employment register;
- (ix) to receive and co-ordinate the hearing of all appeals against promotion or termination, and of all other grievances, and to provide administrative support to the Appeals Board;
- (x) to provide a central industrial relations and advocacy service;
- (xi) to prepare a consolidated budget for all Ambulance Services and to negotiate on budget submissions with the management of each Service;
- (xii) to negotiate with the Minister, the Health Commission and the Department of Management and Budget as appropriate on budget submissions and on subsequent allocations;
- (xiii) to advise Regional Superintendents and Committees of Management on matters such as management techniques, resource utilisation and office technology;

- (xiv) to publish for wide distribution within all Services a regular and frequent newsletter on the activities of the Commission, developments in Ambulance Services, information on the work of working parties and committees, notices of vacancies throughout the State, and other matters of interest or relevance;
- (xv) to oversee ambulance-related research, investigation and development activities and to liaise with appropriate organisations and individuals on the conduct of such activities;
- (xvi) to prepare and publish a consolidated annual report of all ambulance activities in the State, including its own activities;
- (xvii) to advise the Minister of Health and the Health Commission on significant developments or events concerning ambulance services;
- (xviii) to negotiate with the Health Commission's central divisions over matters of mutual interest and concern;
- (xix) to foster closer relations between ambulance operations and hospital operations; and
- (xx) to undertake the following operational activities:
  - Ambulance Officers' Training Centre;
  - provision of the Air Ambulance;
  - arrangement of contracts for supply of vehicles;
  - vehicle and equipment design;
  - communication system development work;
  - bulk ordering of stores;
  - research and information services; and
  - centralised data processing for the Subscription Scheme.

The organisational structure for the new Ambulance Services is shown in Figure 5.3.

Figure 5.3 Recommended Organisational Structure for Victoria's Ambulance Services



### 5.4.3 The Victorian Ambulance Commission: Structure and Operations

The Committee considers that the Victorian Ambulance Commission should be a decision-making body acting through a chief executive officer who should be entitled the General Manager. The Commission should decide on policy questions, and be supported by staff working to the General Manager. Commission membership should be representative of Ambulance Services, include government nominees, and provide an adequate mix of skills, without being so large as to make decision-making cumbersome.

**Recommendation 5.25:** The Committee recommends:

- (i) that the membership of the Victorian Ambulance Commission be as follows:
  - one non-metropolitan Regional Superintendent elected by the Regional Superintendents of the five major non-metropolitan Services;
  - one member of a non-metropolitan Committee of Management elected by and from the members of all non-metropolitan Committees;
  - the Regional Superintendent of the Metropolitan Ambulance Service;
  - one member of the Committee of Management of the Metropolitan Ambulance Service nominated by that Committee;
  - one member directly elected by all employees of Ambulance Services throughout the State;
  - an officer of the Victorian Trades Hall Council nominated by the Council;

- . three members nominated by the Minister of Health, one of whom should be from the Health Commission and one of whom should represent non-metropolitan interests; and
  - . the General Manager;
- (ii) that when selecting nominees to the Commission the Minister ensure that a broad range of skills and interests, including appropriate medical and general management skills, are represented on the Commission; and
- (iii) that the Chairman of the Commission be nominated by the Minister of Health from the members other than the General Manager, and have a casting vote and a deliberative vote.

The term of appointment of members should be sufficient to encourage some continuity and should acknowledge that at least some members of the Commission (nominees of Committees of Management) are involved with ambulance work in a voluntary capacity and may have difficulty with longer-term commitments. Two years is the minimum term for appointment and three years is preferred. Members should be entitled to some remuneration, such as a daily sitting fee, and to the reimbursement of expenses incurred in attending meetings or in attending to other official duties.

**Recommendation 5.26:** The Committee recommends:

- (i) that the term of office of all members of the Commission be three years; and
- (ii) that Commissioners receive a sitting fee and reimbursement of all expenses incurred in attending to the business of the Commission.

The Commission will require a small staff to manage its functions, and it will require staff for the Ambulance Officers' Training Centre and the Air Ambulance Service. The Commission should be able to use resources of the Health Commission to assist in its administration, by arrangement between the Chairmen of the two Commissions or at the direction of the Minister of Health. It would be appropriate for this use of resources to be charged to the Victorian Ambulance Commission.

The present arrangement whereby the Air Ambulance is managed by Ambulance Service - Melbourne, was the subject of considerable criticism by non-metropolitan Ambulance Services. This and some broader questions of the operation of the Air Ambulance are considered in detail in Section 8.6, although it should here be noted that some of the difficulties are due to the high expectations of the Air Ambulance held by many people outside Melbourne. These expectations have been generated by the success to date of the Air Ambulance. The Committee has concluded that the management of the Air Ambulance should be a responsibility of the Victorian Ambulance Commission.

The following recommendations outline some details of how the Commission should operate. The structure and operational style proposed are intended to support the major advantages seen by the Committee of having a strong central agency. The first of these is that a central focus for decision-making on all ambulance matters is established. In addition, a single body with executive authority will better represent ambulance interests within the Health portfolio, and the criticism that those who now have the authority to make decisions on ambulance matters lack ambulance knowledge will be overcome. To a much greater degree than at present, ambulance personnel will have a central role in determining priorities for development and expansion of Ambulance Services.

The structure provides the opportunity to employ highly skilled industrial relations, finance and administration professionals, both in individual Services and in the Commission itself. This will greatly increase the capacity of Services to manage their financial and staff resources effectively.

Lastly, it will be essential for the Ambulance Commission and the Health Commission to exchange relevant information frequently, and to operate with high levels of co-operation.

**Recommendation 5.27:** The Committee recommends:

- (i) that the Victorian Ambulance Commission have a chief executive officer known as the General Manager;
- (ii) that the General Manager have management skills of a high order and a level of remuneration appropriate to those skills determined by the Public Service Board of Victoria; and
- (iii) that knowledge of or experience in ambulance work not be a pre-requisite for the appointment to the position of General Manager.

**Recommendation 5.28:** The Committee recommends:

- (i) that an Office of the Victorian Ambulance Commission support the Victorian Ambulance Commission's work under the management of the General Manager;
- (ii) that the staff of the Office of the Victorian Ambulance Commission include a Director of Personnel and Industrial Relations, a Director of Finance and Administration, a Director of Medical Services, appropriate support staff, the staff of the Ambulance Officers' Training Centre, and the administrative, ambulance and nursing staff of the Air Ambulance Service; and
- (iii) that ambulance experience and knowledge should not be a pre-requisite for appointment to positions within the Office of the Victorian Ambulance Commission.

**Recommendation 5.29** The Committee recommends:

- (i) that the Victorian Ambulance Commission have the power to establish working parties or committees as necessary to provide the Commission with specialised advice, with members of these committees or working parties coming from Ambulance Services, the Commission or its staff, or from other associated organisations;
- (ii) that such committees and working parties be responsible to and regularly report to the Victorian Ambulance Commission;
- (iii) that representatives of the staff of Ambulance Services be included on such working parties or committees wherever possible;
- (iv) that the terms of reference of such working parties or committees include a requirement that:
  - . they regularly report their activities in the Victorian Ambulance Commission newsletter;
  - . they provide summaries of each report submitted to the Victorian Ambulance Commission for inclusion in the Victorian Ambulance Commission newsletter;
  - . they be responsive to suggestions; and
  - . they encourage contributions and suggestions from ambulance personnel; and
- (v) that the Victorian Ambulance Commission be required to respond to the reports of working parties or committees, and that the Commission's response be published in the Victorian Ambulance Commission newsletter.

**Recommendation 5.30:** The Committee recommends:

- (i) that the Air Ambulance Service be managed by the Victorian Ambulance Commission;
- (ii) that an Assistant Superintendent manage the operations of the Air Ambulance Service;
- (iii) that an Air Ambulance Committee be established to provide advice to the Assistant Superintendent and to the Victorian Ambulance Commission on the planning and operation of the Service;
- (iv) that the Committee consist of:
  - . a representative nominated by each of the major Ambulance Services; and
  - . three nominees of the Victorian Ambulance Commission, one of whom shall have appropriate medical qualifications, and the remaining two of whom shall represent non-metropolitan hospitals or communities.

**Recommendation 5.31:** The Committee recommends:

- (i) that the Ambulance Officers' Training Centre be managed by a Director, for and on behalf of the Victorian Ambulance Commission;
- (ii) that an Ambulance Officers' Training Centre Committee be established to provide advice to the Director and to the Victorian Ambulance Commission on all matters relating to ambulance training; and
- (iii) that the Committee consist of:

- . one nominee from each major Ambulance Service;
- . one Ambulance Service skills maintenance officer elected by the senior skills maintenance officers from each of the major Services;
- . one representative elected directly by all ambulance officers up to the rank of Senior Station officer;
- . one representative elected directly by all ambulance personnel with the rank of Assistant Superintendent or above; and
- . three nominees of the Victorian Ambulance Commission, two of whom shall be appropriate medical practitioners.

**Recommendation 5.32:** The Committee recommends that the future role of the Health Commission of Victoria in respect of Ambulance Services be limited to:

- (i) providing advice to the Minister of Health on the priority of ambulance services within the total health budget;
- (ii) being represented on Ambulance Service Committees of Management and on the Victorian Ambulance Commission;
- (iii) the Regional Directors of Health liaising and co-ordinating with the Regional Superintendent of the Ambulance Service that operates in their Regions; and
- (iv) providing administrative support to the Victorian Ambulance Commission by agreement between the Chairman of the Victorian Ambulance Commission and the Health Commission, or upon the direction of the Minister, with such support being paid for by the Ambulance Commission.

## 5.5 Further Review

The Committee is required by the Parliamentary Committees Act 1968 to make recommendations as to the period within which any body that it has reviewed and recommended should continue to exist, should again be reviewed. The Committee considers it appropriate that the Ambulance Officers' Training Centre and the Alexandra and District Ambulance Service, both of which it has recommended should continue to exist, should be reviewed in five years. A review then should assess the efficiency and effectiveness of their operations, their relationships with other organisations concerned with ambulance services, and whether their places in the entire structure remain appropriate. Providing that these two organisations maintain their present levels of effectiveness and enthusiasm, the Committee at this stage sees no reason why either should be substantially altered by such a review.

The Committee also considers that the entire organisational structure recommended in this report should be reviewed at the same time. Although the Committee is confident that the structure it is recommending is appropriate, such a review could act as a focus for the identification of areas which may require some fine-tuning in order to improve further the suitability of the organisation for the achievement of the objective of the Services.

These reviews need not be undertaken by this Committee, but they should be undertaken independently of the Victorian Ambulance Commission.

**Recommendation 5.33:** The Committee recommends:

- (i) that the Alexandra and District Ambulance Service and the Ambulance Officers' Training Centre be reviewed in 1990;
- (ii) that the complete organisational structure of Victoria's Ambulance Services also be reviewed in 1990; and
- (iii) that these reviews be carried out as part of the one process, by an appropriate body that is not a part of the Victorian Ambulance Commission.

## CHAPTER SIX : FINANCIAL MANAGEMENT

The Committee has heard evidence of a number of problems relating to finance and financial management within Ambulance Services. In large part, these problems appear to stem from the fact that since the formation of the Health Commission in 1978, the financial resources made available by successive Governments to Ambulance Services have allowed for very little growth or expansion of services.

This Chapter briefly describes the main issues and difficulties that have been put before the Committee in submissions, evidence and in informal discussions, and contains the Committee's recommendations for overcoming the difficulties. It is presented under the following headings:

- . the present procedures for preparation and allocation of budgets, and recommendations for new arrangements (Section 6.1);
- . the present funding arrangements for Ambulance Services and recommendations for improvements, including the Subscription Scheme, inter-hospital transfers, and transport fees (Section 6.2); and
- . questions of financial controls, audit mechanisms and reporting, and recommendations concerning these (Section 6.3).

## 6.1 Budgetary Process

### 6.1.1 The Present Role of the Health Commission

The approved gross operating budget of each Ambulance Service consists of two segments: payments, based on salaries and other costs, and revenue, based on estimates of transport fees, subscriptions and income derived from other sources. The item "salaries" is calculated on the maximum rates for the approved staff establishment, and is adjusted for approved award increases during the year. The item "other costs" is tied to the 1981-82 figure as a base, and is increased from that base by the cost of living factor provided in the annual State Budget. The shortfall between the total payments and total revenue segments is the net operating cost, which is the level of the annual State Government grant to each Ambulance Service.

The Health Commission considers that the present method of budgeting enables it to comply with the funding guidelines set by the Government and applied by the Department of Management and Budget. Control of expenditure is achieved by requiring the Commission to submit the annual budget for the Ambulance Services in two parts. The first part is for the continued operation of approved, existing services under the salaries, other costs and revenue items. The second part seeks resources for the expansion or improvement of services, which has to be included in priority order in the consolidated list of all proposals to expand health activities during the year.

There is a very substantial measure of dissatisfaction within Ambulance Services over the present methods of preparing budgets. The complaint was made to the Committee by many Services, and it was well put by Superintendent Jim Mason of the Mid-Murray District Ambulance Service:

"One point that ambulance administrators are critical of is the lack of consultation that occurs between ambulance officers and Health Commission officers. I have been stationed in Swan Hill since February 1973 and I have had only two visits from Health Commission budget officers in that time - one six weeks after I arrived and the other five years ago. The Ambulance Service has never been asked to justify its budget. It has never had any discussions with the Health Commission before the Commission advises on budget allocations. That certainly does not lead to good management" (evidence, p 28).

That this is not an isolated case was shown by Superintendent John Perry, of the Wimmera District Ambulance Service, in response to a question on how often officers of the Commission come into the field: "On the budget side, I have had one visit in ten years" (evidence, p 119).

On the other hand, in evidence Commission officers suggested that visits to Ambulance Services were rather more frequent, although not all would have been on budget matters:

"I have been involved for six years and I have visited all but one ambulance headquarters and numerous branches in those six years, so at least I can say that I have been there, and generally not alone. I would have taken a senior Commission officer with me...The Ambulance Services would like to have something both ways. They talk about the Commission making inspections, but at the same time they resent interference from the Commission" (Mr Paul Gabriel, evidence, pp 710-711).

In any event, the present arrangements are clearly unsatisfactory. It is also clear that one major reason for this state of affairs has been that the Health Commission just has not had the necessary staff. As the Minister himself said: "...until quite recently we have not had much capacity to know what was going on in Ambulance Services..." (evidence, p 11), and officers of the Commission agreed with this in their own evidence to the Committee. The general question of relations between Ambulance Services and the Health Commission has been discussed in more detail in Section 5.4.

Another complaint of Ambulance Services is that although they are asked for detailed budgets for the coming year, little account appears to be taken of them. Thus, in recent years, their budgets have been little more than incremental adjustments to the previous budget, adjusted for award and cost-of-living changes. Services claim that no account is taken of the different rates of change of different expenses, nor is flexibility included to allow much scope for change or initiative by the Services. Ambulance Service - Melbourne expressed the complaint thus:

"Another area of concern to operatives within the accounting area is the insistence on the provision of detailed budgetary submissions to the Health Commission which are subsequently not used in determining the allocation of resources. It is quite apparent even if it isn't openly stated that the vast amount of work that is necessary to produce

budget papers in an organisation the size of Ambulance Service - Melbourne is all wasted as no account is taken within the Commission of the content" (submission, p 10).

In responding to a question on this complaint, a Commission officer replied:

"You (that is, the Commission) are caught up all the time in the bind that all you will get from the Department of Management and Budget to maintain your existing service is the carry-over cost of wage awards as approved, so we have to identify the salaries component of the budget and the other costs factor, and all we will get for that is the COL (cost of living) carry-over" (Mr Neville Wendt, evidence, p 709).

Further questioning of Commission officers has made it clear to the Committee that many of the complaints of Services in relation to budget processes are in the main substantiated, as are the complaints by Commission officers about the inflexibility of the approach of the Department of Management and Budget to proposals for alternative ways of using the same total resources. The Committee considers the apparent rigidity in the approach taken by the Department of Management and Budget to be a substantial handicap to the development of more efficient and effective management by the Commission and by Ambulance Services. In some discussions with Health Commission officers and senior ambulance administrators, the same criticisms have been extended to the Public Service Board of Victoria in relation to staffing levels.

There appear to have been several major reasons for these criticisms. One has been a lack of availability of extra funds from successive Governments, as indicated by Commissioner Ryan:

"Since 1978, there has been no significant increase in State funds to allow for any expansion in Ambulance Services except for staff for the occasional branch station, or, even rarer, modest staff increases where a Service seems to be faced with such severe workload problems as would inevitably lead to industrial action. This situation applies over most of the health field, and the simple rule has been the same money to maintain the same level of service...

"The two major increases in State funds for Ambulance Services have not provided one cent for expansion, as the major increases were for the introduction of the 38-hour week and two-man crewing" (evidence, p 851).

A second reason has been the Commission's inability to investigate and when appropriate approve of proposals for utilising the same total resources in a manner different from what had originally been approved. This is presumably due to inadequate resources within the Commission for dealing with ambulance matters.

The present position is clearly quite unsatisfactory. However little room to manoeuvre the Commission itself may have had in relation to budgets for Ambulance Services, it has quite clearly not been able to explain adequately to Ambulance Services what is happening and why. This has been the task of a very small number of officers who have management dealings with 17 separate Services.

The basic budgetary system - where Services are funded for net operating cost - was questioned in some submissions, a common point being that the system did not take into account the fact the Ambulance Services themselves raise a very substantial proportion of their total income. In a personal submission, Mr G Ortman, who was for seven years a senior officer of Ambulance Service - Melbourne, put the Services' dilemma succinctly:

"If (a Service) exceeds its revenue budget, any excess is recovered by the Commission.

"So far as Ambulance Services are concerned, this means that any extra income arising from strenuous marketing of the subscriber scheme becomes effectively a direct benefit to the Government, as it reduces funds needed to cover the smaller net operating cost. The danger is that Ambulance Services may not see it as a worthwhile use of energy to raise money for the Government".

Another submission noted that the present system was:

"not conducive to sound financial management...it is preferable (for a service) to operate in a deficit situation as additional funding will be made available, whereas operating in a surplus situation results in reduced funding...results in undirected and sometimes unwarranted expenditure" (Ms Sharon McWilliam, Office Manager, Latrobe Valley and District Ambulance Service).

The system of payments of grants to Services received adverse comment in a report by the Auditor-General's Office on grants paid from the Hospitals and Charities

Fund to Ambulance Services. A copy of the report was presented to the Committee by the Minister. The report objected to the way in which transfers to reserves from the Subscription Scheme were treated as expenses when operating and deficit grants were being calculated. The Auditor-General's Office also objected to the fact that, when these grants were being calculated, neither the interest earned on reserve and capital investments nor the size of the reserve and capital funds were taken into account.

The report was critical of what it considered to be a lack of a "clear and documented policy in relation to the payment of deficit grants" (Auditor-General's report, 9 August 1983, para 5.1). The Commission has pointed out that:

"deficit grants...are merely adjustments in the following financial year for funds withheld because of the uncertainty over Services' cash flows. This is a unique position with Ambulance Services as they generate some two-thirds of their own operating receipts. Rather than pay out all award increases as they occur, some funds are held within the Hospitals and Charities Fund until final results from the field are known. It is only then that Services that have stayed within the gross operating budgets, and have a recognised cash overdraft, have grant adjustments" (letter from Secretary, Health Commission, to the Auditor-General, 31 October 1983).

However, on some occasions capital funds are taken into account, and Ambulance Service - Melbourne has on at least one occasion had no deficit grant paid.

The Commission has stated that it "has no information to enable it to determine whether the current level of reserves held by Services can be justified in terms of a firm commitment against future capital projects" (Memorandum from Director, Hospitals Division, to the Chairman, Health Commission, on Grants to Ambulance Services, 22 March 1984, p 2). Ambulance Services of course regard such reserves as being a reward for and an incentive to achieving high levels of subscriptions and as representing the fruits of good management. It was for these reasons that the scheme of transfer to reserves was initiated.

In his evidence to the Committee, Commissioner Tony Ryan of the Health Commission outlined how he saw the operation of the relationship between the regions of the Health Commission and the Ambulance Services. He was responding to a question on the budget arrangements for the new regions of the Health Commission:

"Would it be envisaged that, say, the Barwon region would have a total ambulance budget administered from the central point?"

Mr Ryan: "I would want the regions to be administered from the regional office, certainly not from Collins Street..."

"The Regional Director will be given freedom to move funds from one acute public hospital to another, but I cannot imagine the Commission or the Minister giving the Regional Director the freedom to move funds from acute public hospitals to mental retardation or other ambulance services. However, I could regard ambulance services as being part of acute public hospitals. Freedom could be vested in the Regional Director to move money within that programme to or from ambulance services" (evidence, p 719).

The Committee does not consider that this would be an appropriate method of operation for Ambulance Services. It believes that a specialised service such as that provided by the Ambulance Services, with a budget that is very much smaller than that of the public hospitals, would have considerable difficulty in maintaining an adequate level of funding in competition with other health services within the region. The New South Wales experience shows well what the Committee fears would be likely to happen in Victoria.

The Committee believes that the budget of the Victorian Ambulance Commission must be independent of that of the Health Commission. Preferably, it should be in the form of a one-line programme item in the Budget - "provision of a service to the State". If it is considered necessary to identify all health-related programmes by regions, then the allocations by Victorian Ambulance Commission to the separate Services could be listed as subsidiary programme items - "provision of ambulance services to the region". If negotiations with the Department of Management and Budget are carried on by the Health Commission on behalf of the Ambulance Commission, officers of the Ambulance Commission should be present during those negotiations.

### 6.1.2 A Commercially-Oriented Budgetary System

The process used to develop the budget is clearly of considerable importance, but the nature and structure of the budget itself is perhaps of greater importance in the long-term. The six new Ambulance Services that the Committee is recommending will be employing large numbers of people, as well as controlling substantial assets and expending large sums of money. Each will be quite a sizeable enterprise.

Like many other enterprises - government, semi-government or private - the Ambulance Services are under considerable pressure to provide more and better quality services to the public and to provide good conditions and remuneration for their staff, while at the same time keeping charges for their services low. Given the increasing demands on limited Government funds, it is unlikely that Ambulance Services will be able to assume that the Government will always step in to assist financially in the future.

The Committee believes that Ambulance Services must tackle this matter directly, and seek all possible avenues for ensuring that they and the public get the maximum possible value from all the resources used. The Committee believes that this means, amongst other measures, the adoption of a budget structure and of operating procedures that allow and encourage the identification of the effectiveness of different activities and the efficiency with which resources are used.

At the budget level, the Committee considers that a structure of budgeting similar to that used by commercial organisations would be appropriate. That is, statements such as assets and liabilities, income and expenditure, and source and disposition of funds should be prepared, for each Service as a whole and for separate cost centres (including the Control Districts) within each. In these statements, Government grants should be identified as direct items of income.

Financial procedures should aim at identifying as closely as possible the costs of providing services and of carrying out specific functions. Operational procedures should aim at providing specific quantitative measures of performance wherever possible, and these are discussed further in Section 8.4.1.

Adoption of procedures with these goals should enable Services to make far more informed decisions about both operational matters and about long-term planning matters. Financial and economic analyses would then be used as a tool to assist decision-making, in a way that is rarely done now. Choices between options could be made by the Services on the basis of comparative estimates of their financial implications and of their operational performance implications. In addition, such measures would allow each Service to compare its performances in successive years and again make informed decisions on areas of operations most needing review, change or development.

In effect, this means applying the analytic techniques of a commercial enterprise to the operation and planning of what is basically a community service. The Committee believes it to be crucial that when an agency is pursuing an objective that has a large element of community service to it, the economic and financial aspects of the methods and techniques employed be kept under careful review. This is to ensure that resources are not being wasted by inefficient use, and that the objective is being pursued as effectively as possible.

The nature and manner of determination of the Government's annual contribution to Ambulance Services should also be reviewed. The Committee believes that it would be most appropriate for this contribution to equal the amount of revenue foregone by Services by not charging "pensioners and the indigent", and for there to be no other grants. The Committee recognises that this was at one stage the basis of the Government's contribution and that the present total grant approximates the total revenue foregone. The Committee considers that such a system should be restored. As already noted, that contribution should be included in the annual budget of each Service as a standard item of revenue. It should then be required of Services that they operate within that budget.

The Committee recognises that Ambulance Services at present operate closer to these commercially-oriented principles than do most public bodies.

The Committee notes that the Commonwealth Government makes no direct contribution towards the cost of ambulance services for pensioners and other recipients of social security benefits, despite its general obligations for providing social welfare funding.

**Recommendation 6.1:** The Committee recommends that an immediate task for the Victorian Ambulance Commission, in conjunction with the Department of Management and Budget where necessary, be:

- (i) to develop a budget structure for all Ambulance Services that:
  - treats the Government contribution as being in lieu of fees paid by pensioners and others who are not at present

charged for transport; and

- . is based upon sound commercial financial management principles; and
- (ii) to develop financial procedures that:
- . enable clear identification of the real costs of the Services' separate activities;
  - . facilitate the development of measures of the financial performance of Services; and
  - . ensure that appropriate internal controls are in place.

**Recommendation 6.2:** The Committee recommends:

- (i) that the system of deficit financing be discontinued, and that Ambulance Services in future receive an annual Government contribution based on what would be the total income if all patients who have a health card paid the transport fee; and
- (ii) that any adjustments to the amount of Government contribution that may be necessary be negotiated with the Victorian Ambulance Commission during the financial year.

**Recommendation 6.3:** The Committee recommends that in relation to the Government contribution to the costs of Ambulance Services, the Commonwealth Government be requested to pay the costs of ambulance transport of pensioners and where appropriate other recipients of Commonwealth social security benefits.

## 6.2 Funding of Ambulance Services

### 6.2.1 Subscription Scheme

The Subscription Scheme is essentially an insurance Scheme, that provides the insured (the subscribers) with free ambulance transport when medically necessary. In 1982-83 the Scheme provided 31.5 per cent of the Services' total income, with the proportion in each ranging from 16.3 per cent for Northern to 43.7 per cent for Ambulance Service - Melbourne.

Whether there should continue to be a Subscription Scheme was questioned in a number of submissions to the Committee, particularly in view of the fact that New South Wales has abandoned its Subscription Scheme. Tasmania also does not have a Subscription Scheme, but Western Australia, South Australia, Queensland and the Northern Territory all do, and more recently there are pressures in New South Wales to re-introduce its Scheme. Dr Ed Brentnall, Director of the Accident and Emergency Department of Box Hill Hospital, expressed a view agreed with by some others, when he stated that subscriptions:

"...seem to be an antiquated and inappropriate way of supporting an essential emergency service. I can see no logical reason why the service should not be financed from public funds. Perhaps this could be a charge based on a percentage charge on rates" (submission).

Mr Roper made his view on the continued existence of the Scheme quite clear in his evidence:

"There are some people with the view that the State should meet all the costs of the ambulance services. Even if that were desirable, it is not feasible. There would be no way known the Consolidated Fund could step in and meet the amount that currently comes from the subscriptions, through the subscriber system, or in the capital sense through local contributions" (evidence, p 19).

In general, the levels of cover achieved by the Subscription Scheme are very high, and exceed 80 per cent in some Services - in 1983 the Scheme covered 78 per cent of households (not individuals) in the area covered by Ambulance Service - Melbourne. The Scheme is also highly profitable in some Services: Ambulance

Service -Melbourne achieved a surplus of \$3.8 million on the Scheme in 1982-83, after accounting for all transport fees chargeable to subscribers and all administrative costs of the Scheme. In the ten years to 1983, income to Ambulance Service -Melbourne from the Scheme increased by 750 per cent while total income increased only 430 per cent in the same period.

In its submission Ambulance Service - Melbourne defended the Scheme strongly:

"The Ambulance Subscription Scheme is a viable commercial venture and should be allowed to operate as such. Commercial decisions need to be made that reflect the market acceptance of the product. The cost of a subscription should reflect the cost of the provision of the service plus some overhead" (submission, p 38).

The Committee endorses this viewpoint, as a reflection of its own concern for a more commercially-oriented approach to the assessment of the effectiveness and efficiency with which Services provide their services to the community.

However Ambulance Service - Melbourne did express concern over a lengthy delay it had experienced in getting approval from the Commission for in-house computing facilities to process data for the Scheme. (Ambulance Service - Melbourne provides computing services for the Scheme for all Services except Alexandra, Peninsula and Northern.) It also was concerned over the amount and timing of alterations to subscription rates. In 1983 approval of the new rates was somewhat delayed, and as a result Ambulance Service - Melbourne considered that:

"...the final figures being made available too late to be implemented totally on the prescribed date. This resulted in a significant revenue loss while the consequent lessening of confidence of the sales force reduced their effectiveness" (submission, p 39).

The large differences between the Services also mean that the profitability of the Scheme varies greatly, and so the ability to transfer funds to general reserve under the procedure outlined in Section 2.3 varies very much from one Service to another. "Larger Services usually have excessive general reserve funds by comparison with smaller Services whereas the needs are usually the reverse" (Mr G Ortman, personal submission). The Committee considers this ability to transfer funds to be a valuable incentive to Services to market the Scheme in their areas, and it considers

that it should continue. The arrangement should, however, be reviewed by the Victorian Ambulance Commission within three years, when the operational and financial arrangements of the new Services have stabilised. The Committee is firmly of the view that the Subscription Scheme should be retained, and its further growth positively encouraged. It notes the experience in New South Wales, where the Scheme has in effect been re-introduced in part via separate ambulance insurance schemes now available, and consideration is being given to its general re-introduction. The Committee believes that the arrangement whereby Services may transfer funds from their Subscription Scheme income to a reserve fund should continue, as an incentive to promoting the Scheme. This arrangement should be reviewed by the Commission within three years, when the financial arrangements of the new Services have stabilised.

The Committee believes that the subscription rates should be determined by the Victorian Ambulance Commission, in keeping with Recommendation 6.1 concerning the introduction of more commercially-oriented financial management principles. The Minister must, however, retain the right to disallow proposed rates, as Ambulance Services do not operate in an open market or independently of Government support.

Present information and publicity material for the Subscription Scheme does not make it clear that an ambulance is available to subscribers free of charge only when it is medically necessary. The Committee believes this to be a serious oversight, and that it must be corrected, as part of the general clarification of when ambulance transportation is appropriate. This issue is discussed in Section 8.1.

The role of "contributors" to Ambulance Services has been described in Section 2.3; the major purpose of having contributors has been to provide a franchise for the election of members of Committees of Management. The Committee sees no point in the retention of the notion of contributors in Ambulance Services, as it has in Chapter Five recommended that all subscribers be entitled to stand for and vote at elections to District Ambulance Committees.

**Recommendation 6.4:** The Committee recommends:

- (i) that the Ambulance Subscription Scheme be retained;

- (ii) that subscription rates be set annually by the Victorian Ambulance Commission, subject to disallowance by the Minister of Health within thirty days of their being set by the Commission;
- (iii) that centralised data processing for the Ambulance Subscription Scheme be a responsibility of the Victorian Ambulance Commission and that all Services (except Alexandra unless they choose to) use this facility;
- (iv) that the separate Services market the Ambulance Subscription Scheme within their own regions, and receive subscriptions from those residents who wish to pay in person;
- (v) that publicity materials, subscription cards and other publications relating to the Ambulance Subscription Scheme be revised to state clearly that an ambulance is available free of charge only in emergencies or when it is medically necessary; and
- (vi) that the arrangement whereby Services may transfer funds from their Subscription Scheme takings to a reserve fund continue, with a review by the Victorian Ambulance Commission within three years.

**Recomendation 6.5:** The Committee recommends that the category of "contributor" as defined in Section 3 of the Hospitals and Charities Act 1958 no longer apply in Ambulance Services.

### 6.2.2 Payments for Inter-Hospital Transfers

The operational difficulties of inter-hospital transfers and of transports to and from day hospitals are considered in Section 8.1. This Section is concerned with only the financial consequences of the present arrangements.

It is Health Commission policy that the transport of patients from one hospital to another is to be at the expense of the originating hospital. This policy was instituted in 1976 at a time when the Federal Government made substantial direct payments to the states for hospital costs. The policy then meant that Federal funds contributed to the costs of transporting patients, a system that generally satisfied everyone except perhaps the Federal Treasurer.

In 1981 the Federal Government ceased direct funding of part of hospital costs, and incorporated the funds into general purpose grants to the states. This removed the direct Federal contribution to patient transport costs. State Government allocations to hospitals continued to include notional allocations for this expense, but under the system of budgeting for areas of expenditure, rather than for specific items of expenditure, individual hospitals have had rather more freedom to determine exactly how they will allocate their funds.

In the climate of severe financial restraint that has developed since the change in Federal funding mechanisms, hospitals have quite properly sought maximum efficiency in their use of funds. Many have seen patient transport as of lower priority than other areas, and have cut their use of ambulances quite severely.

This practice appears to have caused three problems: first, many people consider that it has decreased the standards of patient care to an unacceptable degree in some cases; second, the income of individual Ambulance Services has been reduced below that expected and budgeted for; and third, the problems have led to some undesirable aggravation between some hospitals and Ambulance Services.

The Committee has been given details of how, in some cases, patient care has been seriously jeopardised: this matter is discussed in Section 8.1.

As an example of the impact of reduced use of ambulance transport by hospitals, the North Eastern District Service advised the Committee that it received about 21 per cent of its total income from inter-hospital transfers in 1982-83, on an average of about 140 cases each month. The first four months of 1983-84 followed the same pattern, but in the next four months average use dropped to about 90 cases each month (submission, pp 6-7). If maintained, such a drop could cause serious financial difficulties for that Service; some other Services made similar observations.

Dr Ed Brentnall noted that the present system appears to have originated from a desire to give hospitals a measure of financial responsibility. He went on to say:

"However, a large number of these transfers are inevitable, and cannot be controlled by the peripheral hospital. Transfers may be classified in four broad categories.

- A. Those patients that need specialist skills or facilities that only exist in larger (teaching) hospitals.
- B. Patients who have previously been under the care of another hospital and where the needs of the patient are most appropriately met by this care being continued.
- C. Patients who would be admitted, but for whom no vacant bed is available at that moment.
- D. Patients who request transfer for some reason (usually because they wish to be treated by a particular doctor).

"The vast majority of transfers come into the first three categories. Only 20 to 30 per year, from an average of 660 per year, are at (the hospital's) own request.

"To charge the smaller hospitals for the cost of transfers is absurd. In effect, they are being punished for not being larger" (submission).

The Committee notes that the development of the base hospital concept, whereby only selected hospitals are provided with advanced facilities and techniques, virtually requires the provision of inter-hospital transport services on a substantial scale. The present system has the advantage of putting financial responsibility where the decision to use an ambulance is made - in the hospital - but it is producing serious financial difficulties for small hospitals in particular, and in some cases is jeopardising patient care.

In a letter to the Committee, the Chief Executive of the Royal Children's Hospital, Dr Barry Catchlove, suggested that "certain anomalies" had crept into charging for ambulance transport associated with the Paediatric Emergency Transport Service (PETS). When a hospital requests PETS from the Intensive Care Unit of the Royal Children's Hospital, that latter Hospital requests an ambulance to transport the retrieval team to the patient and to transport the patient back to the Children's Hospital. The full cost of the ambulance is then billed to the Children's Hospital, and Dr Catchlove suggested that:

"the present situation is considered inappropriate as this Hospital is not specifically funded for PETS transport costs".

The Director of the Newborn Emergency Transport Service also reported difficulties over funding:

"As a retrieval team we find ourselves paying for such things as being transported from the Women's Hospital to Essendon Airport, for being taken away by the air ambulance, and that costs us \$120 to \$130 at a time. I suggest that retrieval teams be recognised as part of the ambulance team and either not be subject to that charge or to be charged a nominal fee" (Dr Neil Roy, evidence, p 687).

The practice of charging at the same rate for non-urgent inter-hospital transports and for urgent calls has been questioned. In the former, the Service may have had many days' notice of the need and the patient may have been waiting for some hours (Mr G Ortmann, submission), whereas in the latter the emergency vehicle is on standby (see also the discussion in Section 6.2.3 of fee setting).

The practice of charging for service provided rather than for the service required has also been criticised. That is, a hospital may require and request a sedan to transport a walking patient: but if the ambulance service has only a stretcher vehicle available, it is sent, and it has been suggested that the hospital is usually charged a stretcher ambulance fee (Mr Ortmann, submission).

Other peculiarities in the system that have been noted include the observation that Bush Nursing Hospitals, and other hospitals that do not possess a recognised casualty department, do not have to meet the cost of inter-hospital transfers - the cost is then borne by the transporting Service (North West Victorian Ambulance Service, submission, p 12).

The Committee notes also the practice of charging separately for each patient if more than one is carried in a stretcher ambulance at the same time. One country hospital complained to the Committee of having been charged about \$1800 for one ambulance trip to Melbourne in which three patients were carried. Although a reduced fee per passenger is supposed to be charged when more than one patient is carried - unless the patients are from the one family - there is some evidence to suggest that this procedure is not always followed. The Committee believes that the approved procedures should be followed strictly.

**Recommendation 6.6** The Committee recommends:

- (i) that Ambulance Services receive a direct Government contribution to meet the costs of inter-hospital transfers and that the costs of such transfers cease to be the responsibility of hospitals; and
- (ii) that Ambulance Services and hospitals devise effective and appropriate systems to review and control the extent of use of the inter-hospital transfer service, and to provide strict sanctions for abuse of that service.

**Recommendation 6.7:** The Committee recommends that the Royal Children's Hospital be allocated funds for the Paediatric Emergency Transport Service, including an allocation to meet the anticipated costs of ambulance transport.

### 6.2.3 Transport Fees

Fees charged are the same for each Service, and are calculated on the total distance covered by each ambulance from departure from its base to its return, irrespective of the time taken. The fee is set by the Health Commission with the intention of recovering the actual cost of each patient transport. Fees for day hospital transports vary depending upon whether the vehicle used has a one-officer crew or a two-officer crew, and are billed to the hospital itself. Ambulance vehicles and crews may be made available for public duty or private hire at events that may produce casualties, and charges are made for this.

The basis for setting fees for transport has been questioned in some submissions. The most detailed presentation of the case for a revised basis was presented by Ambulance Service - Melbourne:

"Traditionally accounts for ambulance service have been raised using a formula which in general has a base 'flag fall' accompanied by a per kilometre addition...

"It would be more accurate and logical to charge users of the service for those resources that have been expended in the provision of the service. To this end, some charging mechanism which takes account of time rather than length of transport would be more appropriate...

"When, in the past, attempts have been made to relate charges to time used, it became clear that the rate which would significantly advantage metropolitan income would have decreased the rural revenue. However, the fact that metropolitan ambulance service can be provided more cheaply than rural should not be disguised by using an inappropriate formula to conceal the fact.

"Either the rates for country and metropolitan could be allowed to differ, or if there is a compelling reason for a common statewide fee, it should be struck at a point where the income generated statewide would equate to the present, and the compensating adjustments to individual services could be made through the medium of Government Grants" (Ambulance Service - Melbourne, submission, pp 43-44).

The Committee notes with some concern an incident late in 1983 which displays the inflexibility of the financial systems affecting Ambulance Services. Ambulance Service - Melbourne for the first time in some years reworked the distance calculations on which it bases its setting of fees. For a variety of reasons, including the fact that some new branches had been opened, it was found that fees should be adjusted, leading to an expected net fall in revenue to Ambulance Service - Melbourne of approximately \$250 000 a year. The Administration and Finance Manager of the Service told the Committee:

"That information was put to the Health Commission. The Service indicated that it was now aware of the problem and stated that it could not continue to overcharge. The Service received a response from the Commission indicating that it was not to go ahead with the new system - it must continue to charge the old rate.

"Unfortunately, the letter did not reach the Service before it had put the new system into operation" (Mr Norman Branson, evidence, p 771).

The Director of the Hospitals Division of the Commission, Dr David Race, explained that:

"If we had been informed prior to us casting the budget and finalising with (the Department of Management and Budget) as to what was projected revenue for that year, we would have been able to accommodate them without any loss of revenue. We would have adjusted the budget accordingly. But, to do that, with six weeks' notice, well after the financial year had started, meant that we would have had to go back to DMB and say that for reasons beyond our control, we wanted another \$200 000" (evidence, p 864).

The Committee considers that the financial systems of both the Commission and the Department of Management and Budget should be flexible enough to be able to cope with a clear case of over-charging. There has been little other comment to the Committee on the levels of fees or on the basis for calculating them.

The Committee has concluded that the scale of fees should be the same throughout the State, although it recognises that this will to some extent obscure the real costs of providing the services in different areas of the State, and thus is not entirely consistent with the earlier recommendations on the introduction of commercially-based financial methods. The Committee considers that other methods can be used to identify the real costs, and uniform charges will avoid a number of other difficulties, including some of administration.

**Recommendation 6.8:** The Committee recommends:

- (i) that ambulance transport fees be set annually by the Victorian Ambulance Commission, subject to disallowance by the Minister of Health within thirty days of their being set by the Commission;
- (ii) that the same scale of fees apply throughout the State; and
- (iii) that the fees be set such that if all transports were charged at that rate, including transports of pensioners and others not actually billed, then all the costs of providing and operating the statewide ambulance services would be recouped.

## 6.3 Financial Accountability

### 6.3.1 Control and Audit

The level and extent of internal control over day-by-day financial operations of Services was raised a number of times, in particular in relation to the embezzlement of funds from the North West Service that came to light in 1983. Close investigation of such matters would involve more detailed analysis by the Committee of the operational details of Services than the Committee feels is appropriate for it. However the Minister provided the Committee with copies of some relevant internal Commission documents.

In a report of 9 November 1983 to the Director, Finance Division, Health Commission, from an investigating accountant, the following passage occurs;

"Within such a small office the possibilities of establishing proper internal control would be quite limited. There is evidence that the Superintendent at times checked the payrolls to ensure correct entitlements were being paid; correct deductions were made; etc. However, it is doubted that the Reconciliation of the Total Payrolls as drawn to the Ledgers Recording Payrolls were ever undertaken. It is also not certain what reconciliation, if any, was ever made concerning Debtors' Control, and the collection of service fees and transport charges" (Report of the Investigating Accountant, p 2).

The Committee has discussed the difficulties of establishing proper financial controls in other small offices with a number of senior officers of Ambulance Services. It notes that the lack of professional financial skills in many Ambulance Service headquarters exacerbates these difficulties, and it considers this to be an important and urgent matter. It recognises that these small offices may be carrying out the financial control requirements set down by the Health Commission, but that even then there are clear difficulties in keeping adequate control. The embezzlement in the North West Service:

"...occurred in a situation where the financial dealings of the Service were carried out precisely according to the criteria laid down by the Health Commission and auditing was carried out under those guidelines also" (The Hon Ken Wright, M L C, evidence, p 43).

The Committee recognises that the defalcation was detected by the North West Service itself, and that it is the only known case of embezzlement in the 35 years of operation of the present set of Ambulance Services.

The report on the incident to the Finance Division relates that, for that Service, the audit "had been contained as much as possible (by the Auditor) to contain costs to the Service as requested" (Report of the Investigating Accountant, p 3). This request to the auditor appears to have been made by the previous Superintendent, who was under the impression that other Services' audit fees were rather lower than he had previously had to pay. This kind of audit was described by the Minister in his evidence to the Committee as a "charitable audit", and such a style of audit is clearly not appropriate. No evidence has been provided to the Committee to suggest that "charitable audits" in this sense have been carried out in other Services. They generally obtain satisfactory audits fairly soon after the end of each financial year.

The larger Services recommended by the Committee will enable some of these problems to be overcome, in that each Service will be expected to employ its own skilled financial manager. However considerable care and sensitivity will still be needed to ensure that there is adequate financial control in each District, without that control becoming itself a burden on operational effectiveness.

**Recommendation 6.9** The Committee recommends:

- (i) that the Auditor-General audit the Victorian Ambulance Commission;
- (ii) that audits of Ambulance Services be carried out under contract by local firms of accountants in accordance with auditing standards which apply to Government agencies; and
- (iii) that internal control measures be designed with careful attention to the costs of the measures to each Service as well as to the benefits of reducing the scope for misappropriation of funds.

The report of the Auditor-General's Office noted earlier in this Chapter pointed out a number of shortcomings in the reporting procedures of Ambulance Services, and in the standard annual audit procedures. The Health Commission has advised that these matters are being attended to.

Services consider that they are frequently subject to long, unreasonable and unexplained delay in receiving approval from the Commission for various proposals for capital or other expenditure. Ambulance Service - Melbourne considered that these delays were "...not only frustrating...but demoralising to the departmental managers who are trying to plan ahead" (submission, p 46). Delays encountered by Services in other dealings with the Health Commission are discussed in other parts of this Report, particularly in Section 5.4.

Additional or replacement vehicles are largely paid for by special maintenance grants from the Commission, but Services must first pay the supplier and then seek reimbursement from the Commission. Delays in making this reimbursement produce some cash flow problems for Services (North Eastern Victoria Ambulance Service submission, p 8).

More substantial is the question of the extent to which the separate Services should be required to seek Commission approval for the greater proportion of their actions involving ambulance capital, given their substantial self-financing capacity and the large cost of transporting pensioners and others at no direct charge to the Commission. Questions have also been raised about the statutory powers of the Commission to require approvals for changes to the Services' capital reserves, and the Committee has noted anomalies in these requirements. According to a paper prepared within the Health Commission, at present there is no legal provision for the Commission to approve major items of capital expenditure where no subsidy is involved: and "there is no requirement for the Commission to approve purchase of land by Ambulance Services if no subsidy is involved. However its approval is required for sale of land" ("Comments on present legislation concerning Ambulance Services in Victoria and other States", pp 1-2).

The Committee considers that its recommendations creating the Victorian Ambulance Commission and establishing its responsibilities to the Services will go a long way towards overcoming these difficulties. The Committee also believes that

an important aspect of giving the separate Ambulance Services the responsibility of managing the delivery of services to their regions, is giving them the authority to do so. Services should be required to seek advance authorisations for actions or expenditures very rarely.

**Recommendation 6.10:** The Committee recommends:

- (i) that the guidelines on the operation, expansion and development of Services be sufficiently explicit so as to minimise the necessity for Services to seek the approval of the Victorian Ambulance Commission prior to entering into expenditure commitments; and
- (ii) that the Victorian Ambulance Commission determine the levels of expenditure on various items that will require its approval.

### 6.3.2 Reporting and Accountability

Detailed monthly statements of operations and of finances are forwarded to the Commission by all Services. The nature and sophistication of internal controls on funds varies from Service to Service, but many Services have comparatively low levels of financial expertise available within their offices. Services organise their own external auditors, subject to conditions approved by the Commission. Annual reports are produced by all Services, and are usually presented formally to the annual general meeting of contributors.

It is widely believed within Ambulance Services that the financial reporting systems available to Services are not oriented towards ambulance operations. Ambulance Services generally operate on the basis of accrual accounting, whereas the Commission operates on cash accounting, and provides its funds on this basis. Services must therefore operate two systems, or attempt the cumbersome task of translating from one to the other. Ambulance Service - Melbourne suggested that: "A decision should be made on which basis the accounting principles should be applied to cease the unnecessary duplication" (submission, p 40).

Services also complain about the apparent lack of use by the Commission of the information that is provided, both financial and operating and covering routine matters rather than the specific budgetary matters referred to earlier. Superintendent Jim Mason of Mid-Murray Service said in evidence:

"I have asked the Commission what they use those figures for, and the reply has been, "It is interesting" .... It makes one wonder about the need to produce figures when no one can tell the Ambulance Service for what purpose they are used" (evidence, p 28).

The Committee considers that it is necessary for each Service to report regularly to the Victorian Ambulance Commission on both its operations and its finances, but that the reporting methods should be developed and conducted with the aim of obtaining clear assessments of the operational and financial performance of the Services.

**Recommendation 6.11:** The Committee recommends:

- (i) that output-oriented financial reporting standards be developed by the Victorian Ambulance Commission;
- (ii) that Ambulance Services provide the Victorian Ambulance Commission with regular reports on progressive expenditure compiled in accordance with these standards;
- (iii) that Ambulance Services include output-oriented financial statements in their annual reports; and
- (iv) that the Victorian Ambulance Commission include information on the income, expenditure, and financial performance of each Ambulance Service and of itself in its annual report, together with a financial summary of the financial resources received and spent by Ambulance Services and the Commission itself collectively.

## CHAPTER SEVEN : PERSONNEL

Throughout its inquiry, the Committee has been impressed by the dedication and commitment of ambulance personnel to ambulance services. The Committee has held discussions with ambulance staff at all levels, and it has noted their high levels of concern for the successful functioning of the Ambulance Services, and with the maximisation of the quality of patient care. Considering the largely inter-personal nature of ambulance work, the Committee considers quality ambulance personnel to be a vital element in quality ambulance services.

The Committee is aware of a number of personnel problems which appear to be contributing to frustrations experienced by some ambulance officers, and which are not conducive to the most effective operation of Ambulance Services. These problems derive from a number of factors, including the limited availability of funds for improvement of ambulance services, the absence of an effective central policy-making body, and changes over the last twenty years in the Ambulance Services and in the environment in which they operate.

The following issues are addressed in this chapter:

- . the adequacy and appropriateness of recruitment criteria and selection procedures (Section 7.1);
- . the adequacy of initial and on-going training; the role of and quality of skills provided by casual officers; and the appropriate role for the Ambulance Officers' Training Centre (Section 7.2);
- . the quality of management expertise and the adequacy of the arrangements for the selection and development of management personnel within Ambulance Services (Section 7.3);
- . the health problems experienced by ambulance personnel (Section 7.4); and
- . aspects of Ambulance Service employment, particularly affecting personnel, such as retirement and superannuation, salaries and grievances and appeals (Section 7.5).

## 7.1 Recruitment of Ambulance Officers

### 7.1.1 Recruitment Criteria

From submissions made to the Committee on the initial recruitment of ambulance officers, two main themes emerged:

- the lack of standard recruitment criteria and procedures for all Services; and
- a need for a review of the present criteria for employment as an ambulance officer.

Recruitment criteria have been developed within Ambulance Services and approved by the Health Commission of Victoria. These criteria - which generally relate to the physical attributes and educational background of recruits - have been circulated by the Ambulance Officers' Training Centre in the course information for the Certificate of Applied Science (Ambulance Officer) and form the greater part of a recruitment policy developed by the Victorian Ambulance Services Association (VASA). The criteria are used as recruitment guidelines by most Services. The VASA recruitment policy also discusses the personal qualities, reliability, stability and driving ability of ambulance recruits. As with other policies developed by VASA, Services are not bound to act in accordance with this recruitment policy.

Beyond these recruitment guidelines, there are no standard procedures for recruitment, so that individual Services may conduct their selection process as they see fit. The variations in selection procedures that have resulted have been criticised by a number of people within Ambulance Services. Mr Richard Tye, the in-service training officer at Peninsula Ambulance Service, outlined some aspects of the selection procedure followed in that Service which could interfere with the selection of the most suitable applicants:

"A further practice is that if there are for example, four vacancies and two hundred applicants (usual), then often only ten and sometimes even four applicants are interviewed. The in-service training officer is not involved in the selection process" (submission).

The Committee was also made aware of variations between Services in the criteria used for recruitment of ambulance officers. In his submission to the Committee, Mr Philip La Roche pointed to the different height requirements for employment in Ambulance Service - Melbourne and Peninsula Ambulance Service. The age requirements for these two Services are also different. A number of submissions asserted that recruitment criteria generally varied between the Services and one senior officer suggested that the criteria for employment and the selection procedures in Melbourne are at a higher standard than those in the country. Such variations not only confuse prospective ambulance officers, but could cause problems if officers wish to transfer to different Services.

The second concern expressed in relation to recruitment of ambulance officers was with the adequacy and appropriateness of the the criteria that are used by Victoria's Ambulance Services. The variations in height and age requirements have already been noted. The relevance of the height requirement was questioned in at least one submission to the Committee, particularly as it would preclude many women. While the absence of women ambulance officers is not explained by the height requirements set by the Services, it is likely that a number of persons who would not meet the height requirement would be capable of performing ambulance duties.

The question of the appropriateness of the criteria is complicated by the fact that the skills and attributes necessary to perform the duties of an ambulance officer have never been objectively established. The Ambulance Officers' Training Centre has plans to conduct a task analysis of these duties.

The Committee has serious reservations about the relevance of some of the other guidelines for recruitment devised by VASA, particularly in terms of the way in which they could be interpreted by Ambulance Services. While the rationale behind some of these guidelines may be sound, their strict application could result in the rejection of some suitable applicants for quite inappropriate reasons. For example, the following guidelines of VASA could produce an unreasonable bias against certain applicants (p 3):

"A married person with a family commitment has a much greater likelihood of pursuing his ambulance career in a steady and satisfactory fashion than the traditional drifter...

"Although there have been a few outstanding exceptions the following previous backgrounds have, on many occasions, not led to a successful ambulance career:

- . Tertiary qualifications or drop-outs from university courses;
- . Previous employment in police and fire services;
- . Those with a history of job-change every one to two years."

In particular, the reluctance to employ anybody who has been a student at a tertiary institution seems to be inconsistent with the industry's recent introduction of recommended tertiary qualifications for senior management personnel.

#### 7.1.2 Recruitment of Women Ambulance Officers

While there appears to be no documented policy within Ambulance Services which precludes women, they are not recruited as ambulance officers, although some Services employ women as Clinic Transport Officers. The VASA guidelines for recruitment refer throughout to the ambulance officer as male, appearing to give no consideration to the possibility of women as ambulance officers. The most common argument against the entry of women into the Ambulance Services - apart from clerical and office staff - is that women lack the physical strength for the work. However, it is notable that there is no lifting or strength test prescribed or used in the recruitment either of male ambulance officers or of nurses, and it has been suggested to the Committee that some male ambulance officers are not physically capable of ambulance work (Ambulance Employees Association evidence, p 750). Mr Wayne Simmons, General Secretary of the Ambulance Employees Association, spoke of the introduction of women ambulance officers:

"Once one has a close look at the work that is carried out, one realises that a fairly physically fit and strong female would have to do the work. If that person can be found, I would not object, but it should not be at the expense of males having to do the work" (evidence, p 849).

Dr Ian Siggins, Assistant Commissioner for Equal Opportunity, told the Committee:

"The Equal Opportunity Board has received approximately 15-20 complaints from women wanting to join various Ambulance Services over the years. The factor in most of those complaints has been the weight-lifting requirement" (evidence, p 615).

The Equal Opportunity Act 1984 states that it is an Act "to render unlawful certain kinds of discrimination, (and) to promote equality of opportunity between persons of different status". The definition of "status" in this Act is very broad, and includes sex, marital status, race, impairment, and whether a person is a parent, childless or a de facto spouse. In terms of employment, the Act states in Section 21 that:

"It is unlawful for an employer or prospective employer to discriminate against a person on the grounds of status or by reason of the private life of the person -

- (a) in determining who should be offered employment;
- (b) in the terms on which the employer or prospective employer offers employment;
- (c) by refusing or deliberately omitting to offer employment; or
- (d) by denying him access to a guidance programme, an apprenticeship training programme or other occupational training or retraining programme."

This section of the Act specifies a number of exemptions. One of these is the Industrial Safety Health and Welfare General Safety Regulation which restricts to 16 kilograms the weight women are permitted to lift in any employment. This regulation applies to the employment of women as ambulance officers.

As part of a step towards exemption of Ambulances Services from the regulation and thus towards the employment of women as ambulance officers, the Minister of Health established in early 1983 a Working Party on Physical Capacity Requirements for Ambulance Employment. The Working Party was due to report in June 1984, but is running behind schedule and in early October 1984 had still to report.

While the issue was not often raised in submissions, during informal discussions with ambulance personnel the Committee heard other arguments against the employment of women ambulance officers. These included an alleged increase in marital problems of officers, the absence of sleeping quarters for women on overnight shifts at a station and the threat to the personal security of women who might be exposed to dangerous situations in ambulance work. Mr Gerry Thomas, Acting Superintendent of the North West Victorian Ambulance Service, generally supported the employment of women ambulance officers, but argued that some aspects of ambulance duties would be unsuitable for women: .

"I would have severe reservations at a branch station where an officer is operating a branch vehicle in emotive or dangerous situations, particularly in brawls or other areas where alcohol is involved. We have trouble now with males in that situation but in most cases they can get themselves through physically. We would have reservations about some females" (evidence, p 63).

The New South Wales Ambulance Service employs approximately forty-five women as ambulance officers and appears to have experienced only minor problems, in areas such as uniform design. On the question of physical strength, a female ambulance officer in Sydney suggested to the Committee that any difference in the physical strength of male and female ambulance officers is compensated by the tendency of women to "lift with their heads" as well as with their muscles - that is, the women are aware of their physical limitations and use their knowledge of correct lifting techniques to obtain maximum lifting strength with minimum risk of back injury. Male ambulance officers in Sydney also suggested that the presence of women officers at scenes of domestic or other violence was often valuable in that the women had a calming effect on some of those involved.

### 7.1.3 Future Needs in the Recruitment of Ambulance Personnel

While Ambulance Services appear to have been generally successful in the recruitment of capable and suitable personnel, there are shortcomings with the criteria for employment and with the selection procedures which have implications for future personnel needs.

With the introduction of Advanced Life Support techniques throughout Victoria, it will be essential that all Ambulance Services employ consistently high quality officers suitable for training in the invasive and pharmacological skills of Advanced Life Support. For this reason, it is necessary that the Services develop standardised recruitment criteria which are closely related to the requirements of personnel for performance of ambulance duties, and develop standardised selection procedures which ensure that the best available applicants are recruited to the Services. It also appears likely that the incidence of back injury and related fitness problems may be reduced by the introduction of criteria which are related to the physical requirements for ambulance work.

The Committee considers the exclusion of women from employment as ambulance officers to be unjustified. It is clear that some women would be capable of performing ambulance work. Again, this demonstrates the need for recruitment criteria to reflect accurately the attributes necessary for ambulance work.

The need for greater management expertise - which is discussed later in this chapter - means that Services require personnel suitable for development to the most senior management levels. It is vital that ambulance personnel are able to meet the requirements for managerial skills necessary for the new organisational structure of Ambulance Services recommended in this Report. The recruitment criteria for ambulance personnel need to ensure that such capable staff with the potential to undertake managerial duties are available in the Services. The Committee believes there is a need not only to review the present criteria for recruitment of staff, but also to consider additional criteria which may be appropriate for the selection of personnel suited to the task.

**Recommendation 7.1:** The Committee recommends:

- (i) that a task analysis of the duties required of ambulance officers be organised immediately by the Victorian Ambulance Commission in order to establish the skills and qualities needed by ambulance officers to perform their duties;
- (ii) that a standard set of criteria for recruitment of ambulance officers be developed based on the findings of the task analysis, recognising that many ambulance officers will progress to middle-level positions such as station officers, and that some will progress to senior management levels, and so must be capable of developing the skills necessary for these positions;
- (iii) that this set of criteria be endorsed by the Victorian Ambulance Commission and adopted by all Services; and
- (iv) that female applicants who meet the standard criteria for employment be recruited as ambulance officers.

**Recommendation 7.2:** The Committee recommends that the recruitment procedures used by Ambulance Services, including advertising, testing and interviewing procedures, be formalised and standardised by the Victorian Ambulance Commission to ensure that all applicants are considered fairly.

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## 7.2 Initial and On-going Training of Ambulance Officers

The effectiveness of an ambulance officer in the care and transportation of patients is largely dependent on the training he or she receives, both formally in course-work and through practical experience as a member of an ambulance crew. One distinctive feature of the training of ambulance officers is the need for officers' skills to be maintained at a level which will enable them to perform effectively in the care of patients, even under considerable stress or difficulty. Thus, once initial training is completed, ambulance officers either need to be performing their skills in patient care regularly as an operational officer, or need to have regular practical training in these skills. This maintenance of skills is relevant to all operational officers - full-time and casual, country and metropolitan - and is complicated by the varying circumstances in which these officers work.

In Victoria's Ambulance Services, the initial training of professional ambulance officers is to a high standard, in terms of the quality of patient care they are able to provide and in comparison with other Australian and overseas ambulance services. However, the Committee has been told of serious inadequacies with the on-going and in-service training of ambulance officers - inadequacies which are reported to threaten to reduce the effectiveness of the skills of ambulance officers and to lower their morale and confidence. The adequacy of the present training of volunteer or casual officers has also been questioned in a number of submissions and is particularly relevant at the moment when the introduction of Advanced Life Support skills, which include invasive and pharmacological techniques, to ambulance officers' standard operating procedures is under consideration.

### 7.2.1 Initial Training of Ambulance Officers

The Certificate of Applied Science (Ambulance Officer) was introduced as the initial training for Victoria's ambulance officers in 1978, previous to which the St. John Ambulance Certificate was the standard training requirement. The Certificate course was developed by the Ambulance Officers' Training Centre (AOTC) and is therefore oriented to the requirements of, and is widely supported by Victoria's Ambulance Services. The organisation and content of the course are outlined in Section 2.3 of this Report.

In 1982, a review of the effectiveness of the Certificate of Applied Science (Ambulance Officer) was conducted by Ecobiol Consultants. This extensive review assessed both the general effectiveness and the specific content of the course, concluding with seventy-three recommendations. While the inquiry highlighted a range of shortcomings with the Certificate course and a number of training problems within the Ambulance Services generally, the consultant's assessment of the overall effectiveness of the course was favourable. In the summary of findings, the review stated that:

"The present course does provide for the needs of the ambulance service and the patient, given the present protocols as determined by the Victorian Health Commission...

"The present course does this in a more comprehensive manner than previous arrangements for the training of Ambulance Officers" (p 71).

Support for the quality of initial training of ambulance officers, including the Certificate course, was evident in many of the submissions and in much of the verbal evidence received by the Committee. Dr Jane Hendtlass compared Victoria's ambulance services favourably with those of other countries within her experience:

"In Victoria, the professional role of the Ambulance Service appears to be more sophisticated than in London, Belfast, Edinburgh, Aberdeen or Stockholm...

"All Victorian ambulance officers are trained in aspects of patient care such as oxygen administration and diagnostic procedures which are not offered in the United Kingdom Services...The Emergency Ambulance Service in Victoria is more skilled than that in other countries with which I am familiar" (submission).

Support for the present programme of initial training of ambulance officers also came from within the Ambulance Services, as indicated by this comment from Mid-Murray District Ambulance Service:

"The initial training course, the Certificate of Applied Science (Ambulance Officer), appears to provide a suitable mixture of theoretical and practical training for ambulance officers" (submission, p 56).

This latter view was not unanimous throughout the Ambulance Services. Northern District Ambulance Service questioned the balance between theoretical and practical training at the AOTC:

"We consider the content of the initial training of ambulance officers is essentially correct, but appears to lack sufficient practical skills training. This is in all probability, due to the move away from ambulance based teachers to academics at the training centre" (submission).

The consultant's review of the Certificate course found that the view expressed by Northern District Ambulance Service was fairly common:

"In general, students and ambulance service personnel feel there is neither proper balance nor co-ordination between theory, practical teaching and application of skills necessary for the job. The subject matter is often not sufficiently ambulance-orientated and there is generally a need to reduce the amount of theory and, where relevant, to define and upgrade teaching of ambulance-preferred practical methods" (p 54).

Since this review, and following the recommendations that it made in relation to the orientation of the course, the AOTC has taken steps to increase the relevance to ambulance work of the course curriculum. The Centre is, for example, reviewing the mathematics and science component of the course with the aim of ensuring that it is ambulance-orientated, and its planned task analysis of ambulance officers' duties has already been referred to. One of the functions of this is to clarify the specific training needs of ambulance officers.

This concern with the practical components of the ambulance officer course seems to reflect to some degree the inadequacies of the in-service training arrangements as they operate at present. If in-service training were more effective during the considerable periods that student officers work in their respective Services, the concern with the practical elements of formal training might be lessened.

The Committee also feels that with the wider application of Advanced Life Support techniques, the theoretical components of the Certificate course will be of increased importance. In particular, the mathematics and science components of the Certificate course will provide officers with knowledge on which to base training in the administration of drugs and fluids, the performance of invasive procedures and the monitoring of cardiac conditions.

**Recommendation 7.3:** The Committee recommends that the current policy of the Ambulance Officers' Training Centre of ensuring the relevance of course-work at the Centre be maintained, but that any steps towards altering general components of the course, such as mathematics and science, be considered carefully in view of the forthcoming introduction of Advanced Life Support training and the need to ensure a firm skills base for this training.

The review conducted by Ecobiol Consultants provides a comprehensive analysis and evaluation of the content of the Certificate of Applied Science course, and no such analysis has been attempted in the Committee's inquiry. One particular aspect of the initial training course which the Committee considers to be inadequate is the attention given to correct lifting techniques, particularly in the light of the incidence of back injury among ambulance officers. Between June 1981 and June 1984 the Hospitals Superannuation Fund approved only fifteen disability claims by ambulance officers. The most common single reason for these was back injury, and in over half the cases the officer suffered either back injury or mental stress. In view of the concern expressed over these matters, these disability figures seem low. The occupational health of ambulance officers is discussed in Section 7.4.

While the Committee is aware that the issue of back injury in the Ambulance Services is a complex one, with a number of factors appearing to contribute to such injuries, the Committee believes that training in correct lifting techniques is an essential and fundamental element in the effort to reduce the incidence of back injury.

**Recommendation 7.4:** The Committee recommends:

- (i) that the component of the Certificate of Applied Science (Ambulance Officer) course which deals with lifting techniques be expanded, and include both practical lifting skills and instruction in the implications of incorrect lifting; and
- (ii) that periodic refresher training in correct lifting techniques be conducted within all Services.

A number of submissions received by the Committee questioned the appropriateness of the present level of training of ambulance officers. Some of these submissions suggested that the training of all officers to a such high standard of patient care is not necessary. A senior officer put this view in a confidential submission to the Committee:

"The current level of training for Ambulance Officers (the Certificate of Applied Science - Ambulance Officer) is too much for those people involved in the routine or non-emergency patient transport Division and could be abridged to provide for adequately and appropriately qualified officers to be produced at a substantial saving in terms of both dollars and manpower".

Mr Arthur Davis, Superintendent of the Latrobe Valley and District Ambulance Service, in a personal submission to the Committee, echoed this argument, and pointed to personnel problems which can develop with a high standard of training for all ambulance officers:

"Having all officers trained to the one high level leads to problems where expertise gained in training is lost by lack of practical application opportunities. Staff morale becomes a problem, and initiative tends to be reduced by the frustrations resulting from this void."

This problem - that some of the knowledge and skills learnt by ambulance officers at the AOTC is not being used regularly by some officers - is particularly important in small Services where the number of operational staff is around forty or less, since officers of these Services do not usually experience the variety and number of patient cases handled by larger Services in more densely populated areas. While ambulance officers may not be required to use certain skills very often, there may arise a situation when those skills are required. Thus, to reduce the skills of those officers is not necessarily an acceptable or appropriate solution.

If there is a need for some less qualified ambulance officers, the facility exists for the employment of Clinic Transport Officers, as occurs in some Services now. This is not usually a viable proposition for smaller Services as it reduces their flexibility in staff utilisation.

The appropriateness of the present level of training was questioned more often by some people who suggested that the standard of training should be increased to include certain invasive and pharmacological techniques generally referred to as Advanced Life Support or ALS skills. This issue will be discussed in Section 8.2.

The Committee noted that there seemed to be some confusion within Victoria's Ambulance Services over the present status of training of ambulance officers in ALS skills. It was widely suggested to the Committee that ambulance officers were already being taught ALS skills as part of their initial training, but were not yet permitted to use these skills. The Committee sought clarification on this question with the staff of the AOTC and was informed that student ambulance officers were being introduced to these techniques, in order to be "good assistants" to the Mobile Intensive Care Ambulance (MICA) crews who are fully trained to perform certain invasive and pharmacological techniques. It has been suggested to the Committee that perhaps one third of the recent graduates from the the Certificate of Applied Science course could be certified to perform ALS techniques with only limited further training.

A number of other problems relating to the initial training of ambulance officers have been raised with the Committee. These particularly deal with the practical difficulties for country Services in releasing student officers, who are also part of the operational staff, to attend lectures in Melbourne, and with the associated transport and accommodation arrangements for students.

These issues were also addressed in the review by Ecobiol Consultants of the course, and, in response to the recommendations made by that review, the AOTC has implemented changes in an effort to alleviate some of these difficulties. The recommendations by this Committee to increase staff numbers in Services to facilitate the release of ambulance officers for initial training and skills maintenance should also reduce these difficulties.

### 7.2.2 Role of the Amulance Officers' Training Centre

The question of the appropriate place for ambulance training was raised by the Minister of Health in his appearance before the Committee. Mr Roper stated that:

"there are some policy questions, involving whether there should continue an in-house system of training of ambulance officers or whether ambulance officers should be incorporated in the TAFE or CAE system rather than being in their own separate college" (evidence, pp 16-17).

The arguments in favour of re-locating ambulance training within an educational institution other than the AOTC appear to be that there would be greater access to Federal Government funding, and that, by utilising existing facilities, ambulance training could be conducted more economically.

Strong support for the AOTC as the major ambulance training body was evident in many of the submissions received by the Committee. A view widely expressed within Ambulance Services was that the training of ambulance personnel at the AOTC ensured the close relationship between ambulance training and the requirements of the Services. Mr Peter Newbold, Executive Director of the Centre, explained the value of this relationship:

"The big disadvantage in moving into TAFE or some other public funded sector is that we would lose our closeness to the industry and our ability to respond quickly to what is needed in the industry. One example would be when the 38 hour week was introduced and additional staff were required, we were able to respond very quickly and mount and bring courses forward. I have had eight years experience in TAFE and one year in CAE and I am positive that neither of those areas would have been able to cope as quickly and considerately to the needs of the industry" (evidence, p 638).

The staff of the AOTC raised a number of problems that they perceived could result from the incorporation of ambulance training within the Technical and Further Education or Colleges of Advanced Education systems. Mr R Edwards, Chairman of the Committee of Management of the AOTC, raised one of the practical difficulties of placing ambulance training under the auspices of another part of the education system:

"It would be easy on a global viewpoint to say that the training centre and ambulance officer training should go into TAFE. However, when one considers the numbers in the various colleges it would not be viable or practical to establish a training course, even on a part-time basis....the numbers (of ambulance officers) would not make it educationally viable or financially viable for the institution" (evidence, p 640).

In terms of the financial arguments over the place of ambulance officer training, Mr Newbold suggested that the AOTC already benefited from the TAFE system:

"The basic course has been accredited by the TAFE Board. Therefore, from the point of view of academic standards and accreditation, there is TAFE Board supervision. Also, as a TAFE provider, without funding, the Ambulance Officers' Training Centre has access to certain Commonwealth moneys that come in the form of TAFE Particular Purpose Grants and the centre has just received \$6500 for a pilot study on refresher training. In one sense we have the best of both worlds" (evidence, p 638).

It has also been suggested that within the TAFE system, ambulance training would have to compete for funds with numerous other areas of education. The Committee noted that the TAFE Board did not appear to be keen on incorporating ambulance training into the TAFE system. In a submission to the Committee, the Chairman of the Board, Mr Peter Kirby, stated that:

"The TAFE Board has no particular wish to see the full responsibility for ambulance officer training assumed by the TAFE system" (p 2).

It has been suggested to the Committee that the person in charge of the AOTC should be an ambulance officer by background rather than an educator. The Committee does not agree with this suggestion, as it considers it to be essential that the ambulance profession be open to ideas and influences from other disciplines. It is obvious that high levels of ambulance and medical knowledge are required within the Centre, but the Committee believes that a broader perspective on the training needs is also needed. The Committee notes that the high reputation around Australia of the AOTC has not been harmed by its Executive Director not being an ambulance officer.

It has also been suggested to the Committee that the AOTC should not only be retained as the training body with the Ambulance Services, but that its role should be expanded to encompass a research and development function. As has been noted in Chapter Five, there has been an absence of collection and analysis of data on ambulance operations on a statewide basis, and this has hindered planning for and development of Victoria's Ambulance Services as a whole. The Committee believes that there is clearly a need for research to be conducted into many aspects of ambulance service operations, equipment, methods and management, and it believes

that such investigations are of great importance. On the basis of this research, informed decisions about the priorities, development and planning of the Ambulance Services can be made.

There is also a great need for investigations into the effectiveness of the methods and techniques of MICA, and into the ways of most effectively using the skills of MICA officers. Dr Jane Hendtlass of the RACV and Dr David Hunt of the Royal Melbourne Hospital both commented upon the high quality of the documentation on incidents and transports kept by Ambulance Service - Melbourne, and both lamented that so little research was carried out on this material and on the equally detailed documentation on standard ambulance transports.

Other matters that should be investigated include the usefulness of individual patient care skills, how MICA can best assist in trauma cases, and into matters such as whether different techniques might be appropriate in cities and in the country. Such investigations could be either by original research carried out in Victoria or through careful and systematic analysis of research conducted elsewhere.

The AOTC has expressed a willingness to assume a research and development role, provided that additional resources for this role are allocated to the Centre. In its submission to the Committee, the Centre stated:

"It is contended that the training at the present time and curriculum research and development already undertaken by the AOTC is effective from any perspective, and that the AOTC has demonstrated its ability in this area, and that given the additional responsibility to take on research and development in the areas as outlined, would also achieve a high degree of effectiveness" (p 7).

The Committee believes that the AOTC is the most appropriate body to carry out a research and development function in Victoria's Ambulance Services. Other bodies which could perform a research and development role for Ambulance Services include the Metropolitan Ambulance Service as the largest Service, a separate research and development unit under the Victorian Ambulance Commission, or the Lincoln Institute of Health Sciences which might provide research staff on contract to work in the area of ambulance services.

The Committee considers however that the AOTC already has staff with experience in research into training needs and development of curriculum, and it has library facilities available at the Centre. The on-going contact and generally good relations with the Ambulance Services which the AOTC experiences would also facilitate a role for the centre in research. As has been the case with previous research and development undertaken by the AOTC, staff could combine the roles of teaching and ambulance research. The Committee considers it appropriate that the Victorian Ambulance Commission direct the research and development work to be conducted at the AOTC, and that executive officers of the Commission themselves have the capacity to participate in research and development work as necessary.

**Recommendation 7.5:** The Committee recommends:

- (i) that the Ambulance Officers' Training Centre be retained as the educational arm of Victoria's Ambulance Services, under the control of the Victorian Ambulance Commission, but with its own advisory committee;
- (ii) that the role of the Ambulance Officers' Training Centre be expanded to include:
  - research into all aspects of the provision of ambulance services;
  - the monitoring of developments in other ambulance services;
  - development in such areas as ambulance equipment and methods of evaluation of ambulance performance; and
  - the provision of an information service to all Ambulance Services through utilisation of the Library and through access to on-line information retrieval systems; and

- (iii) that the staff numbers at the Ambulance Officers' Training Centre be reviewed, and if necessary, increased to take account of the new research and development activities and its role in Advanced Life Support training.

Many of the submissions received by the Committee criticised the premises of the AOTC. Mid-Murray District Ambulance Service stated:

"The present Ambulance Officers' Training Centre is located in a mixture of inadequate buildings in Vale Street, East Melbourne and a converted church hall in Punt Road, Richmond. The existing premises are totally inadequate for training the number of officers it needs to cater for. In addition the working conditions for training centre staff are so cramped and inadequate that it must be demoralising and reflect in the level of enthusiasm instructors can portray to Student Ambulance Officers" (submission, p 57).

During its inquiry, the Committee visited the AOTC and inspected the premises. The Committee considers these to be quite inadequate, particularly with the campus divided by a major arterial road.

**Recommendation 7.6:** The Committee recommends that as a matter of urgency the Ambulance Officers' Training Centre be moved to premises more suitable than those presently occupied by the Centre.

Ambulance Service - Melbourne reported some serious difficulties in its rostering of staff because of great variations in the number of officers at training courses at the Centre from week to week. The Committee realises that the Centre has its own scheduling requirements, but it considers that every effort should be made to keep the numbers on training courses relatively constant. On average during the year, Ambulance Service - Melbourne has 24 officers each week at the Centre, but the maximum in any week is as high as 44. This can generate an overtime bill of \$35 000 for the week. The Committee believes that negotiations between the Centre and the new Metropolitan Ambulance Service should aim to reduce this uneven involvement of officers in training programmes.

### 7.2.3 Skills Maintenance

Although it was acknowledged that many in-service training officers performed their task as well as could be expected with the available resources, the general inadequacy of in-service training emerged as a common theme from written submissions, public hearings and informal meetings with ambulance personnel. Most criticisms relate to the following:

- . in-service training is not conducted often enough;
- . in-service training officers have multiple duties, of which in-service training is just one;
- . in-service training officers frequently are not given sufficient opportunity to develop training skills;
- . there is a lack of uniformity and direction in in-service training; and
- . there are insufficient resources for in-service training.

The maintenance of patient care skills is vitally important for all ambulance officers: for officers whose use of some skills is irregular or limited, effective in-service training is particularly critical. Student ambulance officers and officers stationed in country or quiet metropolitan branches fall into this category. Mr Anthony Mathieson, an ambulance officer at Shepparton, explained the need for effective in-service training in country Services:

"The amount of trauma and medical emergency work covered at regional services is much lower and less frequent than covered by officers at Ambulance Service - Melbourne. Therefore the regional officer is under greater anxiety, his ability to assess, diagnose and treat patients in an acute medical and trauma situation is greatly diminished and sometimes is just incompetent" (submission).

In informal discussions with ambulance officers around Victoria, the Committee spoke to a number of student officers who expressed their frustration and disappointment with the limited opportunity to revise and practise the skills they were learning at the AOTC with their in-service training officer. The significance of this limitation was explained by the training officer with Wimmera District Ambulance Service, Mr Lindsay Pipkorn:

"...there is little time to devote to student ambulance officers, especially within the first six months in service, a very important stage of their development, let alone the ensuing 2½ years of studentship" (submission).

There is a range of factors contributing to the limited time devoted to in-service training. Staff shortages or the limited flexibility in staff utilisation of some Services result in most training officers having other duties besides training which in turn limits the time they can devote purely to training. Mr Pipkorn also commented on this problem in his submission:

"Currently, I am committed to control room duty on a five week rotating roster. In that period there are only four days when I am not required 'on control'. During those four days, if not required for transport of patients, pay office duties, some time may be devoted to training needs."

These same staff problems also mean that in many Services the ambulance officers themselves are not available on any regular basis to attend in-service training, as they cannot be released from the roster. The difficulties involved in conducting in-service training are exacerbated in some non-metropolitan Services by the long distances between headquarters, where the in-service training officers are located, and branch stations. The importance of effective in-service training will be magnified when Advanced Life Support skills are introduced to ambulance officers' standard operating procedures.

Another aspect of in-service training raised with Committee was that in-service training officers usually have no more training than the officers whom they teach, although they usually have more experience. The in-service training officer at Peninsula Ambulance Service asserted that training officers need additional training themselves. He explained his viewpoint in this way:

"It is obvious to me that to teach at a certain level, the teacher must be trained to a level beyond that the student must reach. Otherwise, how can the teacher answer questions, develop the topic and be confident in teaching it" (Mr Richard Tye, supplementary submission).

The Committee noted the considerable efforts of some in-service training officers to conduct effective in-service training programmes. For example, at Peninsula Ambulance Service, a bridging course has been designed to update officers' skills to

the level presently taught in the Certificate of Applied Science course. This type of skills maintenance will be essential with the introduction of Advanced Life Support to Victorian Ambulance Services. The Committee is concerned by suggestions that the position of in-service training officer is not recognised as an important and valuable one to the extent that are other senior station officer positions.

The need for refresher training attracted comment in submissions to the Committee. A number of submissions suggested that some ambulance officers had not attended any formal training for at least ten years, and that some of the longer serving officers had never attended the AOTC. In the light of the development of patient care skills available to ambulance officers and the likelihood of further enhancement, it is asserted that regular refresher training for all officers will be even more important. Refresher and skills development courses are presently conducted at the AOTC for MICA officers, for senior ambulance personnel and for in-service training officers, but not for other ambulance officers.

The nature of the patient care skills that ambulance officers perform requires that these skills be maintained at a high level of competency. With the impending introduction of Advanced Life Support techniques to the standard operating procedures of ambulance officers, the needs for consistently high quality skills and skills maintenance will be of even greater importance as ALS skills require greater precision and understanding in their use than do basic life support techniques. The evidence before the Committee suggests that the present arrangements for in-service training fall short of the requirements of the Services. There are a number of elements that the Committee believes to be necessary for the effective maintenance of ambulance skills: these are the regularity of training, the availability of human and material resources, and the regular assessment of skills.

One important material resource that the Committee believes should be available is a set of regularly updated and widely available procedural manuals. The St John Ambulance Association of Western Australia has produced a most comprehensive set of manuals, which are updated once or twice a year, and which cover operational, organisational and personnel matters. Similarly comprehensive manuals should be prepared in Victoria by the AOTC, and issued under the authority of the Victorian Ambulance Commission.

In order to achieve the necessary elements in an on-going training programme, the Committee believes that there must be greater co-ordination between the AOTC and the Services in the training of personnel.

With the wider application of Advanced Life Support, the training for the maintenance of these skills will need to be more intense than is necessary for basic life support skills. Refresher training will need to be more frequent and will require high quality instruction. As the AOTC has the resources to assist in such training, it is highly desirable that the Centre play both a co-ordinated and a co-ordinating role in on-going training.

To reflect the involvement of both the Services and the AOTC in on-going training, with such training being conducted both in-service and at the Centre, all with the goal of maintaining the skills of ambulance officers, the Committee considers that all on-going training for this purpose should be referred to as "skills maintenance" and that the Services' training officers should be referred to as "skills maintenance officers".

**Recommendation 7.7:** The Committee recommends that the term "skills maintenance" be used to refer to all on-going ambulance training both within Services and at the Ambulance Officers' Training Centre.

**Recommendation 7.8:** The Committee recommends that the involvement of the Ambulance Officers' Training Centre in skills maintenance be increased through measures such as the following:

- the organisation of seminars and skills maintenance courses conducted in Services by staff of the Ambulance Officers' Training Centre and Services' skills maintenance staff;
- development by the Ambulance Officers' Training Centre of a skills maintenance manual for advanced life support skills; and

- availability of staff at the Ambulance Officers' Training Centre to give advice and support to the Services' skills maintenance officers.

**Recommendation 7.9:** The Committee recommends that a comprehensive set of skills, organisational and personnel manuals be prepared within the Ambulance Officers' Training Centre in conjunction with Victorian Ambulance Commission and the Services, and that the resulting manuals be issued under the authority of the Victorian Ambulance Commission.

The Committee believes that the single factor most responsible for the inadequacy of skills maintenance in the Services at present is that staff numbers have been such that ambulance officers could not be released from road or control duties to take part in on-going training on any systematic basis. In the Committee's view it is vital that all Services have at least one full-time skills maintenance officer, and part-time skills maintenance officers in Control Districts as required. The Committee considers that skills maintenance officers in Control Districts, conducting training under the guidance of the Service skills maintenance officer, will be necessary since the new Services are too large to be adequately covered by one officer. The availability of a skills maintenance officer in each Control District will also facilitate the utilisation of "down-time" for skills maintenance. When Advanced Life Support is introduced, each Control District is likely to require a half-time skills maintenance officer, but after the initial stages of Advanced Life Support the requirements of the Service for training staff may alter. The Committee emphasises that the role of the skills maintenance officer is one of considerable importance and should be viewed as such within Ambulance Services.

The Committee also considers it to be extremely important that leadership for skills maintenance programmes come from the top in all Services, and it considers that Committees of Management and Superintendents should make their commitments to these programmes strong and widely known.

**Recommendation 7.10:** The Committee recommends:

- (i) that a full-time skills maintenance officer be appointed in each Service Headquarters and a half-time skills maintenance officer in each Control District, but that after the initial transition to the new structure and the introduction of Advanced Life Support, the number and location of skills maintenance officers be reviewed;
- (ii) that full-time skills maintenance officers be rostered on road duties one shift per week in order to maintain their skills;
- (iii) that Ambulance Services recognise the position of skills maintenance officer as an important and legitimate step in the career path of the Services;
- (iv) that skills maintenance officers be required and assisted to undertake further training, in both teaching and ambulance skills; and
- (v) that meetings of skills maintenance officers at the Ambulance Officers' Training Centre be maintained, and that careful consideration be given to the programmes to ensure optimum relevance and value of the meetings.

**Recommendation 7.11:** The Committee recommends that staff numbers in Ambulance Services be increased to allow for:

- (i) the appointment of one full-time skills maintenance officer and half-time skills maintenance officers as required in each Ambulance Service; and
- (ii) the regular release of ambulance officers to attend skills maintenance sessions.

Effective skills maintenance also relies on the availability of training equipment. Ambulance officers are regularly faced with the need to act quickly to apply their life support skills. In order that they have the capacity and the confidence to apply their skills under pressure, practical training in the application of the skills is vital. This will become of even greater importance with the introduction of Advanced Life Support techniques. The provision and use of training mannequins and appropriate ambulance equipment is essential to enable officers to practice their skills.

**Recommendation 7.12:** The Committee recommends:

- (i) that the minimum resources required for training - such as training mannequins, ambulance equipment, resuscitation, intubation and infusion training equipment and a library - be determined by the Victorian Ambulance Commission in consultation with the Ambulance Officers' Training Centre; and
- (ii) that all Services be required to acquire these resources.

Although the skills of MICA officers are regularly tested, there is no mechanism for the regular evaluation of the skills of standard ambulance officers. To ensure the effectiveness of skills maintenance within the Services, the Committee believes that the regular assessment of skills, followed by refresher training where necessary, is required. The establishment of arrangements for the regular assessment of each officer's skills will be a necessary pre-condition of the introduction of Advanced Life Support skills into the standard operating procedures for ambulance officers.

**Recommendation 7.13:** The Committee recommends:

- (i) that all ambulance officers trained in Advanced Life Support skills be required to undergo a skills test as formulated by the Ambulance Officers' Training Centre and be recertificated every two years;
- (ii) that all officers trained in basic life support techniques be required to undergo a skills test every five years in order to

assess the officer's mastery of the skills and to highlight any areas in which refresher training or the teaching of new techniques might be appropriate;

- (iii) that officers who do not perform adequately at the skills test be taken off road duties for a period of intensive skills maintenance and refresher training at the Ambulance Officers' Training Centre if necessary, until they attain the minimum standard of skills;
- (iv) that officers trained in basic life support only, whose skills cannot be maintained, be transferred to clinic transport duties or, if the officer is suitable, to control room duties;
- (v) that Advanced Life Support trained officers whose Advanced Life Support skills cannot be maintained be restricted to use of their basic life support skills only, unless these skills also cannot be maintained, in which case the officers should be assigned to clinic transport or if the officer is suitable, to control room duties; and
- (vi) an officer who has not been employed within Ambulance Services for a period of two years be required to undergo the test referred to in part (i) above.

#### 7.2.4 Role and Training of Casual Ambulance Officers

Thirteen of Victoria's seventeen Ambulance Services have casual ambulance officers staffing their non-permanent branch stations. The role of casual ambulance officers attracted considerable comment in the written and verbal submissions to the Committee. A wide range of viewpoints on the role of casuals in the Services was also evident. Some full-time ambulance officers argued that casual officers should be replaced by full-time professional officers. On the other hand, other witnesses recognised the severe financial and practical restrictions on replacing casuals with permanent officers.

Those who advocated the replacement of casual officers by full-time officers were generally concerned with the standard of treatment which the casual officers are able to provide. This view was expressed by Mr W Long, Secretary of the Victorian Ambulance Administrative Officers' Association:

"I suggest permanent officers should be located in remote areas rather than volunteers because that is often the only medical help people in those areas have to call on. They should not have to rely on volunteers who have attended a two-day course once a year to up-date their knowledge" (evidence, p 268).

It has also been suggested that the introduction of Advanced Life Support will widen the gap between the quality of ambulance treatment provided by professionals and casuals. It is asserted that to train casual officers in the use of invasive and pharmacological techniques would be impractical. The Committee considers that it may be appropriate to train casuals in some Advanced Life Support skills, particularly those which do not require intensive skills maintenance. The insertion of an intravenous drip obviously requires extreme precision and thus frequent practice, but other techniques such as the application of the MAST suit appear to require less frequent practice in order to maintain effectiveness. As has been mentioned in Chapter Three, experience in the USA suggests that some of the Advanced Life Support techniques are suitable for use by at least some volunteer officers.

The Ambulance Employees Association asserted that there were difficulties in some areas in obtaining sufficient volunteers to provide coverage during normal working hours. However, in evidence before the Committee, the Association acknowledged the difficulty in removing casual officers from the Ambulance Services. Mr Wayne Simmons, the General Secretary of the Association, stated his views on casual officers thus:

"There should not be as many volunteers as there are now. But, I also accept the valid argument that there are some places where one cannot do without them. No doubt in a small Service, one needs volunteers because it is uneconomic for three full-time paid men to be employed in an area where there is only one job every fourteen or fifteen days. They would go insane with nothing to do" (evidence, pp 838-839).

This issue of the adequacy of casual officers' skills inevitably focused attention on the formal and informal training of the officers. The general impression that the Committee has received is that there is great variation throughout the Services in the standard of training of casuals.

It is the Committee's understanding that the initial training requirement for casual ambulance officers is the St John Ambulance Certificate, although one casual officer stated that he was "unaware of any real basic requirement or certificate required for our present role" (Casual ambulance officer, confidential submission). The on-going training of casual officers falls within the responsibility of the relevant Services' in-service training officer, but many of the problems which affect the in-service training of full-time officers also apply to the training of casuals.

In some Services, training of casuals appears to be infrequent and piecemeal. In a confidential submission to the Committee, one casual officer related his experience of training:

"After I first joined, we had one (maybe two) official training nights, then there were no more for approximately six months...The local team is supposed to meet once a week on a Thursday night where more often than not it becomes a pooling of each other's ignorance...It would appear that our training is treated as a bit of a joke - not taken seriously at all, and yet we are called out day and night to the same range of accidents and or illnesses as the professional crews.." (Casual ambulance officer, confidential submission).

In other Services, the training of casuals is more regular, with involvement by the in-service training officer. In some Services, it was asserted that casuals received more in-service training than permanent officers, as explained by the in-service training officer at Wimmera District Ambulance Service:

"We have in this Service branch stations which are manned by casual ambulance officers. The training of these people, which has been quite considerable is carried out after normal working hours, therefore more time is spent on training casuals than full-time ambulance officers" (Mr Lindsay Pipkorn, submission).

The Committee has stated in Section 5.1.4 that it was impressed by the standard of on-going training of casual officers in the Alexandra and District Ambulance Service. Another successful aspect of training of casuals in small country towns

where casual officers are most likely to be located, is that there is often a considerable degree of co-operation between ambulance staff and hospital medical staff, which facilitates further informal training of casual ambulance officers. More specifically, the Committee was told that when casual officers transport a patient to the local hospital the doctor often allows the officers to remain with the patient (with the patients permission) as he or she is treated. There is also opportunity for the officers subsequently to follow up the condition of the patient. This process has obvious value in improving the patient care skills of the casual officers.

The Committee considers that casual ambulance officers have had and still have an invaluable role in the provision of ambulance services in country areas. While the Committee believes that all residents of Victoria should have access to high quality ambulance services, it is clear that some regions of Victoria do not have the ambulance workload to justify full-time coverage. In these areas there is a most important on-going role for casual officers. Concern has been expressed that casual ambulance officers are not fully trained in basic life support, and perform their skills infrequently, but full-time officers in the areas now staffed by casuals would also have difficulty in maintaining their skills.

The Committee believes that some casual ambulance officers receive high quality training and skills maintenance, and thus offer a valuable service to their communities. It is highly desirable that training to the same high level is available to casuals throughout the State. Considering the large variation that exists in the standard of training casual officers, the Committee believes there is a need for more standardisation of training, and for the establishment of a minimum level of skills for casual officers.

The Committee considers that there is a valuable role for women as casual ambulance officers; the employment of female casuals would not only provide an opportunity for women to be involved in this community service, but would assist in the ability of the Ambulance Service to provide coverage during all hours. The Western Australian Ambulance Service employs between 600 and 700 women as casual officers, making up approximately 40 per cent of casual officers, and women casual officers also work in South Australia.

**Recommendation 7.14:** The Committee recommends:

- (i) that the on-going role of casual ambulance officers as an essential component in the provision of ambulance services to Victoria be recognised and endorsed;
- (ii) that an analysis of the workload of all branches staffed by casuals be undertaken periodically; and
- (iii) on the basis of this analysis, that casual officers be maintained in branches where it would be unrealistic to employ full-time officers.

**Recommendation 7.15:** The Committee recommends that in the recruitment of casual ambulance officers, both men and women who are suitable for such employment be accepted into the Services.

**Recommendation 7.16:** The Committee recommends:

- (i) that a minimum standard of training for casuals be established by the Victorian Ambulance Commission;
- (ii) that a standardised training programme and a manual for training of casual ambulance officers be developed by the Ambulance Officers' Training Centre;
- (iii) that training of casuals be conducted on a regular basis, with a record kept of when each officer last performed the skills in which he or she has been trained;
- (iv) that the Ambulance Officers' Training Centre visit branch stations staffed by casual officers to conduct seminars and short training courses in ambulance techniques;

- (v) that consideration be given to the introduction to casual ambulance officers of some Advanced Life Support skills which do not require intensive maintenance; and
- (vi) that the involvement of local doctors and other health professionals in the training and skills maintenance of casual ambulance officers be actively encouraged.

\* \* \* \* \*

## 7.3 Recruitment and Training of Management Personnel

### 7.3.1 Present Management Skills

Recruitment and training of management personnel was raised and discussed in a number of submissions to the Committee. This discussion related to three major issues:

- . the adequacy of management expertise at senior management levels at present;
- . the degree to which the present system of recruitment and training provides, and will provide in the future, appropriate management personnel; and
- . whether non-ambulance personnel with appropriate general management expertise should be recruited into management positions.

In the submissions - both written and verbal - there was generally agreement that the level of management expertise in Ambulance Service management is not always adequate. While it is apparent that a number of Superintendents and other management personnel are highly competent in their management of Ambulance Services, the Committee was made aware of certain shortcomings in the management performance of some senior management personnel. These inadequacies were in the areas of general "man-management", management of industrial relations, decision-making practices, finance and planning. For example, in a number of Services, fairly trivial personnel problems have developed into more serious industrial relations problems, due in part to inadequate communication between management and operational staff. In their 1983 Management Inquiry into the South Gippsland Ambulance Service, Parkhill, Lithgow and Gibson suggested that Ambulance Services are "evolving away from an old style autocratic management system and new recruits to the Service are led to expect a more consultative and co-operative management approach", but that this had not been fully achieved in all Services (Management Inquiry, p 15).

The inadequacy of inter-personal communications at the management level, and particularly from management "downwards", was raised by a number of people both in management positions and in operational positions. In a confidential submission

to the Committee, one ambulance officer expressed his dissatisfaction with inter-personal communications:

"The other type of communication there is an urgent need of is the communication between myself as an operational Ambulance Officer and the Management. I have many letters, reports and suggestions that I have made to the (Service). In a majority of cases I have not had a reply and in only one case have I had an acknowledgement that my written communication has been received. The system seems to be designed to stifle clear thinking and suggestions."

This problem was echoed by a senior officer, also in a confidential submission:

"The relationship between Superintendents and their Committees is extremely close. Indeed, whatever is discussed in (this Service) is only communicated by word of mouth to the two senior officers and only those subjects which have immediate concern are discussed....This lack of communication tends to stifle any initiatives taken at a lower level because very little is able to be done without the Committee (ergo the Superintendent) approving it."

Inadequate personal communications as discussed above appear to be a reflection of management style, but the communications issue is wider than this. Some further aspects of this issue are discussed in Section 7.5.

The problem of poor management expertise of some ambulance management personnel appears to be largely a product of inadequate management training, either formal or informal, in conjunction with certain recruitment practices, and of changes in the management needs of Ambulance Services.

The Committee has heard some divergence of opinion as to the efficacy of the present training and recruitment practices for senior personnel. This divergence seems to be partly a result of successive changes to management training, in that recent developments in training have not yet taken full effect. However there was also some specific criticism of present training and recruitment procedures.

It was suggested to the Committee that, due to a likely shortage of ambulance personnel with management expertise suitable for senior positions in the next ten to fifteen years, it may be necessary as a temporary measure to employ some management personnel from outside Ambulance Services. This matter is discussed later in this Section. It seems that there is little question now within Ambulance

Services that a high level of management expertise is necessary for their senior management personnel. The recent development of management training, and the consideration of employment of managers from outside Ambulance Services, reflect this change in attitude towards ambulance management.

### 7.3.2 Development of Management Training

Some form of management course has been conducted as part of ambulance training since the early days of the Ambulance Officers' Training School at Mayfield, which was established between 1963 and 1964. These first management courses were largely medically-oriented and involved updating the officers' medical knowledge. The courses consisted of approximately one week of teaching at the Mayfield School, with much of the course completed by assignment work.

In 1975 there was a moratorium on all courses at the Ambulance Officers' Training Centre in order to allow development of curriculum. Curriculum development continued after the courses resumed in 1976, but because of curriculum and other problems, including industrial difficulties, senior courses were again suspended in 1979. According to a 1983 report by staff of the Centre, there were serious shortcomings with the senior courses:

"The senior courses which were held from 1975 onwards were not consistent in terms of the emphasis given to medical and management content. It would appear that specific aims, goals and objectives were not developed for these courses, nor were the courses based on a detailed study of the requirements of the supervisory and management positions in ambulance services" (Manias, Anastasiou and Newbold, p 3).

Over the next two years training curricula for management positions in Ambulance Services were developed, and in 1982 a Station Officer Course was established at the AOTC in co-operation with the Technical and Further Education (TAFE) Board. This Station Officer Course consists of three units of supervision training at a TAFE College, plus one unit of ambulance studies. In September 1983 a Senior Courses Working Party published a final report on "Recommended Training for the Qualifications of Senior Station Officer, Assistant Superintendent and Deputy Superintendent". This report outlines the recommended tertiary management training for each of these senior positions, specifying the length of study and

suggested composition of the courses. All of the recommended courses are available on a part-time or off-campus basis: the Working Party considered this to be necessary in order to enable ambulance officers from all parts of Victoria to undertake such management courses.

At June 1984 there were approximately 88 ambulance officers enrolled in the Station Officer Course, with 50 of those officers enrolled in local TAFE Colleges for the supervision units. There were approximately 30 ambulance officers at the rank of Station Officer and above enrolled in tertiary institutions and undertaking such courses as the Associate Diploma in General Administration, Bachelor of Business Studies, Bachelor of Health Administration and the Graduate Diploma in Health Administration. These courses, although recommended by the AOTC, have not yet been approved by the Health Commission of Victoria as pre-requisites for appointment to management positions in Ambulance Services. In addition to these courses a range of short management courses designed for senior ambulance personnel in management positions, and a number of interim or upgrading courses for senior officers, have been developed and introduced.

A number of ambulance organisations provide the facility for an informal exchange of ideas and information amongst ambulance management personnel. The Victorian Ambulance Services Association, the Victorian Ambulance Superintendents Council, the Victorian Ambulance Administrative Officers' Association, and the Institute of Ambulance Officers, all convene regular meetings which, while they are not necessarily oriented to management development, enable senior personnel to share problems, ideas, and information. It seems that these organisations could have a greater role in informal management training.

An important aspect of informal management training is "on-the-job" experience in supervisory and management positions. The rank of Station Officer provides an opportunity for experience in supervision of staff and in inter-personal communication. However, in Victoria's Ambulance Services at present, there is limited opportunity to practice management skills at this level, largely due to the hierarchical organisation of the Services and to the operational constraints which require Station Officers to have extensive "road" duties. It seems that in a number of Services the hierarchical structure has severely restricted the delegation of responsibility to personnel below the rank of Superintendent. The Ambulance

Employees Association in their appearance before the Committee, outlined the problems that they perceived with management - problems which highlight the limited opportunity for on-the-job management experience at present:

"One of the major difficulties we have is that, among senior management and middle management areas, there is no confidence in decision making...They deliberately tend not to make decisions because they believe that if they do, the decision will be overturned, or if something goes wrong, they will end up "carrying the can"...The other part of the problem is that some chief executive officers or Superintendents tend to take the decisions on a range of options available to them almost to the point of being solely in charge of how many drawing pins should be ordered for a Service. The lack of delegation of authority and decision-making is another factor" (Mr Wayne Simmons, evidence, p 740).

### 7.3.3 Effectiveness of Management Development

The inadequacy of management training was mentioned by almost all of the submissions that addressed the issue of senior management personnel. One senior officer, in a confidential submission, specifically highlighted inadequacies in the content of management courses:

"Managers are not trained to manage in today's environment. Ambulance officers expect to be able to complete some fairly basic supervisory courses at the Training Centre, and be ready to cope with managing Men and Money. This concept of management training can only lead to problems."

Mr Richard Tye, the training officer with Peninsula Ambulance Service, highlighted the limitations of management training in terms of insufficient time spent in training. In his submission, he stated that:

"The management training given to 'potential' superintendents is totally inadequate. For example, by November I will be qualified to apply for the position of superintendent of an ambulance (service) should a vacancy occur. My management training within ambulance services consists of three two-week courses."

The lack of development of management training until recently reflects to some extent the different management needs of Ambulance Services when they were much smaller and less complex. It seems that formal ambulance training has

failed to respond adequately and adapt to the changing needs of ambulance management. One senior officer indicated the magnitude of changes in Ambulance Services and the implications for management requirements:

"Historically an Ambulance Superintendent and his office girl Friday were able to accomplish most management and clerical administrative functions with the part-time aid of other under-utilised uniformed Ambulance Officers. Unfortunately the concept of modern management in ambulance still seems to be viewed in somewhat the same light. In reality personnel and finance sizes of even the smallest Services classify them as a medium sized business, and the larger Services have responsibility for the efficient control of quite extensive resources" (confidential submission).

The Committee noted with interest that the smallest of Victoria's Ambulance Services (excluding Alexandra) employs 30 full-time staff, whereas over 92 per cent of businesses in Australia employ between 1 and 9 persons and only 6.5 per cent of businesses employ between 10 and 100 people. Thus, Victoria's Ambulance Services are of considerable size in terms of the resources and staff to be managed, yet within these Services there is relatively little emphasis on management expertise.

The inadequacy of appropriate training or management development strategies has been more deleterious to the Services because of the general policy of recruiting management personnel from within Ambulance Services rather than from outside the Services - a policy which was widely supported by ambulance officers. Ms Sharon McWilliam, Office Manager with the Latrobe Valley District Ambulance Service, questioned this tendency of placing prime importance on ambulance experience at the expense of management expertise in the recruitment of management personnel :

"I believe that senior ambulance personnel have been appointed on an ad hoc basis with no real regard for managerial abilities. While I accept that a satisfactory career path should exist for ambulance officers, the present implication is that a good ambulance officer will make a good manager. This is not necessarily true" (submission).

A number of submissions expressed confidence that the recently developed management training courses for ambulance personnel - the Station Officer Course and recommended tertiary training for Deputy Superintendents, Assistant Superintendents and Superintendents - would remedy the present inadequacies with management personnel. Geelong and District Ambulance Service felt that the new management courses would provide a desirable combination of ambulance experience and management expertise in senior personnel:

"We are fully aware of the need for the Service to be led by people with a high level of management skill, and believe that the Service is best served if that skill is combined with a solid ambulance background. We recognise that such people are not easily found in ambulance services at present, although we are encouraged by the proposed new courses which, containing substantially more training in management and administrative subjects than senior courses of the past, will, we believe, overcome that difficulty" (submission).

The adequacy of the new proposed management training courses was questioned by one senior officer in a confidential submission. This officer strongly argued that:

"The kindest that could be said of the proposed senior management courses is that they are pedestrian, and attempt to bring management into the 1980s by 1990 when they should be looking ahead with objectivity and forethought....It would be totally delinquent of the Services not to insist on the introduction of fully professional, externally oriented and accredited courses for ambulance managers of the Superintendent and Deputy levels."

This senior officer suggested to the Committee that the proposed management training for ambulance officers reflects an implicit assumption that management skills can be learnt solely through theoretical course work. It has been argued that by studying off-campus or part-time, the ambulance officers have little, if any, contact with non-ambulance managers and thus miss out on an exchange of ideas which can be a valuable aspect of management training. Generally, it appears that little attention is given to developing management expertise through practical experience and other informal means.

It is widely accepted within the Ambulance Services that management needs have changed considerably over the last thirty years, and with them the attributes and skills required of ambulance managers. It is also widely accepted that the management skills available in Services have not kept up with these changes. The question then arises of how best to achieve the levels of management expertise now required.

The Committee believes that important advances in management development have been made recently with the establishment of job profiles and training requirements for senior positions. The Committee considers, however, that there is a need for greater recognition of the values of practical management experience and of informal management development opportunities as part of a total management

development programme. This includes exchanges and contact with non-ambulance management personnel as a means of developing general management skills. The tendency in the Services for little responsibility to be devolved upon officers at the rank of Senior Station Officer appears to the Committee to operate against the development of management skills in officers who are likely to be the Services' future senior managers. The Committee believes that occupants of the position of Senior Station Officer should be used within Services in ways which will encourage and foster their general management skills.

**Recommendation 7.17:** The Committee recommends:

- (i) that the Senior Courses Working Party be commended on their work in assessing the training needs of senior personnel and in nominating courses in management for these personnel;
- (ii) that recognition and support be given by Services to ambulance officers who undertake external management-oriented courses;
- (iii) that the nature and scope of the proposed management training be broadened to provide more opportunities for practical management experience and for interaction with managers from non-ambulance fields, through such measures as:
  - participation of senior officers in short intensive general management courses such as those conducted by the Australian Administrative Staff College or in short specialised courses in relevant fields of study; and
  - exchanges of senior personnel with management staff of the Victorian Ambulance Commission and with other organisations not necessarily related to ambulance work; and

- (iv) that more practical management experience be given to middle level ambulance personnel through the positions of Senior Station Officer and Station Officer and that these positions be given more real responsibility, especially in personnel management.

#### 7.3.4 Recruitment of Management Personnel

At present, ambulance officers are promoted to senior positions in a hierarchical manner. Positions are advertised within Services or statewide and applicants are interviewed. Promotion of officers is based on their formal ambulance qualifications; past performance as an ambulance officer, especially in positions of responsibility; previous education and suitability of the applicant to the ambulance station concerned.

Most submissions that addressed the issue of recruitment of management personnel agreed that the ideal situation is the recruitment of ambulance officers who have a high level of management expertise, not only from the point of view of knowledge of ambulance operations, but also in order to preserve the career structure in Ambulance Services. This view was expressed by Mid-Murray Ambulance Service:

"There is often considerable debate as to whether the Chief Executive Officer of an ambulance service should be a trained and experienced ambulance officer or a general business executive. In the main, the view is that these positions should be filled by suitably trained ambulance personnel and we agree with that view. It is most important that a recognised career and promotion structure be available within the service and further that an appreciation of the technical and operational aspects of the ambulance service is necessary in many of the management decisions that need to be made" (submission, p 30).

The need for ambulance experience and knowledge in management positions has been questioned in a number of submissions to the Committee. Mr Richard Tye from Peninsula Ambulance Service argued that senior management positions in Ambulance Services should be open to people with "appropriate and formal management training and experience" since "the further up the management 'tree' a person is, then the less industry-related experience is required". Ms Sharon

McWilliam from Latrobe Valley Ambulance Service generally supported this view, but pointed out that any ambulance knowledge that is necessary for an ambulance manager could be acquired:

"It is my belief that senior management positions ..... should be filled by a person, (male or female) with proven management skills. This would not preclude ambulance officers from the position but would ensure adequate management skills being brought to the position ... A suitable organisation structure would ensure that sufficient ambulance/operational input would be obtained by a manager who did not have an operations background" (submission).

This appears to have been the experience of Ambulance Service - Melbourne which presently employs three senior managers who have extensive management experience but who have little or no previous experience in Ambulance Services. The Committee noted that most ambulance personnel strongly resisted the employment of non-ambulance personnel to senior management positions.

The Ambulance Employees Association expressed the view that the newly developed management training for ambulance officers will make unnecessary the recruitment of management personnel from outside the Services. Mr Wayne Simmons stated:

"I believe we will get to the situation where we will not have to rely on people coming from outside the Service to bring the expertise required for senior positions into the Ambulance Service. There is a lot of frustration that has built up over a number of years over those problems. It is improving now with the number of people applying to do courses at Gippsland Institute and other Colleges of Advanced Education" (evidence, p 733).

While the Committee believes it is imperative that management development be conducted within Ambulance Services so that high quality ambulance managers are produced within the Services, the Committee does not believe it is necessary for all senior managers in the Services to have ambulance experience. The Committee believes that general management skills are not specific to particular industries: rather, basic management skills can be applied across many industries. As Mr John Perry, Superintendent of Wimmera District Ambulance Service, has stated, this general applicability of management expertise is not necessarily disadvantageous for ambulance personnel with management skills:

"It is now recognised that senior management training is quite portable, and that is an advantage to the individual and to all industries. The practical philosophy being that should a trained manager have to leave one industry those same qualifications are recognised in other industries. In senior management it is the basic principles which count and not so much the peripheral details" ("Senior Management", in AOTC Newsletter, July 1984).

The Committee considers it necessary to state that for all positions within the Ambulance Services, the best person available should be given the job. In management positions, the person with the skills most appropriate to the position should be appointed, whether or not they have an ambulance background. The basis of promotion and of selection should be merit for the vacant position, and seniority as such should have no part in the process. The development of job descriptions for all ambulance positions would facilitate this process of selecting suitable personnel for the duties required in Ambulance Services.

**Recommendation 7.18:** The Committee recommends that all promotion within Ambulance Service Victoria be solely on the basis of merit.

**Recommendation 7.19:** The Committee recommends that job descriptions for all positions within the Ambulance Services be developed, and used as an aid both in the selection of personnel to the positions and by the incumbents of the positions in performing their duties.

**Recommendation 7.20:** The Committee recommends:

- (i) that all future appointments to management positions at the level of Senior Station Officer and above have management skills commensurate with the requirements of the position; and

(ii) that in recruitment of staff for senior positions which are primarily managerial, consideration be given to both ambulance and non-ambulance personnel, and that selection be based primarily on the management expertise of the applicants.

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## 7.4 Occupational Health in Ambulance Services

### 7.4.1 Health and Stress

The nature of ambulance operations generates some particular health problems which appear to be experienced by many ambulance personnel. A range of factors, many of which are common to other emergency services, is recognised as being likely to have a detrimental effect on officers' health. These factors include:

- . shift work, "on-call" shifts, and in some cases long hours, which contribute to family tensions and poor eating habits;
- . distressing situations in the care of patients;
- . diversity of workload whereby periods of intense workload are interspersed with periods of light workload;
- . stressful emergency situations, especially in driving emergency vehicles;
- . periods of "down-time" when no ambulance transport is required and boredom can result; and
- . heavy lifting work.

A Seminar on Health and Stress in Ambulance Services held in Melbourne in 1983 identified a number of other stress-producing factors in Ambulance Services, including inter-personal communications problems, "lack of leadership and direction", and inadequately defined lines of decision-making and responsibilities ("Health and Stress in Ambulance Services").

The Committee has been told of the following major occupational health problems in Victoria's Ambulance Services:

- . common inadequacy of physical fitness;
- . common occurrence of back injuries, often serious;
- . high levels of mental stress; and
- . increased risk of exposure to hepatitis B and other contagious diseases.

The problem of maintaining physical fitness is of major concern to the Committee, particularly considering the effect this has on the likelihood of back injury and coronary conditions. The difficulty of maintaining the physical fitness of ambulance officers was discussed by Superintendent Doug Woodhouse of the East Gippsland Ambulance Service, in his evidence to the Committee:

"At one time it was the norm to see strong men in the community, numerous people, who were involved in the physical endeavour, who could pick up a bag of wheat, or whatever it was, and carry it off. Today we are much more desk bound, non-physical, non-active...ambulance officers suffer the same thing. They sit drinking coffee most of the day and/or driving their vehicles - in relation which to which I could not say how much - and then they get out and are expected to lift fifteen or sixteen stone in all sorts of complicated areas and not do themselves injury" (p 330).

A number of Services related stories of failed physical fitness programmes: the main reasons for failure were identified as lack of interest on the part of the ambulance officers, an absence of an adequate incentives, and roster constraints.

Two working parties have been established in Victoria to examine issues of occupational health in Ambulance Services. The Victorian Ambulance Services Association has sponsored the Health and Stress in Ambulance Services Working Party, which is conducting extensive research into the health and stress problems experienced by ambulance personnel. The Working Party aims to provide the information necessary for the implementation of improved health measures for ambulance personnel.

The Health Commission has established a working party to examine Infection Control in Ambulance Services. On the issue of infection control, Dr Frank Archer, Ambulance Services' Medical Officer, reported to the VASA 1983 Annual Conference and Meeting that there "appears...to be no standard procedures operating throughout Ambulance Services with respect to cleanliness and Infection Control". However, he also stated that "there is no evidence of a major problem of contamination, cross infection or health risk to ambulance personnel" (Minutes of 26th Annual Conference and Annual Meeting, 1983, p 32). The Ambulance Employees Association told the Committee that six ambulance officers had contracted hepatitis B, but the AEA did not perceive infection control as a major problem.

It appears that some of the health problems experienced within the Ambulance Services are the result of the nature of ambulance work. The Committee considers that there are some ways in which the effects of some aspects of ambulance work can be alleviated. Two of these will be discussed here.

The Committee believes that physical fitness is a fundamental factor in the maintenance of various kinds of physical health. The maintenance of physical fitness has flow-on effects for minimising the risks of back injury and coronary conditions. The Committee notes the difficulties that Services have experienced with physical fitness programmes, and believes that the problem needs to be addressed creatively by the Services. The Committee believes that in any efforts to develop effective means of maintaining fitness, ambulance staff at all levels the Ambulance Employees Association and the Ambulance Service Medical Officers should meet to canvas ideas.

**Recommendation 7.21:** The Committee recommends:

- (i) that commitment to physical fitness be considered when recruiting ambulance officers;
- (ii) that, in consultation with ambulance officers and each Ambulance Service Medical Officer, gymnasium equipment be provided at all Service headquarters and control district centres and that officers be instructed in the use of this equipment; and
- (iii) that Services actively and creatively give further consideration to, and implement, ways of maintaining physical fitness, such as:
  - . the determination of a base level of fitness (relative to the officer's age and other appropriate criteria) to be met by all ambulance officers in active duties;
  - . the determination of that base level of fitness to be publicised, promoted and used informally by officers to assess their level of fitness;

- . consideration of incentives for involvement in physical fitness programmes;
- . inclusion of physical fitness education in skills maintenance programmes within the Services;
- . the appointment of "Fitness Officers" whose duties for one shift per week would be to establish fitness programmes, educate and motivate officers to maintain their physical fitness and to organise sporting activities for the officers.

A second type of occupational health problem is that related to mental stress. There appears to be a myriad of factors contributing to stress in some officers, including the attendance of ambulance officers at emergency situations, shift-work and down-time. As these factors are inherent in ambulance work, it is apparent that stress produced by these factors cannot easily be avoided, although the Committee considers that Recommendation 7.23 on down-time should contribute to the alleviation of this problem. The Committee believes that personal counselling of officers offers a method of reducing the impact of stress-producing factors in the Services. Services are unlikely to need or to be able to afford a full-time counsellor, although some may be fortunate enough to have a staff member appropriately skilled for the job. Other Services may find it desirable to employ counselling services available through other organisations in the community.

**Recommendation 7.22:** The Committee recommends that personal counselling services be available to ambulance officers, perhaps by arrangement with a suitable community organisation involved in the provision of counselling.

#### 7.4.2 Down-time in Ambulance Services

By the nature of ambulance work, the workload of ambulance officers can vary considerably, so that there are periods of time when officers are not occupied with ambulance duties but are on stand-by for emergency transports. The utilisation of this time causes problems for some ambulance officers in that the range of activities available in an ambulance station is limited. Discussions with ambulance officers throughout Victoria revealed that down-time contributes to the boredom and frustration experienced by some officers. The 1983 seminar on Health and Stress in Ambulance Services also identified a light workload as a factor which contributed to stress in some ambulance officers ("Health and Stress in Ambulance Services").

The general inadequacy of in-service training appears to exacerbate the problems associated with the use of down-time. Mr N Mirtschin, an ambulance officer with South Western Victoria Ambulance Service, told the Committee:

"We have enough areas to utilise "down-time" with in-service training. If we are expected to treat patients with varying medical problems, our in-service training must be at a high level, and if we have any "down-time" it would benefit everyone if it were used to better train and qualify ambulance officers..." (evidence, p 147).

In-service training has been discussed in more detail earlier in this chapter.

Down-time in Ambulance Services appears to have implications for both the physical health problems and mental stress experienced by some officers. It was also an issue that was discussed frequently during the Committee's inquiry. The Committee heard a number of proposals for the effective use of down-time, although it notes the difficulty of actively using down-time and in maintaining a quick response to emergency calls at the same time.

While down-time exists in all Services, its frequency and duration vary according to the workload of different Services. For this reason, the uses of down-time will also vary, to some extent, from Service to Service as well as from station to station.

Down-time provides officers with time to be utilised. The issues of physical fitness and skills maintenance within Services were both raised with the Committee as aspects of Ambulance Services which required that more time be dedicated to them.

The Committee considers that the most valuable utilisation of down-time could be with skills maintenance and fitness activities. The Committee realises that in some Services these activities could not be arranged on a large, formal scale since few officers would be available at any one time. Even in these Services, the Committee considers that skills maintenance could be conducted on a small scale, informal basis with the skills maintenance officer, and individual officers could use gymnasium equipment.

The involvement of ambulance officers as health professionals, not solely to do heavy lifting work, in local hospitals was frequently discussed with the Committee. The Committee believes this suggestion to be of some value, but that its practical application would vary from Service to Service. Since the primary problem with officers utilising down-time away from their stations is their ability to respond quickly to emergency ambulance calls, the Committee believes that paging devices could be considered.

**Recommendation 7.23:** The Committee recommends:

- (i) that down-time be used more effectively and in a more structured way through skills maintenance and fitness activities in stations;
- (ii) that the possibility of the involvement of ambulance officers in local hospitals, either performing nursing-related duties or participating in training sessions with doctors, be explored, perhaps through the implementation of a number of pilot schemes in rural areas; and
- (iii) that consideration be given to the introduction of paging devices for ambulance officers, to facilitate use of down-time away from ambulance stations.

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## 7.5 Personnel Practices

Through discussions with ambulance personnel, the Committee learnt of a number of issues associated with employment conditions and personnel practices which are of particular concern to ambulance officers. These issues are examined in the section.

### 7.5.1 Retirement and Superannuation

The related issues of retirement and superannuation were raised with the Committee and discussed in detail by a number of ambulance personnel; the submissions reflected a general dissatisfaction with the present arrangements for both retirement and superannuation. Their concerns can be separated into two categories:

- . those problems which arise due to the specific character of ambulance operations, and
- . those problems which are inherent in the present superannuation arrangements available to ambulance personnel.

One specific characteristic of ambulance services which it is asserted affects personnel issues is the high incidence of injury and poor health among ambulance officers. The occupational health of ambulance personnel has been discussed in the previous Section, and its relation to retirement and superannuation will be discussed briefly here. In conjunction with the health problems experienced by many ambulance officers, some difficulties associated with the benefits available from the Hospitals Superannuation Fund lead some officers to remain in active service even when they are too unwell or unfit to do so. In his appearance before the Committee, Mr Wayne Simmons, General Secretary of the Ambulance Employees Association explained this problem:

"..... if we went through every employee in the ambulance service we would probably find that 15 per cent are there just because there is no option - they are being side slotted and carried by their workmates on the job because they are not physically fit to do the job. This puts a strain on other members and they end up suffering too" (evidence, p 749).

The present retirement age for ambulance officers in Victoria is 65, with optional retirement at 60. An examination of statistics on the age of operational ambulance personnel indicates that June 1982, only 0.6 per cent of operational ambulance staff (excluding Clinic Transport Officers) in Victoria were between 60 and 64 years of age (Mid-Murray District Ambulance Service, submission, Appendix A). These figures may reflect the growth in Victoria's Ambulance Services in that thirty years ago there were less men employed as ambulance officers than now, so that those officers who are now in their fifties or sixties form a small proportion of total ambulance staff. None the less, it appears that a considerable number of ambulance officers suffer some kind of health problem which is likely to affect their ability to perform ambulance duties, especially as the officer grows older. In informal talks with the Committee, several younger ambulance officers suggested that some ambulance officers consider operational ambulance work to have a limited duration. These officers suggested that it is not uncommon for ambulance officers to leave the Services to pursue other careers later in life.

Considering the alleged difficulty for older officers in performing road duties, coupled with the limited number of management positions and positions which do not involve such duties, it is apparent why there is such strong support within the Ambulance Services for a reduction in the retirement age. Ambulance personnel pointed out that other emergency services, such as the Police Force and Fire Brigades, not only have more opportunities for non-operational duties, but provide for retirement of personnel from the age of 55 or after thirty years of Service. In New South Wales, ambulance officers have the option of retirement at 55, with reduced benefits.

The Committee considers that the nature of ambulance work is such that considerable demands - both mental and physical - are placed on the ambulance officer, and that therefore a reduction in the retirement age for ambulance officers is justified.

**Recommendation 7.24:** The Committee recommends that the retirement age for ambulance officers in active duties be lowered to 60 years of age, with optional retirement at 55 years of age or after 30 years service, with appropriately adjusted superannuation benefits.

The superannuation scheme which covers ambulance personnel is the Hospitals Superannuation Fund. Membership of the Fund is not compulsory, and less than 40 per cent of eligible ambulance personnel are members (AEA, submission, p 36). The rate of contribution by members of the fund is 6 per cent of the base salary which is matched by the employer and covers both lump sum and pension benefits.

On retirement, the lump sum paid is calculated at 1/10th of the member's salary for each year of membership, with a maximum payment of three times the average of the member's adjusted final salary. The adjusted salary is calculated by averaging the annual salary paid to an officer for the last three years of service. The payment of a pension is at the rate of 1/120th of the member's salary for each year of membership minus tax. The maximum payment of both a lump sum and a pension is reached at 65 years of age, after 30 years membership of the Fund. The Fund also covers employees for disability where the contributor is "unable to perform his duties to his employer", and the same benefits apply as for retirement.

The Committee heard a number of severe criticisms of the Hospitals Superannuation Fund, relating both to benefits and to the role of the Superannuation Board in administering the scheme.

It was asserted that only a small proportion of ambulance personnel reach the retiring age of 65, and that therefore many ambulance officers are severely disadvantaged by the Fund's conditions which state that full pension and lump sum benefits are only payable at 65 years of age after 30 years of service, or more accurately, after 30 years of membership of the Fund. Another implication of this condition is that even after 30 years of service, a contributor will not be paid the full retirement benefit until he reaches the age of 65 (or 60 for women).

The poor return on contributions which a member of the fund receives on leaving the health industry is another aspect of the superannuation scheme which has been suggested as being highly unsatisfactory. In evidence given at a public hearing, Mr Geoff Coffey, the Assistant General Secretary of the Ambulance Employees Association, explained the entitlements of members who withdraw from the Fund:

"If a contributor leaves the industry - I stress that it is the industry, not an employer - at this stage the contributor, regardless of length of service, gets his contributions plus a percentage of interest back.

That lump sum is reduced by an administrative fee that is removed from it. It seems purely by co-incidence that in the past few years the administrative fee has almost matched the interest rate" (evidence, p 745).

The conditions of payment for disability also received considerable criticism in submissions which addressed the issue of superannuation. It was asserted that when an ambulance officer retires on the grounds of disability, "the rules of the Hospitals Superannuation Fund make it almost impossible for them to receive an adequate entitlement until at least age 60" (Mid-Murray District Ambulance Service, submission, p 64). This criticism refers to the disability entitlement which allows for a lump sum equal to 1/10 of adjusted final salary for each complete year of membership to age 65, and for a pension equal to 1/120 of adjusted final salary for each complete year of membership to age 65. The implication of these entitlements is that an officer who has not had a long employment in the Ambulance Services or health care field will receive a benefit which is commensurate with his/her length of service and contributions, but which may not provide adequate financial support, especially if the officer has dependents.

Another problem with disability payments which was raised was that the Hospitals Superannuation Fund does not allow for degrees of disability. The payment of disability benefits on the Board's assessment of the ability of the claimant to undertake either part-time or full-time employment. According to the AEA, this condition means that "though a claim may be admitted, the member is not guaranteed of receiving the benefit, as in the opinion of the Board he may be capable of working part-time as a gardener at a hospital for instance" (AEA submission, p 39). The AEA also related the case of an ambulance officer whose experience with the Superannuation Fund illustrates the kind of criticisms which have been made about disability payments:

"Mr...has suffered serious coronary problems in recent years and has been terminated by his employer as he is unable to perform his duties. He has undergone artery bypass surgery at the age of 43 and his prognosis is poor to say the least. After consideration of his circumstances the Board has determined a fortnightly pension of \$192.00 with a portion of his lump sum to be made available to him to cover the next two years. This amount being only \$11,914.19¢. At the completion of the two years the Board will decide whether Mr...is still incapacitated or disabled and if this is the case, then allow him the option of taking the balance of his lump sum" (AEA submission, p 40).

Other problems with disability payments, of which the Committee has been told, include long delays in payment, and the requirement that an employee have his or her employment terminated before making a claim for disability to the Board.

The considerable discretionary powers of the Superannuation Board in determining how and when payments will be made once a claim has been admitted is of concern to many ambulance personnel. Again, an example in the AEA's submission of a disabled ambulance officer illustrates these powers:

"An example of this is Mr...who, in 1980, suffered a cerebral vascular accident (stroke) resulting in right-sided hemiplegia. After some months, the Board accepted a claim for disability and in July 1981 determined a benefit of \$40,918.24¢ and drew his attention to the fact that the Board used their discretionary powers in deciding not to pay the lump sum in one amount.

"Subsequent conversations between the Association and the Hospital Superannuation Fund revealed that the reason for non-payment of the lump sum was based on the belief that Mr ... would be unable to look after his own interests due to his illness. The Board failed to take into consideration that Mr...was married and his wife was in perfect health" (pp 39-40).

During 1984, public sector Superannuation Funds in Victoria were being reviewed by another Victorian Parliamentary Committee, the Economic and Budget Review Committee, and the Hospitals Superannuation Fund was within its terms of reference. For this reason, the Public Bodies Review Committee has not considered it appropriate that it examine in detail the criticisms of the Hospitals Superannuation Fund. On the evidence received in the course of this Inquiry on the benefits of the Fund as they affect ambulance personnel, the Committee considers that there is a prima facie case for the re-negotiation of superannuation benefits for ambulance officers.

While the recommendations of the Economic and Budget Review Committee on the future structure of Victorian public sector Superannuation Funds do not specifically refer to the benefits available through the Hospitals Superannuation Fund, a number of recommendations are made which have significant implications for ambulance personnel as public sector employees. The establishment of a new Superannuation Scheme for all public sector employees and of specific provisions for early retirement from age 55 are particularly relevant. The Committee considers that it

must be a high priority task for the Victorian Ambulance Commission to evaluate the implications for ambulance personnel of the proposed new Superannuation Scheme arrangements, and if necessary to negotiate changes for the benefit of ambulance personnel.

**Recommendation 7.25:** The Committee recommends that the Victorian Ambulance Commission:

- (i) review the new superannuation scheme proposed by the Economic and Budget Review Committee to assess its suitability for the work patterns of ambulance personnel and if necessary negotiate for greater flexibility; and
- (ii) ensure that the benefits for all present officers, particularly those with long records of service, are protected in any change in superannuation arrangements.

### 7.5.2 Sick Leave

In submissions and evidence received by the Committee, sick leave was raised as an issue of concern. The central problem identified was the significant number of senior officers on extended sick leave. The Committee notes with concern that there is a tendency amongst some ambulance personnel to treat accumulated sick leave as an entitlement when nearing retirement. In addition the incidence of extended sick leave is influenced by the inadequacy of superannuation benefits available to ambulance officers. Mr Wayne Simmons argued that:

"...if the superannuation fund offered the benefits that it should, many more people would opt to leave the industry. Obviously, the entitlement of accumulated sick leave is available and if a person is sick, he has every right to use that sick leave. However, I also believe that many people would choose a different option if it were available" (evidence, p 748).

In particular, the fact that full superannuation benefits are not available to ambulance personnel until the age of 65 after 30 years of service, and that disability

payments are generally perceived to be inadequate, are likely to encourage ambulance officers suffering some illness or injury to remain on extended sick leave rather than retiring.

It was also suggested to the Committee that the extended sick leave taken by some officers is not medically justified. Mr Tom Boyd, Acting Superintendent of Peninsula Ambulance Service, explained this practice:

"We are dealing with people who have 20, 25 or 30 years service and who have an accumulation of three years of sick leave. If they retire, that is left behind. Senior people.... are reluctant to go out and leave those sick leave credits so they go to their family doctor and obtain medical certificates" (evidence, p 461).

The considerable number of senior officers on extended sick leave is both costly to the Ambulance Services and prevents the appointment of other officers to the vacant position in anything other than an acting capacity.

The Committee believes that the incidence of extended sick leave should be reduced with a re-negotiation of the superannuation benefits for ambulance personnel, and with the reduction in the retirement age in Ambulance Services. In the long term, more effective maintenance of physical and mental health in the Ambulance Services may alleviate this problem to some extent.

### 7.5.3 Salary Structure and Calculation

The Committee heard, and was concerned by, suggestions that the relative salaries of ambulance officers of different ranks do not accurately reflect the different responsibilities of each rank. In particular, it was suggested that the position of Senior Station Officer was not adequately remunerated for the responsibilities involved in the position, and that there is consequently limited incentive to assume such responsibilities.

On examining the Ambulance Services Award and the Senior Administrative Officers Award, the Committee noted the significant "jump" in wage rates between the ranks of Senior Station Officer and Assistant Superintendent. A calculation of weekly wage rates as a percentage of the Superintendent wage rate based on 1984 awards revealed the following data:

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Service Size (No. of Personnel)	Superintendent	Deputy Superintendent	Assistant Superintendent	Senior Station Officer
0-14	\$623.90(100%)	-	\$504.80(80.9%)	\$363.10(58.2%)
25-34	\$705.00(100%)	\$535.70( 76%)	\$504.80(71.6%)	\$363.10(51.5%)
75-99	\$843.30(100%)	\$641.60(76.1%)	\$599.00(71%)	\$363.10(43.1%)
200+	\$929.70(100%)	\$705.00(75.8%)	\$616-\$659(66-71%)	\$363.10(39%)

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The wage rates of all ambulance personnel are shown in Appendix Five.

In addition to the base wage rate, Senior Station Officers receive a weekly payment through the State Incremental Payment Scheme and are also entitled to penalty payments for weekend and night shifts. This additional income would reduce the difference in salaries between Senior Station Officers and Assistant Superintendents, although Senior Station Officers do not usually work weekend or night shifts.

It was suggested to the Committee that the relative roles and responsibilities of the positions of Senior Station Officer and Assistant Superintendent are not greatly different, and that Senior Station Officers relieve in the position of Assistant Superintendent when the latter is on leave.

At the rank of Senior Station Officer and below, the relative differences in award wage rates are not great. Since Senior Station Officers usually work minimal night and weekend shifts for which penalty rates are payable, it appears to be quite likely that some officers at a lower rank than Senior Station Officer may earn more than a Senior Station Officer. It was, however, also pointed out to the Committee that the Senior Station Officers who earn less than some officers of lower rank are likely to be those who prefer not to work at nights and weekends.

The Committee recognises that the issue of salary structure is complex. The complexity is the result of factors such as the provision of 24 hour ambulance services throughout Victoria and thus the payment of penalties, special awards and overtime to ambulance personnel. The Committee is also aware of the considerable industrial relations implications of such an issue. However, on the evidence available to the Committee, it appears that there may be an inappropriate difference between the salary levels of Senior Station Officers and those of other officers. The Committee considers that the salary levels of all ambulance personnel should accurately reflect the responsibilities of their duties.

**Recommendation 7.26:** The Committee recommends that the Victorian Ambulance Commission, in consultation with ambulance employee organisations, examine the salary structure for ambulance personnel, and if necessary re-negotiate the awards, observing the following principles:

- . that the differences between ranks and responsibilities be accurately reflected in the awards;
- . that the large difference between the salary levels of Station Officers and Senior Station Officers and the salary levels of the ranks of Assistant Superintendent and above be examined; and
- . that the difference in salaries between Senior Station Officers and ambulance officers of lower ranks reflect the greater responsibility of Senior Station Officers, and provide incentive for assuming the increased responsibilities of these positions.

In relation to the payment of superannuation, long service and sick leave benefits, the existence of an anomaly in the calculation of salaries between country and metropolitan ambulance officers was raised with the Committee.

In 1968, a system of calculating wages using an average penalty payment was introduced by Ambulance Service - Melbourne. Rather than calculating each

officer's wage according to their worked shifts, the "rolled up" rate of pay gives every officer an average penalty payment regardless of the actual shifts worked. The advantages of this system lie in the simplification of salary calculation and in the greater regularity of weekly incomes for the ambulance officers.

In the calculation of annual leave payments, penalties are taken into account: Ambulance Service - Melbourne staff receive their base wage plus their average penalty payment, while staff of other Services receive their base wage plus their projected penalty earnings - that is, the amount they would have earned had they not been on leave. In the calculation of sick leave and long service leave, only the base wage is paid to officers. However, Ambulance Service - Melbourne's base rate of pay includes the average penalty component of \$74 for each officer under the Ambulance Services Award.

The effect of this practice is that officers from Ambulance Service - Melbourne receive greater superannuation and long service leave benefits than their fellow ambulance officers. North Eastern Victoria District Ambulance Service calculated that for 13 weeks long service leave, an officer employed at Ambulance Service - Melbourne would receive \$962.00 more than other Victorian officers (submission, p 20). A number of ambulance officers from country Services expressed their dissatisfaction with the differential method of payment of wages of Ambulance Service - Melbourne and other Services.

It was suggested to the Committee by an officer of the Ambulance Employees Association that the decision of one Service to pay their ambulance officers by the "rolled-up" method for calculation of penalty payments is a legitimate management decision, as is the decision by other Services not to use this method of salary calculation. A similar issue arises with the payment of officers for "crib time" when the Ambulance Service management directs an employee where and when to take a meal break. This enables Ambulance Services to maximise efficiency of ambulance transport by directing, for example, that an ambulance crew take a meal break at a hospital rather than returning to the ambulance station. Some Services pay this money to officers every week, to enable the Service to direct officers to take meal breaks. Other Services only pay the officers when a "crib" period is taken. Officers who are not paid "crib" money for every shift believe they should be paid, but again this is a management decision of the individual Services.

The Committee has also been told that there would be practical difficulties in introducing a "rolled-up" rate of pay into non-metropolitan Services, where it is usually the case that within a single Service one station will be crewed 24 hours a day while other stations will be on-call at night. The penalty payments for on-call shifts are such that officers are paid an on-call allowance until they are actually called out, in which case they are paid a double-time penalty rate. It has been suggested that these aspects of country operations would complicate the introduction of a "rolled-up" penalty payment in non-metropolitan Services.

The Committee was also told of a test conducted by ambulance officers from Bendigo, which compared the average weekly incomes of officers from Ambulance Service - Melbourne and non-metropolitan Services. The average weekly incomes were calculated from the annual incomes of the officers and an allowance was made for the payment of long service leave every fifteen years. The results of this exercise indicated that country officers averaged higher weekly wages than did Ambulance Service - Melbourne officers. This would appear to be because Ambulance Service - Melbourne officers receive an average weekly penalty sum of \$74 regardless of whether their actual work entitles them to more or less than this. In contrast, country ambulance officers tend to work more frequently on weekends and night shifts, and so they can accrue higher payments.

The Committee considers that, while ambulance officers on a non-"rolled-up" rate of pay may favour a greater lump sum payment for sick leave and long service leave over higher average wages, the role of the separate Services in determining their preferred system of salary payment and the practical difficulties in introducing a "rolled-up" rate of pay into country Services, favours retention of the present systems of payment.

#### 7.5.4 Grievances and Appeals

The mechanisms for the hearing of grievances and appeals within Ambulance Services were raised with the Committee by ambulance officers on a number of occasions. During the Committee's visits to Ambulance Services, some officers raised the issue generally in terms of the need for an ambulance board or tribunal to which the officers could take general grievances. The Committee was also approached with specific grievances by a small number of ambulance personnel,

reflecting the absence of a body within Ambulance Services to hear grievances such as those relating to transfers between Services, selection for internal training programmes, or treatment of staff by the Services.

Within the ambulance industry there exists an Appeals Board which hears appeals against promotions, terminations and formal disciplinary actions. The Board is now comprised of three members: a Chairman, who is an independent person with extensive conciliation and arbitration experience, a representative of the Ambulance Employees Association, and a representative of the employers who is nominated by the Victorian Ambulance Services Association. The Victorian Employers' Federation provides administrative support for the Board. The services of the Board are available to ambulance officers covered by the Ambulance Services Award, although not to clerical staff who come under the Award. The Victorian Ambulance Administrative Officers Association, whose members are covered by the Superintendents and Senior Administrative Officers Award, is not involved in the appeals agreement or with the Appeals Board. The 1975 Ambulance Agreement provisions on promotion and discipline appeals procedures provide that no appeals may be made against promotion to the rank of Deputy Superintendent or above. That the Appeals Board covers officers under one award but not under the other means there is also no provision for a Senior Station Officer to appeal against a promotion to the rank of Assistant Superintendent.

The Committee believes there is justification for not allowing appeals against promotion to senior management positions. The appointment of senior personnel is by other senior managers who have to work with the new appointee, and whose judgement in the selection of senior staff is therefore important. The Committee thus considers that promotions to the rank of District Superintendent, Deputy Superintendent and Regional Superintendent in the new organisational structure should be exempt from appeals.

The Committee is concerned by other aspects of the operation of the Appeals Board. During its inquiry, the Committee heard that some officers experienced difficulties in transferring from one Service to another, allegedly because of personal grudges against them by more senior personnel or others. The Committee also received one submission relating to a grievance from a former clerical employee in an Ambulance Service and is concerned that there is no provision for clerical staff to lodge appeals

with the Appeals Board. Appeals against promotions can only be made by officers within the Service in which the vacant position exists, so that officers who apply for a position in another Service cannot appeal if their application is unsuccessful. The Committee believes there is no justification for this practice.

Another aspect of the Appeals Board which the Committee believes should be reviewed is that appeals can only be made against promotion to permanent positions. Considering the incidence of long-term acting appointments within the Ambulance Services at present, and the valuable experience that an acting position provides, the Committee believes there should be some provision for appeal against long-term acting positions.

The Committee believes that the view expressed by a number of ambulance officers regarding the need for a board or tribunal to hear general grievances, reflects in part the absence of an effective State policy-making body for Ambulance Services, and the consequent inconsistencies in employment practices, the general unresponsiveness of ambulance advisory committees within the Health Commission, and the poor quality of communications within some Services. Some improvement in the ability of ambulance officers to have their views and concerns heard by ambulance management may occur with the establishment of the Victorian Ambulance Commission and its committees, and with improvements in communications within Services, although the Committee considers that some categories of grievances will always require resolution through a grievances and appeals board.

**Recommendation 7.27:** The Committee recommends that the composition of the Appeals Board be:

- . an independent person with extensive conciliation and arbitration experience as Chairman;
- . a representative of the Ambulance Employees Association; and
- . a representative of the employers nominated by the Victorian Ambulance Commission.

**Recommendation 7.28:** The Committee recommends that the Ambulance Services Agreement in respect of promotion and termination, and the jurisdiction of the Appeals Board, be widened to include:

- (i) all grievances against Victoria's Ambulance Services including the Ambulance Officers' Training Centre;
- (ii) all grievances made by clerical and administrative staff of Ambulance Services;
- (iii) appeals against promotions to acting positions of more than six months duration; and
- (iv) appeals against promotions up to and including the rank of Assistant Superintendent.

**Recommendation 7.29:** The Committee recommends that the Ambulance Services Agreement relating to promotion and termination be re-negotiated with the Victorian Ambulance Administrative Officers Association, with an aim to giving the Association representation on the Appeals Board when appropriate.

**Recommendation 7.30:** The Committee recommends that when appeals against promotions are permitted, they be open to ambulance officers regardless of whether or not they are employed in the Service in which the vacant position exists.

#### 7.5.5 Staff Morale

In discussions with ambulance officers around the State, the Committee noted that a considerable number of officers were frustrated and concerned by certain aspects of the Ambulance Services. Ambulance officers told of the difficulties in attending an

emergency case as the sole member of an ambulance crew and spoke of the frustration of treating patients whose chances of survival would be increased if the ambulance officers were permitted to perform ALS techniques. The Committee spoke with officers who had made numerous suggestions to Health Commission of Victoria advisory committees and to the management staff of their own Services but had not received responses, so that the officers were no longer motivated to make such suggestions for change.

The range of factors which appears to contribute to the low morale of some ambulance officers is quite extensive. The following are some of the aspects of Ambulance Services which the Committee discerned as affecting staff morale:

- . Advanced Life Support skills not yet introduced;
- . one-officer crews in some branch stations;
- . lack of available funds for ambulance resources;
- . inadequate communication with and responsiveness of, the Health Commission of Victoria;
- . inadequate communication within Ambulance Services;
- . infrequent in-service training;
- . inappropriate use of ambulance transport, so that ambulance officers feel like "taxi drivers";
- . boredom during "down-time";
- . risk of illness or injury; and
- . poor superannuation benefits.

Most of these aspects of Ambulance Services should be improved by a number of the recommendations of the Committee in the areas of organisational structure, operations, financial management, objectives and personnel. One aspect of Ambulance Services which the Committee believes to be of great importance is the personal communications between ambulance personnel and particularly between management and other staff. The Committee considers that much of the discontent with various aspects of the Services could be minimised with more effective communications within Services. The Committee wishes to emphasise that this communication should be two-way: management personnel should regularly inform

staff of relevant matters and all personnel should be given the opportunity to express their views.

**Recommendation 7.31:** The Committee recommends:

- (i) that efforts be made by the Victorian Ambulance Commission and the separate Services to improve communications between management and other personnel, by such means as:
- the establishment of a regular and frequent newsletter from the Victorian Ambulance Commission to all staff;
  - the establishment of a newsletter from the Regional Superintendent and the Committee of Management of each Service to all staff in that Service;
  - the availability of the minutes of all Management and Advisory Committee meetings to all senior staff, and to all staff except when this would clearly be inappropriate;
  - the entitlement of all ambulance personnel to be notified of and to attend District Ambulance Committee or Service Committee of Management meetings as observers, or to speak to any proposals before the meeting except when this would clearly be inappropriate or impractical; and
  - the introduction of all new recruits to members of the Service's Committee of Management or District Ambulance Committee; and
- (ii) that the particular importance of good communications at all levels of a Service as large as the Metropolitan Ambulance Service be noted and acted upon by the Committee of Management of that Service.

## CHAPTER EIGHT : AMBULANCE OPERATIONS

Although the Committee considers that Victoria has been well served by Ambulance Services in their provision of emergency medical assistance and transport, much evidence and many submissions indicated serious concern about matters relating to the actual operations of the Services on a day-to-day basis, including some matters concerning patient care. Several of the operational matters which present Ambulance Services and associated organisations with difficulties are manifestations of problems discussed in the earlier chapters of this Report. Inadequately defined objectives, or inappropriate structural and financial arrangements and issues relating to the recruitment, training, retirement and health of ambulance personnel all have obvious implications for the operations of Ambulance Services, and the Committee considers that the recommendations made in earlier Chapters will, when implemented, have a substantial positive impact on many aspects of ambulance operations.

This chapter describes a number of operational difficulties or shortcomings expressed by witnesses and in submissions, and it contains the Committee's recommendations on how they may be overcome. The following issues are addressed:

- . the use of ambulance transport, the criteria for patient selection and authorisation procedures (Section 8.1);
- . ambulance officers' skills and vehicle crewing levels, the role and location of Mobile Intensive Care Ambulances, and the legal position of ambulance officers (Section 8.2);
- . ambulance vehicles and equipment, including communications equipment (Section 8.3);
- . ambulance response and control operations (Section 8.4);
- . the relationships between Ambulance Services and Medical Services, and between Ambulance Services and other emergency services (Section 8.5); and
- . air and helicopter ambulance services (Section 8.6).

## 8.1 Use of Ambulance Transport

### 8.1.1 Authorisation of Transport

No formal authorisation is required by Ambulance Services for emergency transports: all Services respond to emergency requests with only essential information such as name, location, and an indication of the nature of the problem being sought from the caller. The Committee endorses this approach, and considers rapid and almost unquestioning response to requests for urgent attention to be fundamental to ambulance services. However, all Services require that non-emergency transport by ambulance be authorised by a doctor or a hospital. While the use of ambulances for transport to hospital or to clinic appointments is often justified on the basis of the condition of the patient, a number of ambulance personnel and others associated with ambulance work commented that people who have no medical need are often transported by ambulance. The Committee was told of individuals travelling from non-metropolitan centres to Melbourne for medical appointments and going shopping before returning to their home by ambulance, of people travelling long distances by ambulance in order to have new teeth fitted, and of cases where individuals are transported to hospitals or clinics for blood tests or plaster checks. Clearly, other means of transport could often be used in such cases.

The Committee heard that ambulance vehicles "are misused as taxi services in areas where public transport is inadequate" (Dr Andrew Bacon, evidence, p 373). This tendency was highlighted by representatives of the Casterton Memorial Hospital who gave evidence to the Committee. Mrs J Ross, Director of Nursing at the Hospital, said that the lack of public transport meant that in:

"a town such as Casterton (there are) many elderly people who have to be transported to senior citizens clubs and the day centre...the only transport available is the ambulance service" (evidence, p 159).

Dr A Floyd, a member of the Casterton Memorial Hospital Committee of Management, justified the use of ambulances for such transports:

"in the big cities ambulances take people to and from day hospitals and centres and they are used for what might be called a taxi service but which is related to medical problems. Casterton may be a very long way away but I feel that everybody is entitled to the same services and privileges as other people get" (evidence, pp 161-162).

The Committee noted that ambulance officers in particular were concerned about inappropriate use of ambulance transport. Many remarked that they had not undertaken a three year course of study and training in order to be what they described as "taxi-drivers". Given that almost 560 000 non-emergency transports are undertaken each year, the cost implications of unnecessary use of the service are significant, particularly for country Ambulance Services where journeys to Melbourne occupy officers and vehicles for lengthy periods.

One reason for the apparent inappropriate use of ambulance transport is that individuals who belong to the Ambulance Subscription Scheme often have the expectation that an ambulance will be supplied whenever they want one, regardless of the degree of their medical need. Dr R Bade, from the Edenhope and District Memorial Hospital, described the dilemma of many doctors when he commented:

"The doctor is under pressure from the patient to give permission to use the ambulance. People telephone me and say that they have to see a doctor in Mt Gambier and that they have nobody to take them, and ask me whether they can use an ambulance" (evidence, p 136).

The Geelong and District Ambulance Service noted in their submission to the Committee that "we are rarely asked to provide unnecessary transport for a patient who must pay for the service" (submission, p 4). When giving evidence before the Committee, Superintendent Dennis Wilson of the Geelong and District Ambulance Service said (p 570):

"It has become not a question of the user pays but rather that the payer uses".

These sentiments were expressed by many other Ambulance Service personnel. The Committee notes that publicity materials for the Ambulance Subscription Scheme do not emphasise that subscribers are entitled to free ambulance transport only in emergencies or in circumstances when it is medically necessary, and the Committee has made a recommendation on revisions to Subscription Scheme publicity materials to rectify this omission (Recommendation 6.3).

The existing policy on the use of Ambulance Service transport is set out in Health Commission of Victoria Circular No 46/1983 of 1 August 1983. It includes the following guidelines on the assessment of non-urgent patients:

"The patient's doctor is best able to assess the need for ambulance attention; however, the Ambulance Service concerned will determine whether the request/authorisation can be met. The following criteria are set out in order of priority.

"Medical need: Requests should be limited to patients going to or from treatment centres and made only when the patient will need, or is reasonably likely to need, the special facilities of the vehicle and/or the skill of the crew during the course of the journey.

"That criterion should be met irrespective of the type of vehicle to be used, viz; ambulance, station sedan, or whether or not the patient is entitled to free service.

"Medico/social need: Ambulance Services may provide transport to or from treatment centres for patients who do not meet the above criterion provided the treatment is essential and there is no other practicable means of transport available.

"Health system need: In order that maximum use may be made of institutional facilities, ambulance services may be used to move patients not ordinarily requiring such transport, either to other institutions or home on leave, provided adequate ambulance resources are available".

The Committee is of the view that patients who are assessed as suitable for ambulance transport in accordance with their "medico/social need" or who are transported because of a "health system need" are not always in need of the high quality and well-equipped service provided and it is in this area that changes to the criteria are proposed.

The use of ambulance transport in non-emergency situations must be contained, as it is simply too expensive to use ambulance vehicles and crew to transport individuals whose medical condition does not require such transport. It has been noted in Chapter Two that a trip by ambulance from Hall's Gap to Melbourne costs \$850, and one small psychiatric hospital in a provincial city complained to the Committee that a two kilometre transfer of one of its patients to the nearby general hospital cost \$104. The implications of allowing the existing situation to continue, both for the costs of maintaining Ambulance Services in the future and for the reliability and response of ambulances in circumstances when they are necessary, are serious. The Committee's recommendation on the objectives for Ambulance Services makes it clear that their role should be limited to handling cases where the specialised vehicles or skills of the ambulance crew are required.

An important factor influencing the extent of inappropriate use of ambulance transport is that doctors, who are responsible for authorising its use, are not always aware of the eligibility criteria, or of the costs of ambulance transport to Ambulance Services and to the community. The Committee considers that neither the guidelines nor the costs of transport are sufficiently well-known among doctors. It is therefore more difficult for a doctor to refuse to authorise ambulance transport for an insistent patient. Further, there are no formal review mechanisms in place to enable Ambulance Services to highlight instances of inappropriate use, and to raise the matter with the relevant doctor or hospital. Ambulance officers of all ranks are very aware of their limited right to query a decision by a doctor, and are reluctant to interfere in a doctor's assessment of a patient's need. Some Services reported to the Committee that medical practitioners who were also members of the Committee of Management sometimes raised problems of inappropriate use with local doctors, and that this was often successful in minimising inappropriate use.

The Committee considered the criteria which have applied to ambulance transport in New South Wales since 1 November 1983. The Ambulance Transport Guidelines state that in New South Wales (p 2):

"to be eligible for non-emergency ambulance transport, the patient will be medically unsuitable for public or private transport, and will normally:

1. require stretcher transport; or
2. require active management or monitoring in transit; or
3. be a patient whose condition would cause the patient to be either gravely embarrassed or unacceptable to other people in public transport eg. incontinence of bladder or bowel, gross deformity or disfigurement".

The Committee considers that these criteria are consistent with the objective recommended for Victoria's Ambulance Services contained in Recommendation 4.1. It does, however, consider them to be a little more restrictive than is necessary, and so it is recommending slightly less strict standards.

**Recommendation 8.1:** The Committee recommends that Ambulance Services continue to respond to all calls for emergency assistance without requiring any formal authorisation.

**Recommendation 8.2:** The Committee recommends that at least one of the following criteria be satisfied for non-emergency ambulance transport to be authorised:

- (i) the patient will need, or is reasonably likely to need, the special facilities of an ambulance vehicle or the specialised skills of the ambulance crew during the journey; or
- (ii) the patient's condition is such that use of alternative means of transport would:
  - . cause the patient significant embarrassment or considerable discomfort; or
  - . be unacceptable to drivers or other passengers.

**Recommendation 8.3:** The Committee recommends:

- (i) that the Victorian Ambulance Commission publish and distribute widely the criteria for ambulance transport as described in Recommendation 8.2, with an explanation of the meaning of these criteria based on the discussion in Section 8.1 of this Report;
- (ii) that these criteria and explanatory notes be reviewed regularly to ensure that they make clear those categories of cases where ambulance transport is appropriate; and
- (iii) that the criteria be distributed widely to doctors and hospitals, together with quantities of the standard authorisation form.

Although some Ambulance Services require that non-emergency transports be authorised on a form, most Services accept bookings when the patient's doctor indicates that an ambulance will be necessary, without requiring any formal authorisation. The Committee believes that there are advantages in requiring ambulance transport to be authorised on a standard form to allow the doctor to indicate which criteria the patient satisfies. The general use of such a form would ensure that doctors assess the requirement of particular patients against the criteria every time ambulance transport was required or requested by the patient. Such a form could also assist doctors and hospitals in explaining why ambulance transport was not appropriate to insistent patients. The Committee has recommended (Recommendation 6.3) that information on the entitlements of subscribers be revised to more clearly reflect the condition that free ambulance transport is available only in cases where it is medically necessary. The introduction of a standard authorisation form, the wide distribution of the criteria, and the revision of Subscriber Scheme publicity materials will encourage the public to have more accurate and realistic expectations of the Ambulance Service than appears to be the case at present.

**Recommendation 8.4:** The Committee recommends:

- (i) that formal authorisation by a doctor or by a hospital be required, stating that the patient satisfies at least one of the criteria for ambulance transport in all non-emergency cases;
- (ii) that a standard authorisation form be developed and introduced;  
and
- (iii) that doctors or hospitals provide Ambulance Services with authorisations either at the time of booking an ambulance or, if this is not feasible, when the patient is collected.

Another factor which the Committee believes has contributed to the ineffectiveness of the existing guidelines on ambulance transport is the lack of any review mechanisms to follow-up and investigate cases of possibly inappropriate

authorisation. Although many Services commented that such cases were often discussed with the relevant doctor, the limited right of ambulance personnel to query a doctor's assessment of a patient's need was often cited as the reason why many possible instances of inappropriate use were not raised with doctors. A review process exists in New South Wales, and the Committee was told that it has only been necessary to use it rarely. It is expected that this would also be so in Victoria, but it is considered that the existence of such a review mechanism would be a further disincentive to inappropriate authorisation.

**Recommendation 8.5:** The Committee recommends:

- (i) that an Ambulance Transport Review Panel be established by each Ambulance Service to review cases of possibly inappropriate authorisation of ambulance transport and to discuss such cases with the relevant doctor or hospital;
- (ii) that Ambulance Transport Review Panels in the non-metropolitan area be made up of the Regional Director of the Health Commission, the Regional Superintendent of the Ambulance Service, and the Medical Director of an appropriate hospital in the region;
- (iii) that the Ambulance Transport Review Panel in the metropolitan area be made up of the Regional Superintendent of the Metropolitan Ambulance Service and both the Regional Director of the Health Commission and the Medical Director of an appropriate hospital in the region of the Health Commission in which the relevant doctor or hospital is located;
- (iv) that the existence and functions of Ambulance Transport Review Panels be described in the criteria; and
- (v) that Ambulance Transport Review Panels accept and act upon suggestions of inappropriate authorisation of transport from ambulance officers, hospital staff or members of the public.

### 8.1.2 Clinic Transport

Almost 90 per cent of all ambulance transports are regarded as non-emergency activities. A significant proportion of these involve the transfer of patients between hospitals, but most are transports of patients to hospitals or clinics for medical appointments or treatment. Ambulance Services undertake this work not only because of the specialised training of their staff and the specialised vehicles available, but also to occupy officers during their down time. For part of the total clinic transport work undertaken, Ambulance Services contract with health facilities to transport patients to and from their residences to attend outpatient clinics or day hospital treatment centres. The selection of patients who travel by ambulance under such an arrangement is the responsibility of the hospital, and patients do not have to satisfy the criteria included in the Health Commission's policy on ambulance transport.

Some Services now employ Clinic Transport Officers and most have purchased special vehicles for this function. Services also find that clinic transport duties provide appropriate employment for older ambulance officers or for those who are no longer able to cope effectively with the requirements of emergency work.

While the difficulties associated with the authorisation of ambulance transport are relevant to the large number of clinic transports undertaken by Ambulance Services, the Committee is of the view that the question of the objectives of the Services is central: this issue has been explored in Chapter 4. Nowhere are the implications of the lack of clarity or of priorities in existing Ambulance Service objectives more apparent than in the area of clinic transport. This aspect of ambulance work has "grown like topsy" over the years in response to ever increasing demands, but with little review of priorities or of the implications of the clinic transport service for staffing levels or for the quality of the emergency ambulance service.

The Committee heard many criticisms of the reliability of the clinic transport service provided in the metropolitan area. The Royal Melbourne Hospital commented that the Ambulance Service:

"has difficulty in efficiently discharging its commitment to inter-hospital transport and the transport of patients between hospitals and home. These patients, often elderly, are of course not in need of emergency transport, and hence, are often delayed in being transported. This can result in missed appointments at the Hospital, or after their appointment, being transported late at night, with resultant distress to the patients and relatives" (submission, p 2).

One major metropolitan hospital provided the Committee with data on delay periods between the time when ambulance transport was booked, and the time when it actually arrived. The data clearly showed that very lengthy delays were not isolated or unusual. Waiting periods of between one and three hours were common, although there are many instances of longer delays.

In a submission to the Committee, the Western General Hospital told of the implications of delays in the arrival of booked ambulance vehicles for the duration of some patients' hospitalisation (p 3):

"One of the most important uses that the hospital makes of the ambulance service is to have inpatients requiring specialised diagnostic services transferred to the specialist hospital concerned for investigation. On two occasions patients had to wait a week or more in hospital because they missed the specialist clinic for which they were booked. For sick people this is most upsetting, demoralising, inconvenient, possibly dangerous and costly".

Ambulance Service - Melbourne, in its submission to the Committee, acknowledged that delays in collecting patients occurred:

"It is an unfortunate fact that these transports are often delayed because we are unable to meet the high demand at certain times of the day... we cannot always meet our commitments with the timeliness we and the patients would desire... delays of up to four hours in routine non-emergency transports are not uncommon" (submission, p 17).

Apart from constraints on staffing levels, one factor which appears to contribute to delay is the manner in which hospitals allocate appointments. Ambulance Service - Melbourne reported that there is "still a tendency for some hospitals to book all patients in at, say, 9 am" (submission, p 17).

The Committee has noted that throughout Victoria there is little co-ordination between Ambulance Services and other organisations that undertake clinic transport work, such as the Red Cross and clinics or hospitals which operate their own vehicles, although no evidence of the implications of this lack of co-ordination was received.

The Committee is of the view that the frequent poor reliability of Ambulance Services in the metropolitan area in collecting patients at the time specified at the time of booking is in part symptomatic of the overuse of the clinic transport service. The application of firm criteria in the assessment of a patient's need will assist, through the consequent reduction in demand, with improving the reliability of the non-emergency transport service. The Committee has concluded that while contracting arrangements for the transport of some day hospital patients or outpatients should continue, hospitals should use those same criteria when selecting patients that apply in other non-emergency circumstances.

The failure of ambulances to arrive on time causes considerable inconvenience to both patients and health institutions, and the Committee considers that Ambulance Services should accord a high priority to meeting those bookings where it is essential that the patient be collected on time. Ambulance Services should devise booking procedures which enable control staff to determine whether or not it is likely that the patient can be collected at or about the specified time. If this is not likely then the Ambulance Service should not accept the booking and should offer to provide an ambulance at an alternative time.

**Recommendation 8.6:** The Committee recommends:

- (i) that Ambulance Services accord time-critical non-emergency transports and time-critical inter-hospital transfers a high priority;
- (ii) that the standard authorisation form require that the authorising doctor or hospital staff member indicate if the transport is time-critical;

- (iii) that Ambulance Services develop and introduce transport booking procedures which will allow control staff to identify readily whether the Service will be able to meet particular non-emergency, time-critical transport requirements close to the nominated time;
- (iv) that Ambulance Services not accept bookings for non-emergency transports if it is unlikely that an ambulance will be available on time, and negotiate an alternative time; and
- (v) that the standard criteria for ambulance transport be applied by hospitals and clinics in the selection of patients who are to be transported under a contractual arrangement between the hospital or clinic and an Ambulance Service.

Some Ambulance Services suggested to the Committee that they should co-ordinate all health transport, including that provided by voluntary or semi-voluntary community organisations and hospitals. They maintained that this would assist with better or more appropriate allocation of staff and vehicles to particular transport tasks, thus maximising the use of the total community resources available for this activity. The Committee is not persuaded that such overall co-ordination or control by Ambulance Services would achieve the most rational use of resources. Rather, the recommendations in Section 8.1.1 and in Section 4.4 indicate clearly that the Committee believes that the role of Ambulance Services in non-emergency transport, particularly those in the "medico/social need" category, should be limited and not expanded to include such overall control or co-ordination.

The Committee wishes to emphasise that although it is recommending a reduced role for Ambulance Services in transporting patients who satisfy only the "medico/social need" criterion as it is currently stated, it has no doubts about the importance of that transport function to particular groups and individuals. The Committee's view is that other organisations throughout the community are equipped, or can be equipped, to undertake this function satisfactorily and at less cost. In contrast, no other agency has the capacity to respond to emergency calls for medical assistance, or to transport patients who require treatment or monitoring or the special facilities of an ambulance vehicle.

The Committee notes with interest that, in its submission to the Committee, the Red Cross Society suggested that it undertake a joint feasibility study with Ambulance Service - Melbourne on the possible co-ordination of the patient transport roles of each organisation. This and any similar offers should be taken up, and the Committee considers that the Victorian Ambulance Commission should encourage such voluntary efforts towards better co-ordination.

The Victorian Ambulance Commission should also negotiate and, where appropriate, make representations to the Department of Community Welfare Services - which provides funds for some transport and patient escorting services under its Family and Community Services Programme - the Health Commission, the Local Government Department and the Ministry of Transport with a view to developing co-ordinated strategies for improving access to transport and patient escorting services in non-metropolitan areas. A Commonwealth Department of Health Programme - the Isolated Patients' Travel and Accommodation Assistance Scheme - also operates to provide assistance with the costs of travel and accommodation for patients who need to travel 200 kilometres or more for specialised medical attention, and, if necessary, for a companion as well. The Committee considers that the criteria for ambulance transport should include information on this scheme, together with other locally available transport or escorting services, to enable doctors and hospitals to advise patients of alternatives to ambulance transport. The Committee believes that far greater use should be made of this Commonwealth Scheme.

**Recommendation 8.7:** The Committee recommends:

- (i) that it not be a function of Ambulance Services to co-ordinate all health transport;
- (ii) that Ambulance Services and the Victorian Ambulance Commission encourage community organisations which have or could have a role in health-related transport or in social need transport to investigate co-ordination with the Ambulance Services;

- (iii) that the Victorian Ambulance Commission negotiate with the Department of Community Welfare Services, the Health Commission, the Local Government Department and the Ministry of Transport on the development of co-ordinated strategies for improving access to transport and patient escorting services for non-metropolitan residents in need; and
- (iv) that the criteria for ambulance transport include an attachment describing alternative arrangements for transporting or for accompanying patients on journeys.

### 8.1.3 Inter-Hospital Transfers

The number of inter-hospital transfers has risen considerably with the increasing specialisation of metropolitan hospitals. Superintendent Dennis Wilson of the Geelong and District Ambulance Service told the Committee that:

"There is a significant difference in what the central hospital can do compared to peripheral hospitals. The same thing can be said for country hospitals. The district hospital (previously) had fewer patients, but the level of care was not that different to the base hospital. It certainly is now" (evidence, p 575).

The question of payment arrangements for inter-hospital transfers has been discussed in Chapter Six. The Committee considers that many of the operational difficulties experienced by Ambulance Services and hospitals in transferring patients are caused by the existing payment arrangements, where the originating hospital and not the individual incurs the cost. A number of people have suggested to the Committee that some hospitals have, on occasions, discharged to their homes patients who required transfer to another hospital. An ambulance has then been sent to collect the patient from their home to transport them to the receiving hospital. In this way, the charge for the transport becomes the responsibility of the patient - or of the Ambulance Service if the patient is a subscriber - rather than of the originating hospital. It is not known if such practices are widespread, although evidence was provided to the Committee to confirm that it has in fact occurred in some particular cases. The Committee is concerned that such practices, which are clearly a result of the financial arrangements for inter-hospital transfers, could have a deleterious effect on the quality of patient care.

Dr Bruce Osborne, Medical Administrator of the Austin Hospital, told of the reverse situation:

"patients frequently perceived themselves as being unable to afford the cost of transport from a country area into the metropolitan area to a teaching hospital for specialised investigation, and it was common practice to admit these patients to hospital and then use the hospital to fund the patient's transfer to the metropolitan area" (evidence, p 395).

It is probable that most patients in this category would not be subscribers and that most of those who were discharged prior to transfer would be subscribers. In Section 6.2.2 the Committee has made recommendations on the funding of inter-hospital transports.

The Committee has been told that there is a tendency by Ambulance Services to regard all inter-hospital transfers as non-emergency transports. Dr Bryan Walpole, Director of Casualty at the Alfred Hospital and a member of the Health Commission's Ambulance Medical Sub-Committee, said:

"...there is always great difficulty mobilising an ambulance to take someone to another hospital because they claim they must keep a vehicle available for emergencies. We claim this as an emergency, that the man may need neurosurgery or psychiatric facilities..." (evidence, p 429).

Mr B Millane of the Western General Hospital told the Committee:

"Our understanding is that the Ambulance Service deems these kinds of transfer as being non-emergency even though the people involved may be critically ill and it is most inappropriate to keep them for extended periods in the casualty area waiting for an ambulance" (evidence, p 696).

The Committee has recommended (Recommendation 8.6) that Ambulance Services in future accord time-critical inter-hospital transfers a high priority.

One important change affecting health services at present is a trend for their management to be devolved to regional offices, and for community groups to be increasingly involved in the provision of some kinds of health services. This may generate more interaction between Ambulance Services and a variety of community

health groups in the future, and perhaps in more ambulance transports involving such groups. If this kind of activity develops, it should be in accordance with the same criteria applied elsewhere for ambulance transport.

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## 8.2 Ambulance Crews and Officers' Skills

### 8.2.1 Level of Ambulance Officers' Skills

The Committee has heard few criticisms about the quality of care provided by ambulance officers in accordance with standard operating procedures. Ambulance officers often expressed frustration that they were not authorised to perform more advanced techniques in cases of severe illness or injury, but support for the level of service provided was widespread. Dr Bruce Osborne, Medical Administrator of the Austin Hospital, expressed some concern over the initial handling of patients suffering spinal injury, saying "patients are sometimes compromised because they are not managed well at the scene of the accident" (evidence, p 395), although he did acknowledge that the handling of such patients "is a very specialised skill that requires a lot of experience" (evidence, p 396). Ambulance officers often seek advice from specialist medical officers at the Austin Hospital on the management of particular patients with spinal problems.

The initial and in-service training of ambulance officers has been discussed in Chapter Seven. At the completion of the Certificate of Applied Science (Ambulance Officer) course, ambulance officers have been trained to perform a range of techniques to maintain life or minimise discomfort while the patient is transferred to a hospital. As noted in Chapter Two, the progressive introduction of more sophisticated medical techniques, known in Victoria as Advanced Life Support (ALS), is under consideration by a Working Party of the Health Commission's Ambulance Medical Sub-Committee. The Health Commission approved the introduction of Advanced Life Support in 1982. The report of the Working Party is to recommend strategies for the implementation of ALS and is expected to be submitted to the Health Commission late in 1984.

ALS is a set of procedures which includes many of those currently performed by MICA officers. Ambulance personnel are enthusiastic about the introduction of ALS to standard operating procedures, and have been critical of what they see as delay in its implementation. Country ambulance officers in particular frequently commented on the necessity to proceed with ALS urgently on a statewide basis.

The Committee observed that many ambulance officers, especially those from country Services, envied MICA officers' capacity to provide more sophisticated medical assistance in emergencies. When advocating the implementation of ALS, the Mid-Murray District Ambulance Service made the following remark, which is indicative of the widely held view that non-metropolitan Ambulance Services should have officers trained to higher levels:

"we see little justification for specialised training being given to selected officers only, e.g. mobile intensive care ambulance officers, when essentially their duties are only an extension of what every ambulance officer does in the course of his work.

"We strongly support the concept of more advanced training for all ambulance officers...." (submission, pp 58-59).

While the Committee recognises that the implementation of ALS has proceeded more slowly than many would wish, it accepts that such a significant change to the level of skills of ambulance officers is not easy to achieve, particularly because of the staffing and financial constraints within which Ambulance Services must operate. Apart from training officers throughout the State in the new techniques, additional procedures for maintaining and updating these advanced skills among the many officers who may in fact use them only rarely must be devised and introduced. Ambulance vehicles will also require some new items of equipment.

In response to a query from the Committee regarding the present status of ALS, the Health Commission advised that:

"Certain ALS elements have been incorporated into basic training courses in anticipation of their full implementation within ambulance practice to obviate the need to train all officers, including recent graduates.

"This is a reasonable situation, but it can be misunderstood to mean that the Commission is being unduly slow or restrictive concerning permission to apply these protocols in the field.

"Furthermore, the consultation process which has involved all sectors of the ambulance industry has similarly raised expectations about ALS.

"However, the Commission believes that the procedures taken and planned are careful and responsible in what is a fairly significant step forward in ambulance practice.

"The concepts of Advanced Life Support must not be permitted, by careless application, to put patients and ambulance officers at risk." (Health Commission letter to Committee, 4 July 1984).

The Committee also recognises that the conduct of its inquiry has in part contributed to delaying the introduction of ALS. Not only have the relatively few resources available in the ambulance community for policy development and planning work been diverted to the preparation of submissions for the Committee, but it was regarded, quite properly, as inappropriate to proceed with such a major operational change while the whole area of ambulance organisation and operations was being reviewed.

The Committee is of the view that the introduction of Advanced Life Support techniques to the operating protocols of ambulance officers should proceed. Its implementation will clearly contribute to the achievement of the prime objective of Ambulance Services as recommended in Section 4.4: that is, to reduce the levels of mortality and morbidity.

**Recommendation 8.8:** The Committee recommends:

- (i) that Advanced Life Support techniques be introduced to the operating protocols of all ambulance officers who have the capacity to learn and perform the techniques;
- (ii) that officers who are not taught to perform Advanced Life Support techniques be taught how to assist effectively in the application of Advanced Life Support techniques;
- (iii) that Ambulance Services aim to roster officers who are accredited to use Advanced Life Support techniques with those who are not;
- (iv) that Advanced Life Support techniques be introduced progressively to officers throughout the State, in priority order determined by those techniques most likely to reduce morbidity or mortality; and

- (v) that as much as possible, ambulance officers throughout the State be trained to a generally similar level at any one time although the different conditions prevailing in various areas of the State may warrant different ordering of priorities.

### 8.2.2 Two Officers in Crews

The Committee was presented with a range of views relating to the question of two officers as the crew of stretcher carrying ambulances. When giving evidence to the Committee, the Minister of Health, The Hon Tom Roper M P, confirmed that the extension of two officer crewing to all ambulances was "proposed to be a gradual process" (evidence, p 14). It has been introduced progressively and additional staff resources for those Services wishing to reduce their level of one officer crews are sought by the Health Commission from the Department of Management and Budget each year.

Ambulance officers with whom the Committee has spoken were of the firm view that two officer crews were essential, and officers from 30 non-metropolitan branch stations forwarded a petition to the Committee in support of two officer crews. Mr Bruce Williams, an ambulance officer with the Glenelg District Ambulance Service, echoed the views of many of his colleagues when describing the shortcomings of ambulances staffed by only one officer:

"It is impossible for the ambulance officer to both drive the ambulance and to treat the patient making patient observation, and so on. It cannot be done effectively by just one officer. We have had experience with trauma and medical patients at large accidents when not all patients have received adequate treatment. There have been problems with patient loading. Although bystanders are available - and we are grateful for their assistance - they do not understand the operation of stretchers and other equipment available in the ambulance. It is sometimes necessary to have a bystander drive the ambulance to the receiving hospital" (evidence, pp 169-170).

The Ambulance Employees Association commented that "it is unreasonable to expect one officer to attempt to lift and carry the patient at times alone or with unskilled assistance" (submission, p 29).

On the other hand, there are arguments against using two officers in all circumstances, and the Mid-Murray District Ambulance Service advanced these persuasively:

"One has to question the effectiveness of having two trained ambulance officers making up the crew of an ambulance...we have no argument...where a patient will, or is likely to, need active treatment or monitoring, or supervision such as in the case of a psychiatric patient...we see little justification for having to crew an ambulance with two trained officers when there is no demonstrable need for patient care during transport" (submission, pp 59-60).

The Committee notes the frequently stated view in support of two officer crewing in all cases: "one never knows what one is getting into until one gets there" (Mr T Walkenhorst, ambulance officer, Glenelg District Ambulance Service, evidence, p 172), but considers that there are often non-emergency clinic transports where it can be accurately predicted that two qualified ambulance officers will not be necessary. The Committee has serious concerns about the proposal to upgrade all ambulances to crews of two officers. The financial implications of such a large increase in the number of staff employed are significant. In the smaller stations and in branches which are now staffed by casual officers there is insufficient work to justify the employment of additional ambulance officers. The problems already evident because of the large proportion of downtime and the resulting boredom of many ambulance officers would be magnified.

The Committee considers that the cost of having all ambulances crewed at all times by two officers would be very large, and quite unjustifiable. While it accepts that the difficulties that do arise on occasions with only one person in a vehicle can be very significant, and perhaps very distressing, it is not convinced that two officer crews under all circumstances is a desirable solution. The Committee is not aware of any other State in Australia in which two officer crews are always used.

The Committee believes that more flexibility in the use of officers in vehicles would assist. In stations that are at present staffed for two officer crewing during the day, the formula used to determine staffing levels should be reworked to allow for ambulances to be crewed by a single officer in circumstances where two will not be necessary. When allocating vehicles and crews to particular transports, control room staff should consider the nature of the patient's condition and allocate only one

ambulance officer if it appears to be probable that a second is most unlikely to be needed.

At stations not presently staffed for two officer crews, and at stations at which only one officer is on call at night, there are several possibilities. At the busiest of these stations, the policy of progressively increasing the staffing levels to give the capacity to allocate two crew to a vehicle when necessary should continue. However, the allocation of two officers to crews in all circumstances is not justified.

At stations at which it is unlikely that two officer crews will ever be justifiable, other possibilities exist. The Committee learnt that casual officers are used to assist permanent officers at the Werribee Branch of the Geelong and District Ambulance Service. Nine casual officers are involved, and are contacted to determine their availability whenever a one officer shift occurs. The permanent officer either collects a casual officer on the way to an incident, or meets the officer at the scene.

In Western Australia, the use of casual officers to assist in those transports where an ambulance is crewed by only one officer is widespread, and is also a common practice in North America. The Committee considers that such an approach has a great deal of merit and that a study of the appropriateness of the arrangement that already exists at Werribee to other areas of the State should be undertaken. Such a study should include study of the recruitment and training of casual officers in districts surrounding ambulance branch stations, and on the introduction of paging systems for casual officers. The role of casual officers in the provision of ambulance services is discussed in Chapter Seven.

**Recommendation 8.9:** The Committee recommends that:

- (i) Ambulance Service Headquarters, Control District centres and branch stations allocate one officer to an ambulance vehicle in non-emergency cases in which it is clear that two officers will not be required;

- (ii) the need to maintain staffing levels of some branch stations at the current level and to continue single officer crewed vehicles because of financial constraints and the low workload be recognised; and
- (iii) the possibility of using a casual ambulance officer to support a permanent ambulance officer in responding to a call for emergency assistance, or when lifting is anticipated be investigated, and that a pilot study of such a service be initiated.

### 8.2.3 Mobile Intensive Care Ambulances

The level of skills of MICA officers was highly regarded by medical personnel. MICA vehicles are operated only in the metropolitan area. They are despatched directly to cases if the staff of the control room consider that the patient is likely to require an advanced level of care. In other circumstances, the crew of a standard ambulance vehicle can call a MICA vehicle to the scene if their assessment of the patient's condition indicates that MICA equipment or officers' skills are necessary.

Dr Anne D'Arcy, Director of Emergency Services at the Royal Melbourne Hospital, expressed some concern regarding the implications of MICA: "since MICA some (other ambulance officers) have lost some of their confidence that they had because some tend to defer to MICA more than they would have before". Dr D'Arcy, along with some other medical witnesses who appeared before the Committee, considered that the availability of advanced care from MICA sometimes led ambulance officers to wait for the MICA crew when it would be better to transport the patient to hospital as quickly as possible, where they could receive professional medical or specialist treatment.

In a submission to the Committee, the Royal Melbourne Hospital reported that Emergency Department medical staff (p 2):

"have been concerned on occasions with inappropriate use of invasive procedures and of potent parental analgesic and cardiotropic drugs. We note that at times, the Ambulance Service protocol for the use of (these) drugs is not followed by MICA personnel".

No formal evidence has been provided to the Committee to support this claim, and in informal discussions it has been suggested that there have not been incidents of this kind since the early days of MICA, some years ago.

The question of the response time of MICA is discussed in Section 8.4.1. The location of MICA units at hospitals in the area served by Ambulance Service - Melbourne has implications for the response of MICA to calls from suburbs distant from the Alfred, Box Hill, Royal Melbourne, Prince Henry's and Austin Hospitals. The Committee acknowledges that the location of MICA at hospitals encourages the development of close and co-operative working relationships between MICA officers and hospital emergency department personnel, which is important to the quality of care of the critically ill patient.

However, the Committee does not accept that MICA should be hospital-based at the expense of longer response times, and it has concluded that the location of all MICA units, including that at present operated by the Peninsula Ambulance Service, should be reviewed with the intention of determining locations which minimise response times to most residents in areas to be served by the Metropolitan Ambulance Service. It is considered that the implementation of other recommendations relating to the relationships between Ambulance Services and medical services will allow close co-ordination between MICA officers and hospital emergency department staff, and that the future location of MICA units at hospitals will not be as necessary as it may have been in the early and developing days of the Service. The high level of case review and skills maintenance which the existing arrangement allows will be accommodated by improving the skills maintenance and case review capability of the Service.

By locating MICA units at hospitals, they are sometimes seen as an extension of the hospital's emergency handling capacity rather than as a part of the Ambulance Service. This occurs even though MICA do not necessarily transport patients to the hospital at which they are based and even though its movements are always controlled by the Ambulance Service. As a result, some hospitals consider that they

should also have a MICA unit based at their hospital. Mr J Griffin, Medical Superintendent of St Vincent's Public Hospital, explained to the Committee why he considered a MICA unit should be based at his hospital:

"St Vincent's Hospital is essentially the major referral hospital for what will be the north eastern region of a regionalised health system in Victoria. As such the hospital will be expected to take a considerable amount of referred patients particularly the type that may be in need of both coronary and intensive care services. In those circumstances, the need for a Mobile Intensive Care Ambulance service based at St Vincent's Hospital is reasonable. At the present time, we do not have such a service so that the nearest service is at the Royal Melbourne Hospital or Box Hill Hospital which would be in the north eastern region but is a considerable distance from St Vincent's Hospital..." (evidence, p 817).

The Committee does not consider that a MICA unit should be based at St Vincent's unless a review of the relocation of all MICA units to minimise response times throughout the metropolitan area concludes that it is an appropriate location.

The Committee believes that a review of the comparative costs and benefits of MICA and those of standard ambulances should be conducted when most proposed Advanced Life Support techniques have been introduced into the operating protocols of standard ambulance officers. At that stage, the entire role of MICA should be carefully reviewed.

The Committee notes that there is little or no pressure to upgrade further the skills of MICA officers, or to introduce more advanced items of equipment. In addition, the Committee is not aware of any significantly more advanced life support techniques used by paramedics or ambulance officers in other states or in other countries.

**Recommendation 8.10:** The Committee recommends:

- (i) that the location of Mobile Intensive Care Ambulance units be reviewed and each unit be located at a site central to the area each covers, to maximise the population covered and to minimise response times;

- (ii) that Mobile Intensive Care Ambulances not necessarily be based at hospitals if the review suggests that an alternative site is preferred;
- (iii) that a Mobile Intensive Care Ambulance not be based at St Vincent's Hospital until the review has been completed, and only then if location at St Vincent's is indicated in order to improve response times for a designated area;
- (iv) that the high level of medical case review, refresher training and accreditation for Mobile Intensive Care Ambulance officers be retained; and
- (v) that the role of Mobile Intensive Care Ambulances and the comparative costs and benefits of these and standard ambulances be reviewed when Advanced Life Support is fully implemented in the metropolitan area.

#### 8.2.4 Legal Position of Ambulance Officers

Ambulance officers throughout the State are required to act within established operating procedures and to exercise due care consistent with the terms of their employment as ambulance officers. Only MICA officers have formalised and published protocols at present. The operating procedures for the crews of standard ambulances are documented to a limited extent in an Ambulance Officers' Training Centre publication entitled Practical Skills Manual, but this has not been widely circulated and its formal status is not clear.

Ambulance officers are insured to allow the payment of damages up to \$10 million should a patient bring an action against them, provided they have acted in accordance with the appropriate operating procedures and have exercised due care. The insurance policy is arranged by the Health Commission, and includes cover for casual ambulance officers. Although the Committee has heard of only one instance where an individual brought an action against an ambulance crew, the lack of documented descriptions of what treatment all ambulance officers may or may not

administer is of concern. Formal operating protocols similar to those already produced for MICA officers will clearly be essential with the introduction of Advanced Life Support techniques.

Several ambulance officers expressed concern about their legal liability in circumstances where they can see that a patient is critically injured and that unless that officer administers a particular treatment, that patient will die. Some officers said that in such cases they would provide whatever treatment they could within the constraints of their training and the equipment and drugs available in their vehicle, regardless of whether the particular procedure was included in their operating procedures. The ambulance officer faced with this type of situation is placed in an awkward position, particularly if he has had some training in certain Advanced Life Support procedures. Unless the officer has had full training in the use of the procedure, he has no authority to use it.

The Committee believes that work towards developing consolidated and up-to-date sets of published protocols for basic life support should continue, and that protocols are essential for all Advanced Life Support techniques. Ambulance officers, hospital emergency department staff and indeed interested members of the public should be in no doubt about what treatment an ambulance crew can or cannot administer. The publication, wide distribution and regular updating of manuals of protocols is also important to improving the operational co-ordination between Ambulance Services and hospital emergency departments.

**Recommendation 8.11:** The Committee recommends:

- (i) that operating protocols for all ambulance officers be developed, published and provided to each ambulance officer;
- (ii) that the protocols include both Advanced Life Support and Basic Life Support techniques; and
- (iii) that the protocols carried by each officer accurately reflect the skills and techniques that they are authorised to perform.

The Ambulance Employees Association raised the question of the liability and obligations of ambulance officers who from time to time are responsible for the transport of mentally ill patients. The Committee was provided with copies of correspondence between the Association and the Minister of Health. The concern of the Association is that:

"Ambulance officers are frequently required to virtually man-handle unco-operative mental patients into ambulance vehicles and on some occasions find it necessary to restrain them physically. There have been instances where a patient has leapt from an ambulance and been apprehended by the officers in whose charge he or she has been placed. The question of course that arises from these events relates to their legality, and nobody can offer any concrete, clear cut answer" (Letter from Ambulance Employees Association to Minister of Health, 24 July 1984).

The Committee noted that the Ambulance Employees Association has asked the Minister of Health to consider the legal position of ambulance officers in relation to proposed amendments to the Mental Health Act.

Although the Committee heard of many concerns regarding the legal position of ambulance officers in respect of their role in providing treatment to patients, the issue of driving regulations was raised infrequently. The Committee looked at the extent to which ambulance officers driving an ambulance vehicle are required to comply with the provisions of the Transport (Road Traffic) Regulations, and considers that the existing legislation meets the particular requirements of ambulance work adequately. Regulation 204 allows the driver of an emergency vehicle, which includes an "ambulance answering an urgent call or conveying to hospital any injured or sick person urgently requiring treatment", with siren in use to proceed through stop signs, overtake on either side of another vehicle, stop or park the vehicle at any place at any time, exceed speed limits (except temporary speed limits associated with road construction work) and continue without giving way, provided that any such action only be taken when it is expedient and safe to do so. These provisions also apply to police or fire vehicles.

The obligation remains on the driver to do these things only when it is safe to do so, and the Committee considers this to be appropriate. The first obligation of the driver of any emergency vehicle must be to avoid creating further emergencies by inappropriately carrying out one of these actions.

## 8.3 Vehicles and Equipment

### 8.3.1 Vehicles

Many ambulance personnel were critical of the vehicles currently used by Ambulance Services. Criticism included poorly designed seats, the lack of power steering, inappropriate components such as shock absorbers, and the lack of alternative vehicles for different categories of transports. Some Services have modified vehicles to improve their stability and operation. The Committee received a great deal of evidence on vehicles from Superintendent Doug Woodhouse of the East Gippsland Ambulance Service, who has a particular interest in ambulance design. His views were consistent with those of many of the other ambulance officers and Superintendents who raised the issue with the Committee. Superintendent Woodhouse considered that there was:

"not enough assessment of the improvements that are available in the automotive industry that can come through onto ambulance vehicles" (evidence, p 332).

Ambulance Services are not alone in criticising ambulance vehicles. An article in Modern Motor included the following comments on ambulances in use in Victoria:

"...they stay on the road not because of any suspension engineer's skill, but rather in spite of it!...in an ambulance you become very aware you have people lying around loose in the back and every bump you hit is probably grinding broken ends of bones together...the device you are peddling gives the impression there is only a coincidental connection between the steering wheel and the front wheels. Bump steer, roll-steer, pitch and bounce - those ambulances have the lot" (Sullivan, p 101).

Dr R J Young, a general practitioner from Alexandra, who was previously an accident specialist in England, told the Committee that he considered the standard ambulance vehicles in use in Victoria to be "el cheapo" in terms of their design (evidence, p 548).

The Committee was told of innovations in ambulance design that had occurred in Tasmania and South Australia, but there was little evidence that successful modifications made by other states were systematically assessed with a view to their inclusion in Victorian ambulance vehicles.

The criticisms from ambulance personnel on vehicle design led the Committee to question the effectiveness of the Health Commission's Ambulance Design Sub-Committee, which is chaired by an automotive engineer and has representatives from both metropolitan and country ambulance officers and Superintendents, the Ambulance Employees Association, Victorian Ambulance Services Association, the Health Commission and the medical profession. The Committee was told that this Sub-Committee meets "about three times a year" (Health Commission letter to the Committee, 4 July 1984), although some Superintendents said that meetings were less frequent and sometimes more than six months apart.

The Sub-Committee is required to:

- . examine and make recommendations on the design, manufacture and modification of ambulances and their permanent fixtures;
- . assist with the arrangements for trials and tests of ambulances and other components by manufacturers, Ambulance Services or others; and
- . provide the Commission with records of all meetings and details of all recommendations.

In its informal discussions with ambulance officers throughout Victoria, the Committee heard that many did not know of the Ambulance Design Sub-Committee's existence, or of how suggestions for improvement could be put before it for consideration. Chief Superintendent Jock Berry of Ambulance Service - Melbourne considered that the Ambulance Design Sub-Committee "has been very responsive down through the years. I do not know of one suggestion that has come to it that has not been thoroughly investigated" (evidence, p 391). Despite this, and the broad representation on the Sub-Committee, it seems that there are difficulties in having suggestions put before the Sub-Committee for its consideration.

The Committee considers that the apparent shortcomings in ambulance design are in part a result of inadequate communication about such matters within the ambulance community as a whole, and the relatively low priority of ambulance responsibilities within the Health Commission. Superintendent Woodhouse remarked that:

"VASA, the AEA, and the Superintendents' Council have been at the Commission for some time to rework their procedures for the ordering

of vehicles, the specification of vehicles and the manner in which they have supplied the Service" (evidence, p 333).

The Australian General Purpose F100 ambulance vehicle is supplied under a contract negotiated and let by the Health Commission. The Committee was informed of instances of inadequate consultation by the Commission with Ambulance Services on tender specification and evaluation. Superintendent Woodhouse told the Committee that there is now only one authorised contractor for the supply of ambulance vehicles in Victoria and:

"that manufacturer has a proven record of inability to supply, a proven record of unsuitable vehicles, of poor workmanship, poor presentation" (evidence, p 333).

Another company, which had manufactured vehicles that many ambulance personnel regarded as being of better quality went out of business early in 1984. It has been suggested to the Committee that this was, at least in part, caused by poor ordering practices that produced very uneven workloads.

Some ambulance management personnel considered that there should be a greater range of ambulance vehicles to enable Services to select the most appropriate and economical vehicle for a particular transport. When appearing before the Committee, Superintendent Woodhouse asked:

"Why should we have in the metropolitan area 5.8 litre V8 vehicles, capable of 170 kilometres per hour, running around with speed limits and traffic conditions not conducive to that sort of thing? Why should we have four-berth vehicles involving \$32 000 in Dargo and places like that, where they are completely unsuitable for the transport of patients?" (evidence, p 335).

The lack of suitable vehicles for the transport of psychiatric patients was raised by Ambulance Service - Melbourne, which commented:

"A modern ambulance vehicle is not ideally equipped for (psychiatric) transports. The patients rarely require stretcher facilities or the emergency care equipment located in the vehicle for ready access. In cases of violence, this equipment adds to the hazard of transporting a psychiatric patient" (submission, p 20).

Some Services in fact operate other types of vehicles as well as the standard F100 based Australian General Purpose Ambulance: as one example, in July 1984 the Alexandra and District Ambulance Service took delivery of a new lighter weight vehicle of impressive design, which was manufactured in Queensland.

The Committee has concluded that many of the shortcomings in ambulance vehicle design are a result of the fragmented organisational framework within which Ambulance Services operate. This issue has been discussed in detail in Chapter Five. There has been little capacity for research into automotive design and performance and no organisational focus for such an activity. The Committee supports the continuation of ambulance design and contract negotiation work as a responsibility of the central agency, and the continuation of a committee to examine and report on ambulance design is considered to be warranted. Such a committee will ensure that the Victorian Ambulance Commission will have advice from a range of individuals who have a working knowledge of ambulances. The committee should operate in accordance with the general operating principles of committees, which the Committee has recommended in Recommendation 5.29.

**Recommendation 8.12:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for negotiating and letting contracts for the supply of ambulance vehicles;
- (ii) that a Standing Committee on Vehicle Design be established by and be responsible to the Victorian Ambulance Commission to:
  - assess advances in vehicle design and their applicability to ambulance design;
  - assess modifications to standard ambulance design including those introduced in other states or countries and to review the applicability of such modifications to the design of Victoria's ambulances;

- . assist with arrangements for testing of new or updated vehicles and other components;
  - . determine roadworthiness and performance standards;
  - . consider suggestions from ambulance personnel for modifications to vehicles;
  - . provide advice to the Victorian Ambulance Commission on the tender specifications for the supply of ambulance vehicles, and to make recommendations on the selection of vehicles offered by the tenderers; and
- (iii) that the standing committee include representation from Regional Superintendents and District Superintendents, Committees of Management, ambulance officers and vehicle maintenance staff; and
- (iv) that the Committee be serviced by the Office of the Victorian Ambulance Commission.

Ambulance Service Superintendents and Committees of Management were also critical of the policy on the retirement of vehicles. Those which are six years old or which have travelled 200 000 kilometres are withdrawn from service and sold. In its visits to many Services, the Committee saw ambulances approaching six years of age which were reported to be in good condition but which were to be withdrawn. Superintendent Kevin Devereaux from the Northern District Ambulance Service made the following comment on the current policy:

"some of the vehicles we dispose of after six years' service have close to 200 000 kilometres on the clock. Their body is still in top condition. By spending \$1 000 one could keep them going for another three or four years" (evidence, p 232).

The Committee considers that such an inflexible policy on vehicle replacement sometimes places an unnecessary and heavy financial burden on Ambulance Services' and Health Commission budgets.

**Recommendation 8.13:** The Committee recommends that the time of withdrawal from service of ambulance vehicles be determined by the roadworthiness of the vehicle.

### 8.3.2 Ambulance Equipment

Standard equipment and supplies are carried in ambulances throughout the State to enable ambulance officers to perform procedures defined in their standard operating procedures. The Health Commission has an Ambulance Equipment Working Party to review and make recommendations on which supplies and items of equipment should be carried. The Working Party has representatives of the same interests as those represented on the Ambulance Design Sub-Committee, with the addition of the Ambulance Officers' Training Centre.

The Committee found that many ambulance officers who were critical of various pieces of equipment were unaware of the existence or functions of the Working Party. The Committee's earlier comments on the lack of awareness of the Ambulance Design Sub-Committee are also relevant here.

Some Ambulance Services have purchased extra pieces of equipment for their vehicles, particularly the smaller Services. Dr Andrew Bacon told the Committee that:

"...equipment for children and areas like adding extras and introducing new things have tended to come from the periphery...some peripheral Services have gone for more innovative equipment and have upgraded their services...most of the advance has come from that Service (Peninsula) without any central support" (evidence, p 372).

The introduction of new equipment has significant implications for training. It is essential that ambulance officers be very familiar with the use of all equipment in order to ensure the best patient care. It was reported that the acquisition of non-standard equipment by some Ambulance Services often caused industrial unrest in other Services as ambulance officers pressed for the introduction of similar equipment to their own vehicles and equipment. While it may be possible for Services with a well organised in-service training programme to purchase and use new equipment, Services without such a programme are less able to do so satisfactorily.

Criticisms of particular items were not widespread. Those that attracted adverse comment from officers included spinal collar, traction splint, dressings, suction equipment and stretchers. Officers maintained that some equipment was available in forms which were easier to use, more comfortable for the patient, more effective, or better suited to the particular climatic conditions prevailing in various parts of the State.

Ambulance officers were generally less concerned with the equipment that is carried than with that which is not, or in the case of an intravenous drip package, their lack of authority to administer the treatment regardless of the patient's need. Dr Bacon remarked to the Committee:

"I can understand the frustration of the officers knowing that the equipment is available but it has not been provided by the Ambulance Service" (evidence, p 376).

The Committee considers that much of this frustration is due to the non-implementation of Advanced Life Support, as often the equipment being sought is required for more sophisticated techniques than those currently undertaken.

The Committee has concluded that it is appropriate for the Victorian Ambulance Commission to receive advice and recommendations from a committee made up of individuals who actually use the equipment or who are expert in its indications and contra-indications.

As with the proposed Standing Committee on Vehicle Design, the Standing Committee on Ambulance Equipment should act in accordance with the provisions of Recommendation 5.29.

**Recommendation 8.14:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for determining the standard supplies and items of equipment to be carried in ambulances;

(ii) that a Standing Committee on Ambulance Equipment be established by and be responsible to the Victorian Ambulance Commission to:

- . continually assess the range and quality of equipment carried in ambulances;
- . approve particular items of equipment and supplies which are assessed as suitable;
- . approve the introduction of extra pieces of equipment proposed by Ambulance Services for their own vehicles and ensure that the resultant training needs have been identified and costed;
- . in conjunction with Ambulance Services, monitor developments in hospital emergency department equipment throughout the State to ensure that ambulance equipment is compatible with or complementary to that used in hospitals;
- . assist with arrangements for testing new or updated items of equipment;
- . advise the Victorian Ambulance Commission on the implications for training or vehicle design of any recommendations to introduce new pieces of equipment;
- . consider suggestions from ambulance personnel on modifications or extensions to the range of equipment carried; and

(iii) that the Standing Committee include representation from Regional Superintendents and District Superintendents, Committees of Management, ambulance officers, medical practitioners, the Ambulance Officers' Training Centre and skills maintenance officers; and

- (iv) the Committee be serviced by the office of the Victorian Ambulance Commission.

### 8.3.3 Communication Needs and Equipment

Communications and control-room dispatch procedures are discussed in Section 8.4.3. The Committee was told that inadequate and outdated communication equipment was very often the cause of difficulties with communications between Ambulance Services' control room staff, ambulance officers on the road, and hospital emergency departments. Numerous examples of these difficulties were given to the Committee.

While most Ambulance Service control rooms have telephone patching equipment, which allows communication between ambulance crews and hospital staff, the equipment is not highly regarded or often used. Messages are often relayed between doctors and ambulance crews by the Ambulance Service control room staff by repetition. Dr Ed Brentnall, Director of the Emergency Department at Box Hill Hospital, gave evidence to the Committee as a representative of the Association of Casualty Supervisors of Victorian Hospitals. He told of the importance of ambulance-hospital communication, and of the inadequacy of existing communication equipment:

"I can quote case after case where our response has been less adequate than it should have been, partly because of a delay in knowing exactly what was coming in. The patching system could work if it were good, but the present system is catastrophically bad...I am told that it is not possible now even to obtain parts for it" (evidence, p 552).

The Committee was informed of shortcomings with radio communications equipment in most Ambulance Services. Several non-metropolitan ambulance officers were concerned that there were large areas of their regions in which there was no radio coverage and that there was interference on some channels. Ambulance officers working with the North West Victoria Ambulance Service said that they were not able to communicate with South Australian ambulance control centres or vehicles to seek their assistance or to advise of transports undertaken in that State. The reliability and age of existing equipment was also often cited as a cause for concern in both metropolitan and non-metropolitan services. In the more remote areas of

the State, ambulance officers told of instances where a crew had come across an accident while transporting a patient and had to telephone for another ambulance, rather than advise of the requirement by radio. Several ambulance officers also pointed out that there are areas in the metropolitan area in which radio reception is very poor. The Committee considers these kinds of shortcomings in the equipment to be quite unacceptable.

The Committee notes that work is actively underway to upgrade the communications facilities. The Committee was provided with a copy of a report prepared in 1981 by Mr Terry Ryan, of the Health Commission's Division of Building and Services, entitled Victorian Ambulance Service Communications. The report was prepared after consultation with all Ambulance Services. Its recommendations were accepted by the Commission, and have provided a framework for the progressive upgrading of ambulance communications. Mr Ryan works closely with the staff of Ambulance Services on both the introduction of new equipment and the maintenance of that already in use. His contribution to Victoria's Ambulance Services has been significant.

Work is underway to dedicate all VHF (very high frequency) communication channels currently in use by Ambulance Services throughout the State to non-metropolitan Services, while UHF (ultra high frequency) channels will be used in the metropolitan area. VHF, with its longer range, is more suitable for country districts, and the availability of those channels now used by Ambulance Service - Melbourne will reduce the overloading and consequent interference which at present cause concern to ambulance personnel. UHF channels are expected to be in use in the metropolitan area by mid-1985. The Air Ambulance Service is to continue to use VHF to enable ready communication with non-metropolitan Services.

The upgrading of the network of VHF transmitter base stations in country areas is in progress at present. This improved network will reduce the number and size of "dead spots" - those areas in which communication channels will not operate because of terrain or location - although the Committee recognises that no available communication equipment can guarantee that every part of the State will be covered.

The total cost of improvements to the communications system is of the order of \$2 million. The Health Commission is funding 75 per cent of the costs, while Services

are responsible for meeting the remaining 25 per cent. The Committee considers it to be essential that this work proceed as rapidly as possible.

The Committee notes that only one officer of the Health Commission works on ambulance communication matters. The Victoria Police has a staff of 75 to work on communication system development and maintenance, and the Country Fire Authority has 21. Although these organisations have different communication needs and have considerably larger and more complex systems than do Ambulance Services, and while both organisations undertake maintenance of their equipment whereas Ambulance Services contract maintenance work to local technicians, the Committee considers that the contrasting staffing levels are notable.

The lack of hand-held portable communication equipment was often mentioned by ambulance officers. At present, only MICA officers routinely carry this equipment, which uses the radio equipment in the MICA vehicle as a repeater station between the officer's portable radio and the Service's control room. Some MICA officers expressed reservations about the quality of the portable radio equipment they carry. Signals are not always picked up in certain parts of some hospitals, and this has the potential to increase the response times of MICA units. Officers operating from standard ambulances must return to their vehicle in order to communicate with control staff or with hospital emergency departments, which causes delays and difficulties when ambulance officers are involved in rescue work, when additional vehicles may be necessary, or in treating particularly seriously ill patients. The Committee believes that the intention should be to equip all officers with such portable equipment.

The Committee has concluded that the development of ambulance communication systems should be a responsibility of the Victorian Ambulance Commission. The progressive upgrading of the system which is underway at present should continue. The Committee has considered whether or not the maintenance of communication equipment would be best undertaken by staff attached to the Victorian Ambulance Commission, or whether the existing arrangement, whereby Ambulance Services contract maintenance work to local technicians, should continue. The Committee believes that the maintenance needs of Ambulance Services can be met by local technicians, and it sees no reason to take this element of their business away from them and place it in the hands of a Government agency. It is likely that some

difficulties experienced from the arrangement previously - particularly the variable quality of the maintenance work - will be reduced in future. The Services will be larger with more equipment and local technicians will therefore have a greater exposure to equipment they may otherwise encounter only rarely.

The Committee believes that the Victorian Ambulance Commission should address the matter of ambulance communications with hospitals as a matter of urgency and that the upgrading of existing equipment be accorded a high priority in the system development work currently underway. The Committee believes that all ambulance vehicles should be able to communicate directly with emergency departments of major hospitals, as is common practice in many parts of the world. At the very least, this would enable emergency departments to be warned of the impending arrival of critically ill patients, and enable them to begin preparations. This matter is discussed further in Section 8.5.2.

**Recommendation 8.15:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for the development of the ambulance communications system and for the specification of system requirements;
- (ii) that Ambulance Services continue to be responsible for letting contracts for maintenance of communications equipment;
- (iii) that the major hospital in each Control District and other appropriate hospitals in Melbourne be equipped with radio equipment to enable direct communication between the hospital emergency department and ambulance officers in the field in emergencies;
- (iv) that the present programme of upgrading communication services across the State be continued as a high priority; and
- (v) that a programme of progressively providing all ambulance officers with portable radios be instituted.

## 8.4 Ambulance Response

### 8.4.1 Response Times

The speed with which Ambulance Services respond to calls for emergency assistance is an important measure of Services' effectiveness. The importance of early medical intervention in cases of severe illness or injury is undoubted. Dr Hamley Wilson, Senior Medical Adviser to the Motor Accident Board, told the Committee that in cases where patients have serious head injuries:

"you only have half an hour to do something about it ...after that first half hour...you will have an increasing death rate and you will have an increasing number of people who are vegetables" (evidence, pp 625-626).

The results of research by a team of medical practitioners into the survival rates of patients suffering from ventricular fibrillation in Sydney highlighted the importance of an early response:

"Only one of the 41 patients attended by paramedics later than 10 minutes after cardiac arrest survived to be discharged from hospital, compared with 39 of 169 patients attended by paramedics within 10 minutes of cardiac arrest" (Samuel, p 546).

The Committee notes that while Services often alluded to the implications of aspects of existing operations for the duration of response times, the issue was not often explicitly canvassed.

Some debate within the ambulance community was evident about what is an acceptable response time. Clearly, residents in sparsely populated parts of the State will often experience a significantly longer delay than those in cities or towns where ambulances are permanently stationed. Non-metropolitan Services have endeavoured to locate branch stations in such a way as to minimise response times throughout their regions, but changing population patterns sometimes mean that some areas of a region are well covered whereas others are not. The shortest response times are probably those achieved in medium-sized towns and cities, in which no part of the city is far from the ambulance station and traffic is rarely heavy enough to cause the delays often encountered in Melbourne.

Ambulance Service - Melbourne provided the Committee with information on its response times. Most of the metropolitan area is notionally within a ten minute range for MICA vehicles, with response times for standard ambulances normally ranging between eight to fourteen minutes, although calls from some outer suburbs are subject to longer delays. Professor Opit and Dr David Christie commented on the comparative response times of MICA and standard ambulances to emergency calls in their report on MICA (Opit and Christie). They found that the MICA response in municipalities furthest from the hospitals at which the vehicles were based was, on average, 10 minutes longer than the average standard ambulance response. Ambulance Service - Melbourne supplied data on MICA response times which indicated that approximately 50 per cent of emergency calls to MICA are attended within 10 minutes, with almost all other responses being within 30 minutes.

Not all Services regularly collect response time information. Superintendent John Perry, of the Wimmera District Ambulance Service, commented that:

"At the moment Ambulance Services do not produce response times and in many cases it is important. The public has a right to know what the response times are for emergencies. Emergencies and road accidents are emotive affairs and there is nothing more distressing than waiting for an ambulance to arrive ... 5 minutes may seem an eternity" (evidence, p 116).

The Committee considers that the absence of reliable data on response times to calls for emergency assistance and transport hinders the rational development of Ambulance Services in areas such as the establishment of new branch stations, or the allocation of additional vehicles to some locations.

There appears to be some divergence of practice between Ambulance Services which do calculate response times in the selection of the point from which response times are calculated. In the case of Peninsula Ambulance Service, response times are measured from the time the call is received in its control room, even though callers requiring an ambulance within that region who use the 000 emergency telephone number have their requests received by Ambulance Service - Melbourne initially, who then advise the Peninsula Ambulance Service of the requirement. Similarly, individuals requiring an ambulance in the Werribee area can call the 000 emergency number, but the details of the requirement are passed on to the Geelong and District Ambulance Service which includes the Werribee area. The Committee considers that

ambulance response times should be calculated from the time at which the call is first received, regardless of which Service or Control District receives the call.

The Committee considers that it is essential for Ambulance Services to continually collect and collate data on response times to calls for emergency assistance in all areas of their regions. Ambulance response times are a critical indicator of the extent to which Services meet their primary objective, and form an important planning tool for Service management. It is appropriate for information on ambulance response times to be included in the Services' annual reports.

There is a need for the development of a range of Service performance indicators, of which response time is but one. These measures are needed to assist in the measurement of the extent to which Services meet their objectives and in determining the efficiency with which Services use their resources. The Committee notes that several indexes of some characteristics of Ambulance Services throughout Australia were developed by Bain, Robertson and Jamieson in the course of their research reported in 1974 (Bain and others). The Committee accepts that these indicators, developed for Australia-wide comparative purposes, may not be appropriate for Victoria's Ambulance Services. They do, however, provide examples of the types of indicators which can not only assist Service management in making more rational decisions, but also enhance the level of accountability of Services to the public, who can be better informed about what Ambulance Services achieve and how much they cost.

**Recommendation 8.16:** The Committee recommends:

- (i) that Services be required to collect and collate information on response times for all emergency calls by branch, district, type of case and distance travelled in accordance with standardised definitions developed by the Victorian Ambulance Commission;
- (ii) that information on response times be included in each Service's annual report and in the consolidated annual report of the Victorian Ambulance Commission;

- (iii) that response times be calculated from the time the call is first received by any Control District;
- (iv) that Ambulance Services recognise that response time to calls for emergency assistance is one of the prime indicators of performance and continually monitor their operations and procedures with a view to decreasing response times; and
- (v) that Ambulance Services and the Victorian Ambulance Commission develop and use other indexes of both financial and operational performance.

#### 8.4.2 Access to Ambulances

It has been noted that Ambulance Services respond to all calls for emergency medical assistance and transport. In the metropolitan area and in some other parts of Victoria, individuals may use the well publicised and widely known 000 emergency telephone number, which provides rapid access to police, fire and ambulance services. Calls to this number are connected to the appropriate emergency service by a Telecom operator. However, in some parts of Victoria those who require an ambulance must locate the telephone number of the appropriate Ambulance Service in a local telephone directory, by consulting the notices posted in public telephone boxes or by the use of emergency telephone numbers distributed to residences. The Committee was told during discussions with non-metropolitan ambulance personnel that the lack of a standard telephone number often made calling an ambulance a longer process than it perhaps should be for individuals who were under some stress. This was particularly so for those visiting the district and who were therefore unfamiliar with it.

In response to questions from the Committee, Telecom Australia have advised that plans to extend the 000 emergency telephone number to all areas of the State are well advanced and that work should be completed by June 1987. One of the major difficulties in extending their service is in developing co-ordinated emergency contacts in country areas that are available 24 hours a day. Although the Committee notes that Ambulance Services are not the major difficulty in developing these

contacts, it does consider that all Ambulance Services should offer the fullest possible co-operation to Telecom in extending this valuable facility.

#### 8.4.3 Control Operations and Dispatch Procedures

The Committee has inspected all Ambulance Service control rooms in Victoria, and it has been informed of the procedures through which calls are received and through which ambulances are dispatched. It is the responsibility of the Station Officer on duty in the control room to dispatch the most appropriately located or equipped vehicle. The level of technological sophistication of radio and telephone equipment varies markedly between Services, although evidence of the implications of the various control room equipment and layouts for ambulance response times or operations was not received. Several Services raised the question of computer-aided dispatch, which is in use in some overseas ambulance organisations.

Many ambulance officers who had experience in control room operations remarked that control room staff had to deal with both emergency and non-emergency calls for ambulances. This problem is particularly acute in Ambulance Service - Melbourne, because of the large numbers of transports arranged. Non-metropolitan control room staff commented that the only way to communicate with the control room of another Service was by telephone, and that was slower than using radio communication.

Some non-metropolitan Services do not staff their headquarters control rooms for 24 hours each day, with the control function being undertaken from the home of the officer on call overnight. In a submission to the Committee, the Ambulance Employees Association expressed its reservations about this practice:

"The current practice at some ambulance headquarters of not being manned on a 24-hour basis is no longer acceptable in as much as providing a service to the community that is less than (that) available elsewhere in the State. It also creates stresses on staff doing the control function at home, as well as operating a system that is prone to a far larger degree of human error than is necessary..." (submission, p 29).

Others defended this practice, on the ground that the small number of calls received at night meant that there was little point to having the officer on duty at the

station, that it caused perhaps less personal disruption and stress than being on duty, and that response times were not increased by more than a very small amount.

The Committee considers that in order to maximise response times and the use of ambulance vehicles, the control room staff of adjacent Control Districts should co-operate and liaise on both emergency and non-emergency transport requirements. Such co-operation will ensure that Service or Control District boundaries do not become "Berlin Walls" and do not interfere with emergency response. It will also avoid the wasteful use of several partially loaded ambulances each transporting patients to Melbourne or to other major centres at the same time.

**Recommendation 8.17:** The Committee recommends:

- (i) that control room and dispatch procedures for non-emergency transports be handled separately from emergency requirements in the control rooms of the Metropolitan Ambulance Service, at least during the busiest periods of the week;
- (ii) that 24 hour rosters continue to operate in all Control District centres; and
- (iii) that ambulance personnel continue to co-operate with the staff of adjacent Control Districts:
  - to ensure the fastest response to emergency calls; and
  - to maximise the use of ambulance vehicles and crew.

The Committee was told that Ambulance Service boundaries in the greater metropolitan area sometimes interfere with the optimum deployment of vehicles. The boundary between the Peninsula Ambulance Service and that of Ambulance Service - Melbourne runs through densely populated Melbourne suburbs. MICA officers informed the Committee that if a call is received for an ambulance to go to a suburb just inside the Ambulance Service - Melbourne boundary and the attendance of a MICA vehicle and crew is indicated, one must travel over 20 kilometres from the Alfred Hospital even though the Peninsula Ambulance Service's MICA vehicle,

which is based at Chelsea overnight, would have to travel only 10 kilometres to reach the patient.

The Peninsula Ambulance Service advised that if requested by Ambulance Service - Melbourne to attend with MICA a patient outside Peninsula's boundaries they would always respond, provided that the one MICA vehicle operated by their Service was available. It would seem that requests such as this are made infrequently. The Committee considers that this apparent confusion over the deployment of vehicles across metropolitan regional boundaries is an indication that the existing boundaries can have a deleterious affect on the ambulance service available to metropolitan residents. Ambulance officers based at Werribee, which is part of the Geelong and District Ambulance Service, are not able to call the Ambulance Service - Melbourne MICA unit based at the Western General Hospital and must rely on the standard ambulances operated by their own Service. The establishment of the Metropolitan Ambulance Service and the review of the location of MICA units (Recommendation 8.10) should ensure that MICA can adequately respond to all areas served by the Metropolitan Ambulance Service.

The Committee is aware that some work is in progress on computer assisted dispatch of ambulances both at Ambulance Service - Melbourne and in the Health Commission: it notes also that there is no co-ordination between them on this matter. Indeed, the officers of Ambulance Service - Melbourne involved appeared to be unaware of the work being done on computer assisted dispatch by the Health Commission, and vice versa. The co-ordination and supervision of work of this type is a major task for the Victorian Ambulance Commission.

The Committee is aware of an excellent computer-based dispatch system used by the Royal Automobile Club of Victoria to direct its emergency service vehicles in the metropolitan area. The needs and operating conditions of ambulances and RACV service vehicles differ, but many of the basic principles are common. The RACV's system makes it clear that computer-aided dispatch can work, and the Committee believes that co-ordinated work on the project should be given high priority. There is, however, no justification for the work to be done in two places.

**Recommendation 8.18:** The Committee recommends that co-ordinated work on computer aided dispatch be carried out as a high priority.

## 8.5 Relationships Between Ambulance Services and Medical Services

### 8.5.1 Medical Officers

Medical personnel have considerable involvement with Ambulance Services at present. They often participate in in-service training of ambulance officers and they have a central role in the training of MICA officers and in the conduct of courses at the Ambulance Officers' Training Centre. They are represented on Health Commission committees and working parties, and serve on some Ambulance Service Committees of Management. The Health Commission employs an Ambulance Service Medical Officer, Dr Frank Archer, who is attached to the AOTC. Dr Archer has made an invaluable contribution to the development of Victoria's ambulance services, and he has provided the Committee with a great deal of material and information throughout its review. Medical practitioners are also necessarily involved in the day-to-day operations of Ambulance Services through their authorisation of patient transport, and the provision of advice on treatment or handling of particular patients. The Committee considers that medical personnel have an important role in ambulance work. A substantial amount of evidence was received to support the view that there is insufficient involvement in some areas, and some difficulties in the relationship at times.

It is apparent that the wider introduction of Advanced Life Support techniques to ambulance work will require a greater degree of medical involvement with Ambulance Services than is presently the case. In addition, the Committee's recommendations on the establishment of Ambulance Transport Review Panels and on closer operational links with hospitals will also need the more regular and more formalised input of medical practitioners. The Committee has concluded that a medical officer should be appointed to each Ambulance Service on a part-time basis to co-ordinate and advise on the medical aspects of the Service's operation. It is considered desirable that such a medical officer have experience and training in one of the areas of medicine which are most relevant to emergency medicine (such as cardiology, anaesthesia, trauma), although this should not preclude the appointment of other suitable medical officers to the position.

**Recommendation 8.19:** The Committee recommends:

- (i) that an Ambulance Service Medical Officer be appointed to each Ambulance Service for a minimum of two sessions each week to:
- . examine and report to the Ambulance Transport Review Panel on instances of reported inappropriate use of ambulance transport;
  - . monitor the development of medical care skills among ambulance officers and the introduction of new equipment, particularly in relation to hospitals in the region;
  - . provide guidance to the skills maintenance officers on the medical aspects of their work, and conduct or assist with training on specific medical techniques;
  - . advise the Regional Superintendent of the Service and the Medical Director of the Victorian Ambulance Commission as appropriate;
  - . review emergency case sheets to facilitate the identification of training needs; and
  - . conduct case review sessions; and
- (ii) that Ambulance Service Medical Officers have regular meetings with the Medical Director of the Victorian Ambulance Commission to ensure a consistent approach to their duties throughout the State, to exchange information and to receive guidance on the conduct of training and case review sessions.

The Committee noted that one of the more successful advisory committees established by the Health Commission was the Ambulance Medical Sub-Committee. The contribution of this Committee to the development of Advanced Life Support training and its implementation has been considerable. Interestingly, it is the only Committee with a very senior Health Commission officer as a member: this may have contributed to its comparative success. An Ambulance Medical Committee should be established to provide advice to the Victorian Ambulance Commission on medical matters. It should operate in accordance with the general principles on committees described in Recommendation 5.29.

**Recommendation 8.20:** The Committee recommends:

- (i) that a Standing Ambulance Medical Committee be established by the Victorian Ambulance Commission to provide specialised medical input into the decision-making processes of the Victorian Ambulance Commission, particularly in relation to decisions on training, equipment, the role of Ambulance Service Medical Officers, and the interaction between Ambulance Services and hospitals;
- (ii) that the Standing Ambulance Medical Committee include representation from appropriate organisations of medical specialists, the Victorian Hospitals Association, the Ambulance Officers' Training Centre and Ambulance Service Regional Superintendents, together with a nominee of the Chairman of the Health Commission and a Professor of Social and Community Medicine or equivalent;
- (iii) that the Standing Ambulance Medical Committee elect its Chairman; and
- (iv) that the Committee be serviced by the Office of Victorian Ambulance Commission, with the Medical Director as Secretary.

### 8.5.2 Hospitals

The Committee was informed of difficulties both Ambulance Services and hospital medical officers experience in the delivery of emergency patients to hospitals. For ambulance officers in the metropolitan area, the most serious problem has been with identifying a hospital which will accept a patient. Chief Superintendent Jock Berry of Ambulance Service - Melbourne informed the Committee that:

"it has not been unknown for the Ambulance Service, especially in the last few months, to have to take a patient from one side of Melbourne to a hospital on the other side because that is the only one left admitting patients" (evidence, p 389).

Ambulance Service - Melbourne has sought the co-operation of metropolitan hospitals in maintaining an updated list of intensive or coronary care beds available. Control room staff consult this list and advise the ambulance crew where they should take the patient. The Royal Melbourne Hospital does not provide this information. Dr Geoffrey Dreher, the Director of Medical Services at the Royal Melbourne Hospital set out the Hospital's reasons for not providing Ambulance Service - Melbourne with bed state information in a letter to the Chief Superintendent which was provided to the Committee by the Royal Melbourne Hospital:

"I do not believe it is appropriate for your organisation to keep a monitor of available beds in the public hospitals and in particular not of Intensive Care or Coronary Care beds. It is the role of the hospital's Admitting Officer to determine upon the specific request of a medical practitioner whether this hospital can accept that doctor's patient. If in any doubt the Admitting Officer is instructed to ask that the medical practitioner arrange for the patient to be sent to the Emergency Department for assessment.

"This hospital holds a strong view that the Ambulance Service and its officers should not request from any hospital the availability of any beds ...The ambulance officers upon assessing the nature of a patient's problem should go directly to the closest major public hospital which appears to be appropriate for that problem.

"It is the specific role of the Emergency Department and the services of that hospital to assess any patient who is brought into the Emergency Department and decide what is the most appropriate management from that point onwards. It is not the Ambulance Service's role to determine hospital priorities or potential hospital management" (Letter, 23 September, 1983).

Dr Bryan Walpole, Director of Casualty at the Alfred Hospital, agreed that:

"it is not an ambulance officer's job to find a bed - it is the hospital's job to find a bed when a patient presents...a significant number of patients do not need a bed; they need an operating theatre for immediate surgery" (evidence, p 423).

Dr Walpole and other medical personnel who provided evidence and submissions to the Committee were concerned that Ambulance Services were not a part of an integrated system of emergency medical care, and that the existing fragmentation of responsibility for the care of critically ill patients sometimes led to delays in treatment. He said that:

"people who phone an ambulance are not phoning for a couple of ambulance officers and a vehicle but for access to the health care system...we need to consider the call, the notification, the dispatch, the arrival and the early treatment, the transport and the work in the emergency department as several phases of the one continuous spectrum" (evidence, p 421).

Several ambulance officers shared the concern of medical personnel about their isolation from other areas of health care.

On 21 May 1984, as part of a response to the increasing difficulties in locating hospital beds referred to above, the Minister of Health announced that:

"The State Government will appoint a Director of Critical Care to co-ordinate the transport, admission and immediate care of seriously ill and injured patients in metropolitan Melbourne.

"The Government will also upgrade radio and telephone links between hospital emergency departments, ambulance control rooms and ambulance crews...

"...the Director of Critical Care would have the authority to direct ambulances to take patients to designated hospitals and to direct those hospitals to admit designated patients where ordinary negotiations had failed.

"A system will also be set up to maintain an accurate bed state register - primarily for intensive and coronary care facilities in metropolitan Melbourne" (Minister of Health, News Release, 21 May, 1984).

Early in September 1984, a senior physician from St Vincent's Hospital was appointed to the position of Director of Critical Care. An advisory panel to the Director has been established by the Health Commission, and Ambulance Services are represented on it.

The Committee considers that this new arrangement may alleviate many of the difficulties associated with the location of appropriate hospital beds for critically ill patients.

Another area of concern regarding the relationship between hospitals and Ambulance Services relates to non-emergency transports to hospitals when the patient is to be admitted as an in-patient of the hospital. Some patients arrive with scanty documentation from the dispatching hospital or their doctor, and in some cases the ambulance crew is not informed of the patient's condition. Mr E Kay, an ambulance officer with the Goulburn Valley Ambulance Service, highlighted this problem:

"There are times when we get a call from a doctor and we ask what specific problem the patient has and they tell us that it does not really concern us. When we are travelling with a patient for three hours it definitely concerns us, especially if anything goes wrong with the patient" (evidence, p 298).

The Committee heard of some instances where patients had been delivered to hospitals at a certain time and yet not admitted or seen for many hours. The causes were almost always related to either the lack of or scanty nature of patient documentation, or to handover procedures which were vague and inadequately defined. Dr Anne D'Arcy, Director of Emergency Services at the Royal Melbourne Hospital, told the Committee of some difficulties with the handover of patients:

"With an inter-hospital transfer, ambulance officers only fill out one piece of paper, which they keep themselves, which has the patient's documentation filled out on it, such as patient's name and address. There is no paper work filled out by the ambulance officers to give to the hospital staff on an inter-hospital transfer...

"There is a need to develop a reception area with staff for these elective patients. If the ambulance officer does not hand the patient over... the reception area does not know where the patient is. There have been situations of patients parked on trolleys and no one knows anything about them"(evidence, p 496).

Some ambulance officers suggested to the Committee that although this procedure was supposed to be followed, it was not always adhered to in practice.

The Committee sought information from hospitals on their procedures for dealing with all patients who arrive by ambulance. The main shortcomings of the existing handover arrangements between ambulance officers and hospitals relate to the lack of adequate documentation for all patients delivered by ambulance, and to the lack of a single focus for receiving non-emergency patients in many hospitals. The Committee believes that in institutions as busy and complex as major hospitals, reliable handover procedures and adequate patient documentation are absolutely essential. As part of improving the operational co-ordination between hospitals and Ambulance Services, both organisations should co-operate to develop a clear set of arrangements which should be made known to ambulance officers and hospital staff.

The extent to which ambulance officers can seek advice from hospital medical personnel on the handling or treatment of particular patients was often canvassed, and the difficulties in doing so were often attributed to the poor communication equipment available in hospitals. In Section 8.3.3 the Committee has recommended the installation of equipment to allow direct communication between ambulances and emergency departments. This equipment would enable ambulance officers to seek further information and advice from medical staff, although the Committee accepts that there could be some difficulties with this. Emergency departments often have a high proportion of comparatively junior medical staff, who are often inexperienced at emergency work. An experienced ambulance officer on the scene may in fact be better able to assess the immediate treatment needs of a critically ill or injured patient than a junior and inexperienced emergency department doctor. On the other hand, an emergency medicine specialist may be able to provide extremely valuable advice and guidance. Similar remarks apply to coronary care specialists.

Dr Walpole and several other emergency medical personnel commented that the number of doctors on duty in emergency departments and their level of experience did not always mean that ambulance officers had access to sound advice on the treatment or management of a particular patient, even if the communications system would allow it. According to Dr Walpole, "it is no good talking to a doctor unless he is post-graduate year 3, because his training may not be adequate" (evidence, p 428).

The Committee does not recommend the system that is frequently found in the United States, in which Emergency Medical Technicians - Paramedics are allowed to use some of the Advanced Life Support protocols only after receiving clearance from a medical practitioner on each individual occasion. The Committee believes that the levels of training and general ambulance experience of both standard ambulance officers and the MICA officers (and of the similar Paramedic officers in Sydney, Wollongong and Newcastle) are such that it is neither necessary nor desirable to have them operate under immediate medical control in this fashion.

The Committee sees direct radio links between ambulance vehicles and emergency departments as a means for obtaining advice and guidance and for notifying impending arrivals, not as a means of exercising control over the on-road operations of ambulance officers. The Committee also sees such a link as an essential component of the development of closer operational integration of the pre-hospital care of Ambulance Services and the care provided within hospitals.

The Committee recognises that the question of staffing for hospital emergency departments is outside its terms of reference, but it considers that the quality of advice available to ambulance officers who seek it from hospital doctors is central to the quality of initial emergency care available to critically ill patients.

**Recommendation 8.21:** The Committee recommends that Ambulance Service Committees of Management, Control District Ambulance Committees, Regional Superintendents and District Superintendents maintain strong links with the staff of hospitals in their areas to increase the extent of operational co-ordination between hospitals and Ambulance Services.

The Committee notes the use of the term "Emergency Medical System" (EMS) in the United States and by some of the witnesses who appeared before it. One of the main reasons for having formalised systems in the United States is to overcome the difficulties generated by the very highly fragmented nature of ambulance services. In Victoria there exist far higher levels of organisation and co-ordination of ambulance services, and we do not have the need for this kind of structure. Because

of the greater organisational strength of our Ambulance Services, they have for thirty years developed with comparatively high levels of independence of the hospitals. One consequence of this is that ambulance officers often regret their professional isolation from other health care professionals. Another is that the degree of beneficial interaction between ambulance, nursing and medical officers in Victoria is now less than it is in some parts of the United States, despite the fragmentation of ambulance services there.

The Committee feels that this lack of professional interaction is not conducive to the best patient care, and does not encourage recognition of the specialised professional skills of ambulance officers. While the Committee does not believe that a formalised EMS along the United States model is appropriate in Victoria, it does consider that much higher levels of operational integration are highly desirable. Throughout this Report, the basic objective recommended for Ambulance Services and many of the subsequent specific recommendations are framed with this concept as a firm goal. The Committee does not see this process as leading to control of ambulance services by medical officers or by hospitals: organisational co-operation and operational co-ordination are what is being recommended.

### 8.5.3 Case Review

While a process of regular review of cases handled by MICA officers is in place, the Committee has noted the concerns of both ambulance officers and medical personnel about the lack of formal and constructive review of the initial treatment and handling of patients carried in standard ambulances.

Mr Anthony Mathieson, an ambulance officer with the Goulburn Valley Ambulance Service, wrote in a submission to the Committee that (p 2):

"no organised discussions are held (about)...officers' treatment (and) diagnosis of any patient. No constructive criticism is given to officers so therefore in practice mistakes can (be) and are repeated".

In some non-metropolitan hospitals, ambulance officers are encouraged to follow certain patients through their hospital care, which may provide some opportunity for informal review. Some country hospitals also allow ambulance officers to assist in the provision of treatment to patients. In the metropolitan area, ambulance officers have few opportunities for similar experiences.

The Committee believes that the regular and constructive review of ambulance officers' work will improve the quality of care which officers can provide. While the establishment of a process of case review is regarded as essential for those officers who are trained in Advanced Life Support techniques, the cases reviewed should not be limited to those where Advanced Life Support techniques have been employed but should cover the whole range of patient care techniques. The importance of case review in skills maintenance programmes is discussed in Section 7.2.

**Recommendation 8.22:** The Committee recommends:

- (i) that regular case review sessions be held in Control District centres organised by the Service skills maintenance officer and led by the Service medical officer;
- (ii) that guidelines on the conduct of case review sessions be developed by the Medical Director of the Victorian Ambulance Commission in conjunction with the Ambulance Officers' Training Centre;
- (iii) that case review sessions be organised at times when the participation of branch station ambulance officers can be maximised; and
- (iv) that case review sessions include both Advanced Life Support and Basic Life Support techniques, together with other aspects of ambulance officers' role in the care and transport of patients.

#### 8.5.4 Disaster Co-ordination

The role of Ambulance Services in disaster situations is described in the draft Medical Displan which is being prepared by the Health Commission:

"In a disaster, ambulances will in general follow their normal role as an emergency medical service. This includes provision of emergency

first-aid and transportation of casualties to hospital. Mobile Intensive Care Ambulance crews have additional responsibilities for stabilising severely injured cases by intravenous transfusion, intubation and positive pressure ventilation and defibrillation as necessary.

"The disaster situation will place a heavy burden on ambulance services, including several additional responsibilities.

"The ambulance service is responsible for initiating the disaster response according to this plan. Ambulance crews are usually the first medical professionals to arrive at the scene of an unpredicted accident or disaster and thus first to assess the extent of casualties. Even when there are few confirmed casualties initially, an alert should be given if further casualties are likely to occur...

"Other additional ambulance responsibilities include:

- (1) Supply of equipment (including stretchers) to the disaster site.
- (2) Arrange transportation of medical team members and hospital based "disaster kits".
- (3) Provision of a senior ambulance officer to assist the area medical co-ordinator with command and control procedures at the medical command post.
- (4) Provision of communication facilities between the medical command post and Ambulance Service Headquarters. This may involve the use of a specially equipped mobile communication vehicle.
- (5) Supply of a sufficient number of crews and vehicles.

"Ambulance units will have to be directed from normal services and off-duty crews will be recalled. Suitably equipped road ambulances may be required from other State authorities.

"The Ambulance Service will be responsible for management of helicopter transportation if this is needed.

"Ambulances should not use their rotating red beacons or sirens at the disaster site unless traffic demands their use".

Some Ambulance Services have undertaken counter-disaster planning exercises in conjunction with other emergency services, and most have established some liaison with Area Medical Co-ordinators, who are responsible for the co-ordination of all medical aspects of disaster response.

The Committee was most impressed with the level of co-operation between Ambulance Services and other emergency services in some of the smaller centres it

visited. In the small centre of Balmoral, in western Victoria, the Ambulance Service, State Emergency Service and Country Fire Authority all have their vehicles, equipment and control and communication facilities located in the one specially constructed building. The arrangements were described to the Committee by Mr J Rogers, a Balmoral resident and a member of the Committee of Management of the Glenelg District Ambulance Service:

"In Balmoral, we have the perfect model for demonstrating that compatibility. Balmoral has the Country Fire Authority, the Ambulance Service and the State Emergency Service situated in the one building. Those organisations required new buildings some time ago. The idea was reached between the Superintendent of the Glenelg District Ambulance Service and Regional Officer of the State Emergency Services that all emergency services should be co-ordinated and amalgamated at a grass roots level...It was ridiculous for each organisation to erect its own building.

"It was agreed locally that the services would be amalgamated, but a lot of trouble was experienced when we approach various departments. One authority was quite hostile towards the proposal, but we overcame that problem by vesting ownership with the local shire council..." (evidence, p 198).

The Committee inspected the building at Balmoral, and was most impressed. It applauds this kind of co-operation, and strongly advocates its adoption elsewhere. It would like also to congratulate those responsible for it. A photograph of the building appears as the frontispiece to this Report.

The Committee believes that such co-operative organisation in smaller centres, where a great deal of emergency work is undertaken in a voluntary capacity should receive every encouragement. In particular, there should be no structural or institutional barriers to inhibit the development of such joint facilities, and all Ambulance Services should actively seek such co-operative activities for both casual and full-time stations.

**Recommendation 8.23:** The Committee recommends:

- (i) that the Victorian Ambulance Commission maintain close liaison with the State Emergency Service, the Country Fire Authority, and the Victoria Police;

- (ii) that Ambulance Services work with all emergency services in the planning and conduct of counter-disaster exercises; and
- (iii) that co-location of Ambulance Service facilities with those of the State Emergency Service or the Country Fire Authority or both in smaller centres be very strongly encouraged and sought after when new facilities for any of the emergency services are being developed.

#### 8.5.5 Complaint Handling

The Committee is required to inquire into the manner in which bodies under review handle complaints. As noted in Section 4.1, Ambulance Services appear to receive few complaints given the large volume of work they undertake, and its impact on individuals.

Almost all Ambulance Services commented to the Committee on their procedures for investigating and responding to complaints from clients about the service provided. Some Services ask that the complaint be made in writing whereas others prefer to deal with the complaint less formally. In most Services, complaints are initially handled by a Senior Station officer or an Assistant Superintendent. More senior staff and the Ambulance Service Committee of Management are involved in the investigation of more serious complaints which relate to the conduct of an officer or which indicate that policy changes may be necessary.

The investigation procedures as they exist appear to allow for the adequate investigation of particular cases. The Committee is of the view that the management of new Services should continue to develop complaint handling procedures which ensure that they are investigated carefully by appropriate Service staff. Services may wish to consider documenting complaint handling procedures and providing some training for Service staff in the receipt and investigation of complaints. In addition, there may be some advantage in keeping records of the reasons for complaints for use as a planning and performance assessment tool. However, the Committee does not see any need for it to make a formal recommendation on this matter.

## 8.6 Air and Helicopter Ambulances

### 8.6.1 Use and Response of Air Ambulance

Ambulance Services are responsible for the choice between transporting a patient by road or by air. The patient's condition, the estimated comparative response and arrival times of their own road ambulances and the Air Ambulance, and the recommendation of the authorising doctor or hospital are all taken into consideration in determining the mode of transport to be used. The matters discussed in Section 8.1 on the authorisation for ambulance transport are equally relevant to the use of the Air Ambulance, and the Committee has been told of instances where people with no real medical need have been transported by Air Ambulance.

Dr Ian Favilla, an ophthalmic surgeon based in Melbourne, told the Committee of the value of Air Ambulance transport for patients with certain medical conditions. In his submission to the Committee he explained (p 1):

"As many of (my) patients have other general medical complications, in particular diabetes mellitus, and are usually receiving systemic medication, the Air Ambulance and associated services provides an invaluable service to Victorian country patients referred to me for further management.

"The advantages the Air Ambulance has compared with the alternative methods of transport are:

1. Speed. Patients are collected and returned to their homes with the minimum disruption to their daily routine. This is important for diabetics who are dependent on regular meals and medications, and usually find the long day required for rail or road transport upsetting to their normal routine, with the usual consequences of unstable management for several days following, often necessitating time off work.
2. Nursing Supervision. The Air Ambulance provides inflight and post-flight nursing supervision which is important to many patients referred to me because they usually require regular medication and their visual handicap prevents them from administering this correctly. On several occasions patients have become ill while awaiting their return trip, and the prompt action of the attendant staff has averted a major problem".

In its submission to the Committee, the Northern District Ambulance Service expressed concern about the operations of the Air Ambulance, and in particular (p 20):

"...the time it can take a routine patient to travel from Echuca to Melbourne. It is possible for a patient to travel from Echuca to Melbourne via Swan Hill or Wangaratta and other points around the State and returning by similar routes, whereas by road they would have been travelling for less time".

Non-metropolitan Ambulance Services, particularly those most distant from Melbourne, were critical of Air Ambulance response times in emergencies. In its submission to the Committee, the Mid-Murray District Ambulance Service remarked that (pp 66-67):

"In general, availability of air ambulances is satisfactory during normal week day, day time operations...

"When air ambulances are required to respond to emergency calls outside regular operating hours there is often a considerable delay before the aircraft can take off..."

Superintendent Doug Woodhouse of the East Gippsland Ambulance Service told the Committee that Ambulance Services have sought to make back-up arrangements should an Air Ambulance not be available to respond to an emergency quickly:

"We developed a system of alternative resources. To this extent we entered into an agreement with a Bairnsdale charter operator to supply an aircraft if the Air Ambulance was not available.

"This is the way Services have to go. I am aware that Mildura has done that recently. It can happen in other areas. Melbourne is not the only place with aircraft and pilots. If one does have an emergency, one must have an alternative system to fall back on" (evidence, p 323).

Several non-metropolitan ambulance personnel consider that the existing arrangement where Ambulance Service - Melbourne manages the Air Ambulance Service is not appropriate, and they maintain that the main cause of slow response times is that all aircraft are based at Essendon. The Latrobe Valley District Ambulance Service stated in its submission to the Committee that (p 6):

"Country Ambulance Services are set up to cater for the country population. The movement of patients to the city is for specialised procedures and treatment. It is therefore essential that services being provided primarily for rural Victoria should be located in the areas they are to serve. It is difficult to support a theory that a seriously ill country person must await the arrival of a city based or co-ordinated facility to provide assistance."

Chief Superintendent Jock Berry of Ambulance Service - Melbourne, who has played a leading part in the development of Air Ambulance in Victoria, told the Committee that he and others had "heard these accusations (regarding response times) and we cannot find the instances" (evidence, p 472), and little firm evidence of long delays in emergency responses has been provided to the Committee.

Both Mr Bill Suhr of Peninsula Air Services and officers of Ambulance Service - Melbourne told the Committee that the costs of having Air Ambulance aircraft located throughout the State would be extremely high, as pilots, nursing staff and maintenance crews would have to be provided in the area for each aircraft. Ambulance Service - Melbourne also considered that:

"up to five aircraft in the air all over the State at any one time with radio contact with base provides an instant availability for an emergency" (submission, p 33).

Non-metropolitan Services disputed this assertion. Superintendent John Perry from the Wimmera District Ambulance Service considered that the diversion of Air Ambulance aircraft flying with non-emergency passengers was "not always feasible for a number of cases because of the emergency equipment that is required to be in the aircraft" (evidence, p 125). Air Ambulance aircraft carry medical equipment and drugs only when an emergency is anticipated. It has also been put to the Committee that because Air Ambulance is a secondary means of transport, and that in most emergencies the condition of the patient has been stabilised prior to transport, an immediate response by Air Ambulance is required in very few cases.

The Committee has concluded that the management of the Air Ambulance Service is an appropriate responsibility for the Victorian Ambulance Commission (Recommendation 5.30). The Committee has also recommended that an Air Ambulance Committee be established to provide advice on the planning and operation of the Service, and that each non-metropolitan Ambulance Service be represented on the Committee (Recommendation 5.30).

The Committee was also told of occasions on which some Services had been somewhat unrealistic in their expectations of the Air Ambulance. Thus one Service, on hearing that an aircraft would not be available for about one and a half hours, put a critically ill patient into a vehicle for a high-speed drive to Melbourne. The Service used the one and a half hour delay as a basis for criticism of the Air Ambulance. The patient, however, arrived in Melbourne hospital at about the same time as he or she would have by the Air Ambulance, but had been away from intensive care for longer than necessary and had been exposed to the disturbance and dangers of a long, high-speed drive. Ambulance Services and hospitals have serious responsibilities when deciding how to transport critical patients, particularly those who have had their condition stabilised.

It is apparent that the capacity of Air Ambulance to respond to emergency calls is affected by the use of the Service for non-emergency transports, although the number of occasions on which this happens appears to be small. During the year 1982-1983, the Air Ambulance Service transported a total of 6783 patients, with 6686 of these being non-urgent patients. The implications of the lack of clear objectives for Ambulance Services and of well publicised guidelines for ambulance transport which were discussed in Section 8.1 are even more obvious with the Air Ambulance Service as fewer "vehicles" are available to be deployed should an emergency arise.

The Committee therefore considers that the operations of Air Ambulance should be restricted to the transport of patients who genuinely require the services of air rather than road transport, and that this general criterion apply to both emergency and non-emergency transports. In an effort to improve further the response of the Air Ambulance for emergency patients, the Committee believes that the arrangements for diversion of aircraft from non-emergency to emergency transports need to be improved. It would help response times if standard emergency kits of appropriate advanced life support equipment were available in Control Districts across the State, so removing the need for an aircraft to return to Melbourne to collect the kit as at present.

There is some uncertainty over the full comparative costing of air and road ambulances. A number of people assert that the air ambulance is in fact cheaper, and while this may in fact be so, the Committee believes that a proper comparative

costing of the two modes of transport should be carried out by a transport economist prior to the next contract being let.

**Recommendation 8.24:** The Committee recommends that the Air Ambulance Service be operated by the Victorian Ambulance Commission as proposed in Recommendation 5.30.

**Recommendation 8.25:** The Committee recommends that the Air Ambulance Service give priority to the transport of time-critical emergency cases and to the transport of patients for whom road transport would be detrimental to their medical condition.

**Recommendation 8.26:** The Committee recommends that the Victorian Ambulance Commission, in conjunction with the Air Ambulance Committee, establish a set of transport guidelines for the Air Ambulance Service, taking the following principles into consideration:

- . that the primary role for the Air Ambulance Service must be the transport of emergency and medically necessary patient cases; and
- . that only after these needs have been met, patients who meet the criteria for transport by road ambulance may be transported by air, if transport by road would be more costly to the Ambulance Services than air transport.

**Recommendation 8.27:** The Committee recommends that a careful analysis of the cost of Air Ambulance (fixed wing) transport be conducted by a transport economist prior to the next contract being arranged.

**Recommendation 8.28:** The Committee recommends that each ambulance Control District outside the metropolitan area be provided with a kit of the advanced life support equipment carried on Air Ambulance Service aircraft if an emergency is anticipated, to be kept at the local base hospital or ambulance Headquarters (whichever is the more appropriate) for use when the Air Ambulance is diverted from a non-emergency flight to provide a time-critical patient transport.

**Recommendation 8.29:** The Committee recommends that the Air Ambulance Committee review the effectiveness of arrangements to divert the Air Ambulance aircraft from non-emergency to emergency transports, and if necessary, make arrangements with the contractor to have one aircraft and one pilot on standby overnight to respond to emergency calls only.

#### 8.6.2 Contract Arrangements

All air operations associated with the Air Ambulance Service are undertaken by Peninsula Air Services (PAS) under a three year contract to the Health Commission. PAS have had the contract since 1979, and the current three year contract is due to expire on 30 September 1985. The Committee has been told by both Ambulance Service - Melbourne and PAS that they consider the contract period of three years to be too short. Ambulance Service -Melbourne told the Committee that:

"...a five year period would be more realistic. In all cases the charterer has had to augment his fleet and modify the aircraft to accommodate stretchers. To do this for a three year period tends to be uneconomical and lower quotations could be expected if the period were extended" (submission, p 31).

The Health Commission informed the Committee that it did not support the extension of the contract period to five years: "the preference for three years is based on the Commission's view of the reasonable duration of contractual commitments for the ambulance service" (Health Commission letter to Committee, 4 July 1984).

Ambulance officers commented that the stretchers used in Air Ambulance are different from those carried by road ambulances making it necessary for ambulance officers to transfer stretcher patients from one stretcher to another prior to the departure of the aircraft, and again on arrival. This extra handling of patients who are seriously ill or injured is not in the best interests of patient care. Peninsula Air Services has told the Committee that standard ambulance stretchers could be used, but that both the Health Commission and individual Ambulance Services have been unenthusiastic about using the standard stretchers.

The Committee is concerned that the tender specifications and resultant contract do not accurately reflect the requirements of the Air Ambulance Service. The current contractor, Peninsula Air Services:

"has chosen to meet the contract by having more aircraft than the contract requires. He has nine, although he is not obliged to have that many. It is his choice in meeting the terms of the contract. The other thing he could do would be to have the repair workshops working throughout the night. That situation was envisaged by another tenderer. He was going to use fewer aeroplanes, but do more servicing at night and on weekends. Mr Suhr (of PAS) prefers to have more aeroplanes" (Chief Superintendent Jock Berry, Ambulance Service - Melbourne, evidence p 478).

Mr Bill Suhr, Director and Chief Pilot of Peninsula Air Services, has great enthusiasm for the Air Ambulance, and he has contributed substantially to its development. In a submission to the Committee, he confirmed that his company was providing a level of service beyond that which is required in the contract:

"I believe it is almost impossible to word the contract to bring in all the contingencies of Air Ambulance. For example, the contract states that four aircraft be available from 7 a m to 8 p m and one aircraft from 8 p m through the night on week days.

"Due to delays in hospitals and doctors' surgeries, which cannot be avoided, many afternoon flights commence between 4 p m and 7 p m, returning to Essendon up to 11 p.m. Due to Ambulance Officers' shift times, almost every day one or two flights depart at 6.45 p m. Add to this the growing demands of the neonatal and paediatric clinics and it means that weekly, or daily, the contractor is flying far beyond the terms of his contract, as stated.....

"... if a contractor appeared each day with a copy of the contract in his hand and cancelled flights that went beyond the contract as stated, then 40% of the efficiency of Air Ambulance would be lost, and if this contractor had to be tolerated for five years, it would be difficult" (submission, p 3).

The Cessna 402 aircraft used by the Air Ambulance was criticised by some people, who suggested that faster, larger and pressurised aircraft should be used. Such aircraft are used by the New South Wales Air Ambulance. After considering the different needs and conditions of Air Ambulance Services in the two states, the Committee has no disagreement with the present choice of aircraft in Victoria. On the comparatively short flights in Victoria - few of which exceed 75 or 80 minutes - heights great enough to require pressurisation are not reached, and the extra speed of larger aircraft can shorten a trip by a few minutes only. On short flight segments - such as Albury to Wangaratta or Horsham to Ararat - a larger aircraft may in fact be slower than the more manoeuvrable Cessna 402. In addition, larger aircraft require better quality landing strips and so are more restricted in where they can operate.

The height above the ground of the loading door of the New South Wales Air Ambulance aircraft means that a special lifting hoist must be available at every airport that it uses, further reducing its flexibility. On the other hand, the Victorian Air Ambulance has also been criticised because its aircraft are too large to be able to land on some landing strips. Peninsula Air Services report that they land when required on strips that are highly marginal, but that they have several times had aircraft put out of action by damage caused by landing on inadequate strips. Some of the critics fail to appreciate that an aircraft large enough to carry several patients and a medical attendant cannot always safely land on a strip designed for a light-weight, single-engine two seater. The purchase in 1983 of a new Cessna 402 for air ambulance work by the Bundaberg Ambulance to cover an area not greatly different from that of Victoria, suggests that this aircraft is still appropriate for ambulance work.

**Recommendation 8.30:** The Committee recommends that when calling for tenders for the next contract for air services:

- (i) the Victorian Ambulance Commission accurately define the nature of air services required for the Air Ambulance Service and that this be reflected in the tender specification;

- (ii) the stretchers in the aircraft be required to be interchangeable with stretchers in road ambulances;
- (iii) the suitability for Air Ambulance Service operations of the present style of aircraft be recognised, and that the employment of faster, pressurised aircraft for this purpose be avoided; and
- (iv) the contract period for the provision of air services be five years, subject to satisfactory performance.

### 8.6.3 Helicopter Ambulance Services

In October 1983, the Minister of Health established a "Committee of Inquiry into the Use of Helicopters in Ambulance Services". When the report of this Inquiry was released in August 1984, the Minister referred it to the Public Bodies Review Committee for comment. The findings of the Committee of Inquiry are largely consistent with the views this Committee has formed on ambulance services generally. Detailed responses from this Committee to each of the specific recommendations of the report of the Committee of Inquiry into the Use of Helicopters in Ambulance Services are included in Appendix Four.

The report of that Inquiry comes to the same conclusion for helicopter ambulances as has this Committee for road and fixed-wing ambulances: that they are sometimes inappropriately used for patients with no medical need for such transport. Both emergency and non-emergency cases are transported by helicopter ambulance. The report states that (p 7):

"the predominant current use of the helicopter is routine transfer of non-urgent cases and...the proportion of cases which benefit from the use of the helicopter service is very low".

In 1982-83, the helicopter ambulance of the Peninsula Ambulance Service carried a total of 286 patients, of which "about one third were classified as emergency cases. However very few of these were of a type that could be classified as receiving substantial benefit" from the use of the helicopter, one estimate putting the number to so benefit as low as 5 per cent with none receiving "lifesaving benefit" (p 7).

The helicopter ambulance operated by the Latrobe Valley District Ambulance Service carried 801 patients in 1982-83, and "only a small percentage of patients carried are emergency patients" (p 9). The Committee of Inquiry provided no further details of the number of emergency cases for this helicopter.

The report comments on the inadequacies of the helicopter used by Peninsula Ambulance Service, and these comments reinforce the views of this Committee. Ambulance officers from Peninsula Ambulance Service who have travelled with patients in the helicopter ambulance were critical of aspects of its design. The present Angel of Mercy helicopter is particularly small, making treatment during flight very difficult. Dr Andrew Bacon, when giving evidence to the Committee, said that:

"(Two members of the Committee were) sitting in more space than the attendant and the patient have in the back of the helicopter. There is no way to intervene with the patient.

"I have handled acutely ill patients in the helicopter and I am aware of its size. At the time it was introduced, it was an innovation, but twelve years later it is an embarrassment" (evidence, p 379).

The Committee noted that until a detailed investigation of the costs of helicopter ambulance transport was undertaken by a consultant as part of the Inquiry into the Use of Helicopters in Ambulance Services, the managements of the Peninsula and Latrobe Valley District Ambulance Services regarded it as less expensive than road transport. The consultant reported that:

"...it is clearly established that helicopter represents a more expensive mode of ambulance transport than road vehicles. The difference is significant at \$6.73 per patient kilometre for Peninsula and \$1.16 per patient kilometre for the Latrobe Valley Service" (Segal, preamble).

In the light of the high cost of helicopter transport, the Inquiry concluded that (p 13):

"the use of helicopter ambulance for services which can be effectively provided by road ambulance is not justified".

The report recommended that (p 15):

"The principal role for an ambulance helicopter service should be the transport of patients to hospital or between hospitals where there is a need for faster transport than can be provided by road ambulance and where the helicopter provides a significant reduction in the transport time".

The Inquiry concluded that "the proportion of emergency cases which are in a condition where minutes of travel is critical is quite small - probably less than one per cent of emergency cases" (p 19), and that in many parts of the State road ambulance transport would be faster than helicopter transport. On this basis the Inquiry concluded that there was justification for the use of helicopter ambulances in only a limited part of Victoria: in its report it finds that there is "some justification" for the use of helicopters in the area outside Melbourne, but within a 150 kilometre radius of the city, as this "is a highly populated area, mostly remote from major hospitals" (p 20).

To meet its proposed role for helicopter ambulances, the Inquiry recommended that the areas covered by the present helicopter services be expanded and that the services primarily transport "time-critical" emergency patients. The Public Bodies Review Committee agrees with these recommendations. The Inquiry also recommended that the helicopter service presently operated by Peninsula Ambulance Service be upgraded by introducing a larger, twin-engine, IFR (Instrument Flying Rules) certified helicopter. The Committee has serious reservations about this proposal.

The report of the Inquiry into Helicopter Ambulances includes some costs of the changes it recommends, but it contains few details of how the cost figures were derived. As this is a most important factor, any proposals must be made only after a careful analysis of the likely costs and benefits. The Inquiry states that the cost of their proposals - for a large twin-engine, IFR certified helicopter at Moorabbin and 24-hour stand-by cover for this service - would be \$1 400 000 each year. The Public Bodies Review Committee has estimated the cost of the same proposals, and these calculations are detailed in Appendix Four. These suggest that the proposals of the Inquiry into Helicopter Ambulances could cost \$2 450 000 annually, or about \$1 million more than the Inquiry suggests.

As discussed in Chapter Four, Ambulance Services, along with other agencies, now face very great competition for Government funds. More than ever before, the Services need to be able to demonstrate the effectiveness and efficiency with which they utilise their resources. The Inquiry into Helicopter Ambulances states that there is:

"a relatively limited scope for the use of helicopters in Victoria for high speed transport of ambulance patients as road ambulance cover is excellent and is the preferred transport method for most patients" (p 18).

It estimates that with a helicopter ambulance service operating in an area outside the metropolitan boundary in a radius of 100 kilometres, "about 380 transports per year would be justified by helicopter ambulance to obtain benefit from transport for 76 ...'time-critical' patients per year" (p 20, our emphasis).

The high cost of the proposals to upgrade the helicopter services, in conjunction with the recognised limited role of such services, leads the Committee to question whether the use of large, twin-engine, IFR certified helicopters is the most effective use of the resources that are or might be available for ambulance services. The Committee wishes to emphasise that it believes the role of helicopter ambulances, although limited, to be extremely valuable, and that the retention of the service is of great importance. However, the Committee considers that upgrading the services to the level proposed by the Inquiry into Helicopter Ambulances may not be the most effective way to meet the Ambulance Services' objective of reducing mortality and morbidity throughout the community. The Committee believes that if the funds required for the helicopter service proposed by the Inquiry were available for use in ambulance services, a substantial proportion of them would be more effective if spent on other proposals, such as the wide introduction of Advanced Life Support techniques, or the appointment of additional staff to permit improved skills maintenance programmes.

The Committee believes that helicopter services need to be upgraded to provide a more effective service. The Committee also believes that the very substantial extra costs of twin-engine, IFR certified helicopter are not justified in the light of the small number of additional patients that these helicopters could serve that less expensive aircraft could not. The need for IFR certification of helicopter

ambulances in Victoria is questioned by the Committee, as there are so few landing sites which have the facilities for IFR operations. Only major airports have these facilities, and neither hospitals nor accident sites could receive these helicopters except under visual flying rules. On the other hand, the development of illuminated helicopter landing sites with direct access to the casualty departments of one or two major hospitals would be a useful measure.

The Committee recognises the need for a larger helicopter for the service based at Moorabbin and for pilots to be on standby during the day in order to achieve the fast response needed for emergency, time-critical transports. The Committee considers that a Bell Longranger aircraft based at Moorabbin would increase the effectiveness of the service at a more reasonable cost than would the more powerful helicopter recommended by the Inquiry.

The Committee also estimated the cost of its proposal for enhanced helicopter ambulance services, and it concludes that this would cost about \$1 280 000 each year, and details of this estimate appear in Appendix Four. The Committee of Inquiry noted that "the current contract costs (for the two helicopters) are \$360 954 per annum...If a Bell Longranger replaced the Jet Ranger for Peninsula Service...and costs are updated, annual costs for both services may rise to around \$600 000 in total" (p 34).

**Recommendation 8.31:** The Committee recommends:

- (i) that unless all of the components of this recommendation are implemented as an integrated development, there be no change to the present arrangements for the location and operation of the helicopter ambulance services;
- (ii) that the helicopter services operated by Peninsula Ambulance Service and the Latrobe Valley and District Ambulance Service be retained;
- (iii) that the Peninsula helicopter base be re-located at Moorabbin Airport;

- (iv) that the areas serviced by both the Peninsula and Latrobe Valley helicopter ambulances be expanded so that the Morwell-based helicopter services all of south-eastern Victoria, and the Moorabbin-based helicopter services an area outside Melbourne but within a 150 kilometre radius of Melbourne;
- (v) that the helicopter service based at Moorabbin be operated by the Westernport Control District for the Metropolitan Ambulance Service and that the helicopter service based at Morwell be operated by the Gippsland Ambulance Service;
- (vi) that both helicopter services concentrate on the transport of emergency patients for whom the speed of transport is critical;
- (vii) that the use of the Bell Longranger helicopter by the Morwell-based service be continued, and that the helicopter used by the Moorabbin-based service be upgraded to a Longranger aircraft;
- (viii) that back-up aircraft be chartered as needed;
- (ix) that the Moorabbin and Morwell-based helicopter ambulance services employ pilots on standby during day-light hours and on call from their homes at night;
- (x) that the proposal to introduce larger, twin-engine helicopters with IFR (Instrument Flying Rules) certification be rejected;
- (xi) that a limited system of helicopter landing sites be developed throughout the areas served by the helicopters, with public fund-raising to support these facilities including illuminated helicopter landing sites at one or two major metropolitan hospitals; and

- (xii) that detailed statistics on the operations of the helicopter ambulances be compiled, on the basis of which a comprehensive cost-benefit analysis of the services can be carried out prior to the letting of the next contracts.

Royal Australian Air Force helicopters and fixed-wing aircraft are used infrequently for the transport or rescue of critically ill or injured people in Victoria because no helicopters or aircraft suitable for such transports are based in Victoria. In the event of a disaster, RAAF aircraft can assist in accordance with the provisions of the State Disaster Plan.

#### 8.6.4 Co-ordination between Air Ambulance and other Ambulances

The Committee heard that Ambulance Services, and some ambulance officers attached to Ambulance Service - Melbourne, were concerned about the lack of operational co-ordination between road and air ambulances. Inadequate communication was most often cited as the cause. The Committee was told of several instances of road ambulances waiting for up to an hour for the arrival of an Air Ambulance at Essendon and at non-metropolitan airports. This was of concern to Ambulance Services both because vehicles were sometimes allocated unnecessarily early, and, in circumstances where a patient was to be collected by Air Ambulance, because the condition of the more serious patients often warranted the continuing availability of care from a hospital or doctor. Air Ambulance personnel also commented that on occasions the aircraft had to wait for the arrival of a road ambulance.

The lack of co-ordination between Air Ambulance and the helicopter ambulances operated by the Peninsula and Latrobe Valley District Ambulance Services was raised by Ambulance Service - Melbourne, which stated that "the fixed wing aircraft less than fully laden, frequently over-fly the rotary wing" (submission, p 31). This lack of co-ordination does not appear to cause any operational difficulties for the three Services involved in aerial ambulance operations, although it is probable that some patients currently transported by helicopter could be collected by Air Ambulance en route. The different ranges within which fixed and rotary aircraft operate appear to minimise problems of a lack of co-ordination between the two types of service.

The Inquiry into Helicopter Ambulances has recommended that in the transport of time critical patients to Melbourne from country areas beyond the range of the helicopter, road and helicopter transport be co-ordinated to bring the patient to Melbourne. The Committee recognises the potential value of such an arrangement, and it supports that recommendation. It is clear to the Committee that co-ordination between all modes of ambulance transport is vital to the efficient and effective operation of Ambulance Services.

**Recommendation 8.32:** The Committee recommends that the work currently being undertaken on communications equipment on air ambulances as part of the overall development of ambulance radio communications, be continued under the supervision of the Victorian Ambulance Commission.

**Recommendation 8.33:** The Committee recommends that efforts be made to develop clear lines of communication based on the system of linked computers between the operators of fixed wing, helicopter and road transport, to ensure that all ambulance transports are carried out by the most appropriate mode of transport, and that, where necessary, the different modes of transport are co-ordinated.

\* \* \* \* \*

## CHAPTER NINE: IMPLEMENTATION

### 9.1 Initial Implementation Strategy

The recommendations on the future organisation and operations of Victoria's Ambulance Services contained in this Report require that some fundamental changes be made to the existing arrangements. In particular, the recommended organisational structure will require the abolition of most of the organisations that now exist, and the creation of new agencies. The changes required in the relationships between organisations concerned with Ambulance Services, which are necessary because of revised functional responsibilities, new degrees of autonomy and revised arrangements for accountability both to the public and to personnel of the Services, are all matters of considerable importance.

The Committee considers that it is appropriate to include some recommendations on the implementation of its proposals. It is, however, mindful that to do so in a detailed and prescriptive way could act as a barrier to effective implementation, by reducing the flexibility and opportunities of those whose responsibilities will include the implementation of this Report's recommendations.

Consequently, the Committee is limiting its recommendations to the initial steps it sees as necessary for the establishment of a basic structure from which further implementation work can proceed.

The Committee has concluded that the initial steps should be to create the central agency and to establish formally the six new Ambulance Services. These organisations can then work together to establish the details of the new structure.

At the central level, the Committee believes that an interim Victorian Ambulance Commission should be established. The interim Commission should exist for no more than 12 months from the date of its establishment. Its primary functions should be to oversee the formal establishment of the new Services and to implement other recommendations in this Report which are essential to the effective functioning of the new organisational structure. As staff are recruited to the Office of the

Victorian Ambulance Commission, other functions included in Recommendation 5.24 can be undertaken.

Clearly, the establishment of the permanent Victorian Ambulance Commission in accordance with Recommendation 5.25 is dependent on the establishment of the six new Ambulance Services themselves. The Committee recognises that this may be a lengthy task and Services may not be in a position to nominate or elect Commission members for some time. It is therefore necessary for some interim structure of the new Services to be created to nominate or elect Commission members, and also to work towards the formal creation of the new Services. The Committee considers that in the non-metropolitan area this would best be done by a Task Force established in each of the five areas to be serviced by a new Ambulance Service. Each Task Force should be made up as follows:

- the Presidents of the existing Committees of Management of those Ambulance Services whose existing area is predominantly in the proposed new area;
- the Regional Director of the Health Commission of Victoria;
- a nominee of the Ambulance Employees Association;
- two nominees of the Minister of Health; and
- the Regional Superintendent of the new Service as soon as formally appointed.

The Task Forces should exist only until the new Service Committees of Management are established in accordance with Recommendation 5.16, and should under no circumstances exist for longer than 12 months. Each Task Force should be regarded as the interim Service Committee of Management until the new Committees are created and formally take up office.

In the metropolitan area, the Committee believes that an Interim Committee of Management of the Metropolitan Ambulance Service should be appointed by the Governor in Council immediately for a period of 12 months. The structure of this Committee is not as dependent on the establishment of Control District Ambulance Committees as are the non-metropolitan Committees. It should be constituted in accordance with Recommendation 5.21 subject to the following modifications:

- . one of the three nominees of the Minister of Health should include a person from the Peninsula Ambulance Service Committee of Management;
- . the employee representative should be a nominee of the Ambulance Employees Association;
- . the present Peninsula Ambulance Service Committee of Management should be regarded as the interim Westernport Control District Ambulance Committee, and invited to nominate a member of the Service Committee of Management; and
- . the Regional Superintendent be included as soon as formally appointed.

Such an Interim Committee of Management, by including at least two people from the existing Peninsula Ambulance Service Committee of Management, will ensure that the interests and concerns of that Service are taken into account throughout the implementation of this Report's recommendations on the establishment of a single Ambulance Service in the greater metropolitan area.

The Committee believes that one of the first tasks for the interim Victorian Ambulance Commission should be to appoint senior staff. The positions of General Manager, Director of Medical Services, Director of Personnel and Industrial Relations, and Director of Finance and Administration in the Office of the Victorian Ambulance Commission should be advertised nationally. Selection should be based on the skills of the applicants, particularly in management, and previous ambulance experience, while obviously not being a disadvantage, should not be given undue weight in the selection criteria. The selection committees for these positions must include a person skilled and experienced in the selection of senior management personnel, and it may be appropriate to use the services of a commercial selection bureau.

Similarly, the first task of each non-metropolitan Service Task Force and of the Metropolitan Ambulance Service Interim Committee of Management, after determining representation on the Interim Victorian Ambulance Commission in accordance with the processes recommended in Recommendation 5.25, should be to appoint the Regional Superintendent who, once appointed, can proceed to establish the new Service and its Control Districts. The Committee has commented in Section 5.2 that Superintendent/Secretaries currently located in cities which are to be the

Headquarters of the new Services have no particular claim to the new Regional Superintendent positions. These new positions should be advertised nationally and the appointees selected by the Task Force or, for the Metropolitan Ambulance Service by the Interim Committee, and an appropriate person with high-level personnel skills, attached to or nominated by the Victorian Ambulance Commission. Superintendent/Secretaries currently located in Control District centres should, however, be placed in District Superintendent positions in the same location, at least initially.

Control District Superintendent positions which are at present vacant should be advertised and appointees selected by the Service Committee of Management with the assistance of a person with high level personnel selection skills.

The Committee has made recommendations on the transfer of staff, property, and legal and financial obligations from the existing Services to the new ones. (Recommendations 5.2 and 5.4). It should be emphasised that all staff currently employed will continue to be employed by the new Services. Some staff will be transferred from Ambulance Service - Melbourne to the Victorian Ambulance Commission when the responsibility for the central data processing for the Ambulance Subscription Scheme and for the Air Ambulance Service is transferred to the Commission. The Committee recognises that the reduction in the number of Services and the creation of new designations of Control District Superintendent and, in the non-metropolitan area, Regional Superintendent may require re-negotiation of the salary levels currently applying to senior ambulance personnel.

Individual officers should not be disadvantaged by the changes proposed in this Report, and the salary levels of those affected should be retained for the duration of the period in which they continue to hold their redesignated positions. Upon their departure, resignation or retirement, the new salary level will apply to the position.

The Committee believes that the initial steps outlined in this Chapter will facilitate the implementation of the new organisational arrangements.

**Recommendation 9.1:** The Committee recommends:

- (i) that an Interim Victorian Ambulance Commission be established;
- (ii) that the Interim Commission cease to exist within 12 months of its establishment at the time of the taking office of the Victorian Ambulance Commission;
- (iii) that the functions of the Interim Commission be;
  - to oversee the establishment of the six new Ambulance Services;
  - to implement other recommendations contained in this Report which are necessary to the establishment of the new organisational framework;
  - to appoint the General Manager, the Director of Medical Services, the Director of Personnel and Industrial Relations, the Director of Finance and Administration; and
  - to undertake other functions in accordance with Recommendation 5.24 as staff are appointed to the Office of the Victorian Ambulance Commission;
- (iv) that the initial membership of the Interim Commission be as follows:
  - three members nominated by the Minister of Health one of whom should represent non-metropolitan interests, and one of whom should be nominated as the Chairman of the Interim Commission;
  - a nominee of the Ambulance Employees Association;

- . one member of a non-metropolitan Ambulance Service Task Force elected by and from the members of all Task Forces;
  - . one member of the Metropolitan Ambulance Service Interim Committee of Management nominated by that Committee; and
  - . an officer of the Victorian Trades Hall Council nominated by the Council;
- (v) that the Regional Superintendent of the Metropolitan Ambulance Service and the General Manager of the Office of the Victorian Ambulance Commission be appointed to the Interim Commission as soon as they are appointed to these positions; and
- (vi) that when all five non-metropolitan Regional Superintendents have been appointed, they elect one to be a member of the Interim Commission.

**Recommendation 9.2:** The Committee recommends:

- (i) that a Task Force be established in each of the five proposed new non-metropolitan Ambulance Service regions;
- (ii) that the Task Forces cease to exist within 12 months of their establishment at the time of the taking office of the Service's Committees of Management;
- (iii) that the functions of the Task Forces be:
  - . collectively, to elect one of the members of the five Task Forces as a representative on the Interim Victorian Ambulance Commission;

- . to select the Regional Superintendent for each Service;  
and
  - . to devise plans for the establishment of the new Services  
and oversee their implementation;
- (iv) that the membership of the Task Force in each area be as follows:
- . the Presidents of the existing Committees of Management of those Ambulance Services whose existing area is predominantly in the proposed new area;
  - . the Regional Director of the Health Commission;
  - . a nominee of the Ambulance Employees Association; and
  - . two nominees of the Minister of Health;
- (v) that the Task Forces be regarded as the interim Service Committee of Management for the implementation of the recommendations of this Report; and
- (vi) that the existing Committees of Management continue to manage the Ambulance Service in the existing districts in consultation with the Task Force until each new Service Committee of Management is constituted and formally takes office.

**Recommendation 9.3:** The Committee recommends:

- (i) that an Interim Committee of Management of the Metropolitan Ambulance Service be appointed by the Governor in Council;

- (ii) that the Interim Committee of Management cease to exist within 12 months of its establishment at the time of the taking office of the Committee of Management;
- (iii) that the functions of the Interim Committee of Management be:
  - to nominate one member as a member of the Interim Victorian Ambulance Commission;
  - to select the Regional Superintendent;
  - to devise plans for the establishment of the Metropolitan Ambulance Service and oversee their implementation; and
  - to exercise the responsibilities of Service Committees of Management in accordance with Recommendation 5.17;
- (iv) that the existing Peninsula Ambulance Service Committee of Management undertake the functions of a Control District Ambulance Committee in accordance with Recommendation 5.19;
- (v) that the membership of the interim Metropolitan Ambulance Service Committee of Management be as follows:
  - four nominees of the Minister of Health, one of whom should be from the Peninsula Ambulance Service Committee of Management and one of whom should be chosen to represent the medical specialities closely related to ambulance operations;
  - one of the three metropolitan Regional Directors of Health nominated by the Chairman of the Health Commission;

- . a nominee of the Ambulance Employees Association;
  - . a nominee of the Ambulance Service - Melbourne Committee of Management;
  - . a nominee of the Peninsula Ambulance Service Committee of Management; and
  - . one of the members should be nominated as Chairman of the Interim Committee by the Minister; and
- (vi) that the Regional Superintendent be appointed to the Interim Committee of Management as soon as formally appointed to the Regional Superintendent position.

**Recommendation 9.4:** The Committee recommends that the salary levels of existing Superintendents and other senior staff be retained for individuals where the responsibilities and salary of their position in the revised organisational structure are less than they were prior to the implementation of the recommendations contained in this Report.

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## 9.2 Costs of the New Organisational Arrangements

The Committee considers that it is important to comment on the costs of its proposals, particularly given the increasing competition between agencies for public funds which has been referred to throughout this Report. The implementation of the recommendations for a new organisational structure will not result in any direct financial savings in the short term. However, the rationalisation of the number of bodies providing ambulance services and the consequent appointment of staff skilled in management is expected to result in savings by containing future costs and improving the efficiency and effectiveness of the organisations concerned. The establishment of new levels of autonomy and of new, coherent sets of responsibilities for Ambulance Services, together with the the establishment of a strong, representative and responsive central agency will contribute to the removal of barriers to efficiency and effectiveness which are all too evident at present, and which have been discussed in earlier chapters in this Report.

The Committee wishes to emphasise that the costs of providing ambulance services to the Victorian community would have increased markedly over the next few years if the existing Services had continued to exist and continued to operate as they have in the past. The introduction of Advanced Life Support techniques to the standard operating procedures of ambulance officers, and the progressive expansion of staffing numbers to enable more ambulances to be crewed by two officers are both examples of significant developments which were planned or occurring before the Committee commenced its review. Both require the allocation of considerable additional funds to Ambulance Services.

Equally importantly, the Committee considers that all of Victoria's Ambulance Services, particularly those in the non-metropolitan area, have been seriously under-resourced in the general area of management support for their operational activities. The ambulance community itself is aware of this shortcoming, as is apparent from the discussion on recruitment and training of management personnel in Section 7.3. The necessity to improve Service management and administration was already leading some Ambulance Services to appoint senior administrative staff and to develop automated office systems. This trend would have continued with obvious implications for duplication of effort and for future costs. Similarly, the continued inappropriate use of ambulance transport as described in Section 8.1

would have continued to grow and to require the acquisition of additional vehicles and the employment of additional staff.

To continue with the organisational and operational arrangements as they presently exist would also have resulted in social costs. The Committee is convinced that Ambulance Services would not have been able to continue to provide the comparatively high level of service they now offer, as the stresses visible throughout the system would have continued to have a negative influence on the Services' effectiveness even if there were to be an allocation of extra funds.

At the Control District level, the Committee expects that real costs will remain constant or reduce slightly in comparison with the costs of managing Control Districts as separate Services. The infrastructure currently required to support the management responsibilities of the existing Superintendent/Secretary will be reduced. Some small savings on salaries may be made in future if the salary of District Superintendents is less than that which at present applies to Superintendent/Secretaries.

The costs of managing the new Ambulance Service organisations which will be additional to those costs which would have been incurred if no change was made to the organisational structure are, in the Committee's view, not excessive and very well justified. Funds will be required to meet the salaries of the Regional Superintendent, some senior management and administration staff, a full-time skills maintenance officer and a part-time Ambulance Service Medical Officer. In addition, the purchase of equipment and development of programmes for the network of linked microcomputers in accordance with Recommendation 5.15 will be essential, and of high priority.

Similarly, the additional costs associated with the establishment of the interim and permanent Victorian Ambulance Commission, will be predominantly for staff. Staff employed by Ambulance Service - Melbourne who are associated with the Ambulance Subscription Scheme and the Air Ambulance Service will be transferred with their positions to the Office of the Victorian Ambulance Commission together with Health Commission staff attached to the Ambulance Officers' Training Centre. The Committee believes that a total staff of around no more than 15, including the General Manager and the Directors, should be sufficient to support the non-

operational functions proposed for the Commission in Recommendation 5.24. For three or four of these positions, there will be offsetting savings in the staffing levels of the Health Commission, as staff of the Commission who currently work on ambulance matters should be transferred to the Office of the Victorian Ambulance Commission. An additional 11-12 staff will therefore be necessary.

The Committee considers it essential that the Commission's Office be staffed adequately for the effective implementation of the new arrangements. The staffing levels should be reviewed once the new organisational framework is in place.

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## CHAPTER TEN: FULL LIST OF RECOMMENDATIONS

### Chapter Four: Performance and Objectives of Ambulance Services

**Recommendation 4.1:** The Committee recommends that the following statement of objectives should be adopted by all of Victoria's Ambulance Services:

The primary objective of the Ambulance Services of Victoria is to contribute to the reduction of mortality and morbidity throughout the community by the provision of pre-hospital medical care, including:

- providing rapid response to requests for assistance in any kind of medical emergency;
- providing specialised transport facilities to move victims of medical emergencies to definitive medical treatment;
- providing specialised medical skills to maintain life when it is threatened and while transport is in progress; and

the secondary objective of the Ambulance Services is to:

- provide related services in which specialised medical or transport skills are necessary.

### Chapter Five: Organisational Structure

#### 5.1 Number and Boundaries of Ambulance Services

**Recommendation 5.1:** The Committee recommends that the following bodies should cease to exist:

Ballarat and District Ambulance Service,  
Central Victoria District Ambulance Service,  
East Gippsland Ambulance Service,  
Geelong and District Ambulance Service,  
Glenelg District Ambulance Service,  
Goulburn Valley Ambulance Service,  
Latrobe Valley District Ambulance Service,  
Mid-Murray District Ambulance Service,  
North-Eastern Victoria District Ambulance Service,  
North West Victorian Ambulance Service,  
Northern District Ambulance Service,  
South Gippsland District Ambulance Service,  
South-Western Victoria Ambulance Service, and  
Wimmera District Ambulance Service,

and that the successor bodies be:

Barwon-South Western Ambulance Service,  
Central Highlands - Wimmera Ambulance Service,  
Northern Mallee - Loddon Campaspe Ambulance Service,  
Goulburn - North Eastern Ambulance Service, and  
Gippsland Ambulance Service.

**Recommendation 5.2:** The Committee recommends:

- (i) that the
  - Barwon - South Western Ambulance Service,
  - Central Highlands - Wimmera Ambulance Service,
  - Northern Mallee - Loddon Campaspe Ambulance Service,
  - Goulburn - North Eastern Ambulance Service,
  - and Gippsland Ambulance Servicehave the same boundaries as the regions of the same names used by the Health Commission of Victoria;
- (ii) that all of the staff employed and all of the property owned throughout the areas served by the existing Ambulance Services

be transferred to the ownership of whichever new Ambulance Service is to be responsible for the provision of ambulance services in the district surrounding the place where staff and property are currently located;

- (iii) that any contract, agreement or arrangement to which an existing Ambulance Service is a party become a contract, agreement or arrangement with whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the contract, agreement or arrangement predominantly applies;
- (iv) that any legal or other proceeding or claim to which any existing Ambulance Service is a party or has an interest become a legal or other proceeding or claim involving whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the proceeding or claim predominantly applies; and
- (v) that any financial and other liabilities and obligations of any existing Ambulance Service become liabilities and obligations of whichever new Ambulance Service is to be responsible for the provision of ambulance services in the area to which the liability or obligation predominantly applies.

**Recommendation 5.3:** The Committee recommends:

- (i) that Ambulance Service - Melbourne and the Peninsula Ambulance Service cease to exist; and
- (ii) that the successor body be the Metropolitan Ambulance Service.

**Recommendation 5.4:** The Committee recommends:

- (i) that the Metropolitan Ambulance Service provide ambulance services throughout the three metropolitan regions of the Health Commission of Victoria;
- (ii) that the staff employed and the property owned by Ambulance Service - Melbourne and Peninsula Ambulance Service be transferred to the ownership of Metropolitan Ambulance Service, together with the staff employed and property owned by non-metropolitan Ambulance Services and located in areas currently served by those Services which are to be served by the Metropolitan Ambulance Service;
- (iii) that any contract, agreement or arrangement to which Ambulance Service - Melbourne or Peninsula Ambulance Service is a party become a contract, agreement or arrangement with Metropolitan Ambulance Service, and that the same should apply also to any contract, agreement or arrangement to which any other existing Ambulance Service is a party if the area to which the contract, agreement or arrangement predominantly applies is included in the area to be served by Metropolitan Ambulance Service;
- (iv) that any legal or other proceeding or claim to which Ambulance Service - Melbourne or Peninsula Ambulance Service is a party or has an interest become a legal or other proceeding or claim involving Metropolitan Ambulance Service, and that the same should apply also to any legal or other proceeding or claim to which any other existing Ambulance Service is a party if the area to which the legal or other proceeding or claim predominantly applies is included in the area to be served by Metropolitan Ambulance Service; and
- (v) that any financial and other liabilities and obligations of Ambulance Service - Melbourne or Peninsula Ambulance

Service become liabilities and obligations of Metropolitan Ambulance Service, and that the same should apply also to any financial and other liabilities and obligations to which any other existing Ambulance Service is a party if the area to which the financial and other liabilities and obligations predominantly applies is included in the area to be served by Metropolitan Ambulance Service.

**Recommendation 5.5:** The Committee recommends that the Alexandra and District Ambulance Service continue to exist and that it continue to provide ambulance services to that area included in its present boundaries.

**Recommendation 5.6:** The Committee recommends:

- (i) that the Alexandra and District Ambulance Service have access to financial, operational and administrative advice from the Goulburn-North Eastern Ambulance Service, and be invited to participate in disaster or other training and planning exercises conducted by the larger Service;
- (ii) that the Alexandra and District Ambulance Service have access to assistance and advice on skills maintenance from the Goulburn-North Eastern Ambulance Service and from the Ambulance Officers' Training Centre; and
- (iii) that should the Alexandra and District Ambulance Service be in future unable or unwilling to continue to provide all aspects of ambulance service to the district in a satisfactory manner, it be absorbed into the Goulburn-North Eastern Ambulance Service.

**Recommendation 5.7:** The Committee recommends that the Ambulance Officers' Training Centre continue to exist.

## 5.2 Establishment and Organisational of the New Ambulance Services

### **Recommendation 5.8:** The Committee recommends:

- (i) that all seven Ambulance Services be established by an Ambulance Service Victoria Act in which each Service should be separately named;
- (ii) that the new Act repeal Section 22 of the Hospitals and Charities Act, amend Section 3, and provide for the continuation, revocation or amendment of any regulations made under that Act which relate solely to Ambulance Services; and
- (iii) that the new Act provide that any reference in any other Act or regulation or other instrument of a legislative character to Ambulance Services be taken as a reference to the Ambulance Services established by this Act.

### **Recommendation 5.9:** The Committee recommends:

- (i) that all Ambulance Services collectively be known as "Ambulance Service Victoria"; and
- (ii) that the emblem and name "Ambulance Service Victoria" continue to be used throughout the State on vehicles, uniforms, and in other appropriate places.

### **Recommendation 5.10:** The Committee recommends:

- (i) that the Headquarters for each major Service be established as follows:
  - . Metropolitan Ambulance Service in Melbourne;

- Barwon - South Western Ambulance Service in Geelong;
  - Central Highlands - Wimmera Ambulance Service in Ballarat;
  - Northern Mallee - Loddon Campaspe Ambulance Service in Bendigo;
  - Goulburn - North Eastern Ambulance Service in Wangaratta; and
  - Gippsland Ambulance Service in Morwell;
- (ii) that each Service have a chief executive officer known as the Regional Superintendent; and
- (iii) that the Alexandra and District Ambulance Service maintain its Headquarters in Alexandra, and that its chief executive officer be known as the Superintendent.

**Recommendation 5.11:** The Committee recommends that the Headquarters of each Service perform the following functions:

- (i) in the area surrounding the Headquarters, the functions of a Control District as outlined in Recommendation 5.14;
- (ii) the functions necessary for the management of the Service as a whole, including:
- monitoring operations of Control Districts;
  - allocating resources and priorities between Control Districts;
  - transferring vehicles and staff between Control Districts in response to changing needs;

- . managing the Service's personnel, industrial relations, financial, skills maintenance, and administrative functions;
- . liaison with the Regional Director of the Health Commission on the interaction between the Commission and public hospitals and the Ambulance Service; and
- . negotiating with and making submissions to the Victorian Ambulance Commission.

**Recommendation 5.12:** The Committee recommends:

- (i) that each Service be divided into Control Districts for operational and control purposes;
- (ii) that the Ambulance Service Victoria Act provide for the establishment, amalgamation and abolition of Control Districts by Services;
- (iii) that the Act require that Services proposing the abolition or amalgamation of Control Districts explain their reasons publicly and make a final decision only after consultation with the community; and
- (iv) that each Control District, except that based on the Headquarters of each Service, be managed by a District Superintendent.

**Recommendation 5.13:** The Committee recommends:

- (i) that Control Districts initially be based in the following centres in the non-metropolitan Services:

- . Barwon - South Western Ambulance Service in Geelong, Hamilton and Warrnambool;
  - . Central Highlands - Wimmera Ambulance Service in Ballarat and Horsham;
  - . Northern Mallee - Loddon Campaspe Ambulance Service in Bendigo, Swan Hill, Mildura and Echuca;
  - . Goulburn - North Eastern Ambulance in Wangaratta and Shepparton;
  - . Gippsland Ambulance Service in Morwell, Sale and Leongatha;
- (ii) that Control Districts initially approximate the regions served by existing Ambulance Services, with adjustments as necessary to match the new boundaries of the Services;
- (iii) that the Metropolitan Ambulance Service establish three Control Districts, covering the following areas:
- . Northern Metropolitan Control District, generally the area north of the Yarra River;
  - . Southern Metropolitan Control District, generally the area between the Yarra River and Mordialloc Creek; and
  - . Westernport Control District, generally the area south of Mordialloc Creek; and
- (iv) that each Metropolitan Control District have a control centre located:
- . for Westernport Control District in Frankston; and

- . for the Northern and Southern Control Districts in any appropriate location, not necessarily separate.

**Recommendation 5.14:** The Committee recommends that Control Districts perform operational functions in accordance with the Service's approved policies, including:

- (i) receipt of calls for emergency assistance and of bookings for non-emergency transports;
- (ii) deployment of staff and vehicles to emergency calls and to non-emergency transports;
- (iii) skills maintenance of full-time ambulance officers and of casual officers under the direction of the Service's skills maintenance officer;
- (iv) personnel management and industrial relations when matters are only of relevance to that Control District;
- (v) locally-based aspects of financial management, such as preparation of invoices for ambulance transports, wages calculations, collection of fees and subscriptions;
- (vi) liaison with local doctors and hospitals on matters of common concern; and
- (vii) liaison and communication between local ambulance officers and local communities and the headquarters of each Service.

**Recommendation 5.15:** The Committee recommends that a network of linked microcomputers be installed in each Service, with terminals in each Control District, to allow each Control District access to the operational and financial data it requires to manage the day-to-day

operations while also allowing the Service Headquarters access to the consolidated data it requires to plan and manage the activities of the Service as a whole.

### 5.3 Committees of Management

**Recommendation 5.16:** The Committee recommends:

- (i) that each of the five major non-metropolitan Services be managed by a Committee of Management made up of:
  - two members from each Control District Ambulance Committee within the Service elected by the members of that Committee for a one-year term except where there are only two Control Districts in which case three members from each Control District Ambulance Committee are to be elected, or when there is only one or no Control District Committee in which case six members elected directly by subscribers;
  - one member elected for a one-year term by optional ballot of all employees of the Service;
  - the Regional Director of the Health Commission;
  - one nominee of the Minister of Health; and
  - the Regional Superintendent; and
- (ii) that the President of the Committee of Management be elected by the members of the Committee from amongst the members other than the Regional Superintendent, and have a deliberative and a casting vote.

**Recommendation 5.17: The Committee recommends:**

- (i) that the objectives, powers and responsibilities of Committees of Management be specified in the proposed Ambulance Service Victoria Act;
- (ii) that the functions of each Committee of Management be:
- to manage the Ambulance Service in accordance with the policies and standards determined by the Victorian Ambulance Commission;
  - to manage the Service's relations with the Victorian Ambulance Commission;
  - to participate in the selection and approve the recruitment and promotion of staff;
  - to select the Regional Superintendent;
  - to decide on priorities for resource allocation within the Service; and
  - to liaise and co-ordinate with the Regional Director of Health;
- (iii) that Committees of Management be empowered to delegate any of their powers and responsibilities to Control District Ambulance Committees and to revoke or amend any such delegation; and
- (iv) that the proposed Ambulance Service Victoria Act include a provision to enable the Minister of Health, acting on the advice of the Victorian Ambulance Commission, to dismiss a Committee of Management and to appoint an Administrator or to call for nominations for the election of a new Committee.

**Recommendation 5.18:** The Committee recommends that in each of the major Ambulance Services:

- (i) each Control District have an Ambulance Committee;
- (ii) at least half of the members of the Ambulance Committee be elected for one-year terms by optional ballot of all subscribers who reside within the Control District;
- (iii) nominations for election to the Ambulance Committee be called by advertisement in the local press;
- (iv) one member of the Ambulance Committee be elected for a one-year term by optional ballot of all employees who work in the Control District at the time of the ballot;
- (v) every Auxilliary Committee which exists within the Control District be entitled to nominate one member to be a member of the District Ambulance Committee for a one-year term;
- (vi) the District Superintendent be a member of the District Ambulance Committee;
- (vii) elections under item (ii) be conducted at the Annual General Meeting of each Ambulance Committee, and under items (iv) and (v) be conducted immediately before the Annual General Meeting and the results presented to that Meeting;
- (viii) if at the Meeting it is clear that there is no medical practitioner on the Ambulance Committee, the Committee be required to invite an appropriate medical practitioner resident in the District to join the Committee as a full voting member until the next Annual General Meeting; and
- (ix) the President of the Committee be elected by Committee members from the members other than the District Superintendent, and have a deliberative and casting vote.

**Recommendation 5.19:** The Committee recommends that the functions of Control District Ambulance Committees be:

- (i) to provide advice to the District Superintendent on all matters relevant to the planning and operation of the Ambulance Service in the Control District;
- (ii) to provide advice to the Service's Committee of Management and where appropriate to the Regional Superintendent on all matters relevant to the planning and operation of the Ambulance Service in the Control District, and throughout the Region and the State;
- (iii) to undertake any management functions that may be delegated to the Ambulance Committee by the Service's Committee of Management; and
- (iv) to plan, undertake and promote community participation in the provision of the Ambulance Services at all levels, including through the encouragement of Auxilliary Committees attached to individual branches.

**Recommendation 5.20:** The Committee recommends:

- (i) that the proposed Ambulance Service Victoria Act provide for the establishment, amalgamation and abolition of Control District Ambulance Committees by the Committee of Management of each Service; and
- (ii) that Control District Ambulance Committees be formed where possible but that they not be compulsory.

**Recommendation 5.21:** The Committee recommends:

- (i) that the Metropolitan Ambulance Service be managed by a Committee of Management of between seven and ten members;
- (ii) that the members be as follows:
  - . three nominees of the Minister of Health to represent community interests;
  - . one of the three metropolitan Regional Directors of Health, nominated by the Chairman of the Health Commission;
  - . a representative directly elected by all employees of the Service;
  - . one nominee of each Control District Ambulance Committee, if such Committees have been formed in accordance with Recommendation 5.18;
  - . one nominee of the Minister of Health to represent the medical specialities closely related to ambulance operations; and
  - . the Regional Superintendent;
- (iii) that the members of this Committee be appointed by the Governor in Council;
- (iv) that the members of this Committee serve for terms of office of three years; and
- (v) that the President of the Committee be elected by Committee members from the members other than the Regional Superintendent, and have a deliberative and a casting vote.

**Recommendation 5.22:** The Committee recommends:

- (i) that each Ambulance Service consist of:
- a Committee of Management, with the task of ensuring that the Service pursues its objective effectively, efficiently and economically;
  - a chief executive officer, to be known as the Regional Superintendent, who is responsible to the Committee of Management for all aspects of the operations and management of the Service;
  - such other staff as are necessary for the Service to pursue its objective; and
  - such District Ambulance Committees and Auxiliary Committees as will assist the Service in the pursuit of the objectives of the Service; and
- (ii) that the objective of each Ambulance Service be that specified in Recommendation 4.1 of this Report.

**5.4 Central Management of Victoria's Ambulance Services**

**Recommendation 5.23:** The Committee recommends that the proposed Ambulance Service Victoria Act establish a Victorian Ambulance Commission, that the Commission report to and be subject to the direction of the Minister of Health.

**Recommendation 5.24:** The Committee recommends that the general functions of the Victorian Ambulance Commission be to determine policies on ambulance services throughout the State and to undertake certain operational activities, and that its specific functions be:

- (i) to formulate and approve policies for the provision of Ambulance Services throughout the State;
- (ii) to determine priorities for the expansion and development of Ambulance Services;
- (iii) to set standards for operations, recruitment, skills maintenance, and financial management and auditing, and to monitor the performance of all Ambulance Services against these standards;
- (iv) to determine guidelines for the assessment of proposals to establish or disband control districts or branch stations;
- (v) to collect and analyse statistics and other information on the performance of Ambulance Services;
- (vi) to develop procedures and systems for the collection and analysis of data for the preparation of output-oriented performance measures;
- (vii) to employ staff for the Office of the Victorian Ambulance Commission;
- (viii) to act as the employing authority of all the full-time staff of all Ambulance Services, and to maintain a statewide employment register;
- (ix) to receive and co-ordinate the hearing of all appeals against promotion or termination, and of all other grievances, and to provide administrative support to the Appeals Board;
- (x) to provide a central industrial relations and advocacy service;
- (xi) to prepare a consolidated budget for all Ambulance Services and to negotiate on budget submissions with the management of each Service;

- (xii) to negotiate with the Minister, the Health Commission and the Department of Management and Budget as appropriate on budget submissions and on subsequent allocations;
- (xiii) to advise Regional Superintendents and Committees of Management on matters such as management techniques, resource utilisation and office technology;
- (xiv) to publish for wide distribution within all Services a regular and frequent newsletter on the activities of the Commission, developments in Ambulance Services, information on the work of working parties and committees, notices of vacancies throughout the State, and other matters of interest or relevance;
- (xv) to oversee ambulance-related research, investigation and development activities and to liaise with appropriate organisations and individuals on the conduct of such activities;
- (xvi) to prepare and publish a consolidated annual report of all ambulance activities in the State, including its own activities;
- (xvii) to advise the Minister of Health and the Health Commission on significant developments or events concerning ambulance services;
- (xviii) to negotiate with the Health Commission's central divisions over matters of mutual interest and concern;
- (xix) to foster closer relations between ambulance operations and hospital operations; and
- (xx) to undertake the following operational activities:
  - . Ambulance Officers' Training Centre;
  - . provision of the Air Ambulance;

- . arrangement of contracts for supply of vehicles;
- . vehicle and equipment design;
- . communication system development work;
- . bulk ordering of stores;
- . research and information services; and
- . centralised data processing for the Subscription Scheme.

**Recommendation 5.25:** The Committee recommends:

(i) that the membership of the Victorian Ambulance Commission be as follows:

- . one non-metropolitan Regional Superintendent elected by the Regional Superintendents of the five major non-metropolitan Services;
- . one member of a non-metropolitan Committee of Management elected by and from the members of all non-metropolitan Committees;
- . the Regional Superintendent of the Metropolitan Ambulance Service;
- . one member of the Committee of Management of the Metropolitan Ambulance Service nominated by that Committee;
- . one member directly elected by all employees of Ambulance Services throughout the State;
- . an officer of the Victorian Trades Hall Council nominated by the Council;
- . three members nominated by the Minister of Health, one of whom should be from the Health Commission and one

of whom should represent non-metropolitan interests;  
and

- . the General Manager;
- (ii) that when selecting nominees to the Commission the Minister ensure that a broad range of skills and interests, including appropriate medical and general management skills, are represented on the Commission; and
- (iii) that the Chairman of the Commission be nominated by the Minister of Health from the members other than the General Manager, and have a casting vote and a deliberative vote.

**Recommendation 5.26:** The Committee recommends:

- (i) that the term of office of all members of the Commission be three years; and
- (ii) that Commissioners receive a sitting fee and reimbursement of all expenses incurred in attending to the business of the Commission.

**Recommendation 5.27:** The Committee recommends:

- (i) that the Victorian Ambulance Commission have a chief executive officer known as the General Manager;
- (ii) that the General Manager have management skills of a high order and a level of remuneration appropriate to those skills determined by the Public Service Board of Victoria; and
- (iii) that knowledge of or experience in ambulance work not be a prerequisite for the appointment to the position of General Manager.

**Recommendation 5.28:** The Committee recommends:

- (i) that an Office of the Victorian Ambulance Commission support the Victorian Ambulance Commission's work under the management of the General Manager;
- (ii) that the staff of the Office of the Victorian Ambulance Commission include a Director of Personnel and Industrial Relations, a Director of Finance and Administration, a Director of Medical Services, appropriate support staff, the staff of the Ambulance Officers' Training Centre, and the administrative, ambulance and nursing staff of the Air Ambulance Service; and
- (iii) that ambulance experience and knowledge should not be a prerequisite for appointment to positions within the Office of the Victorian Ambulance Commission.

**Recommendation 5.29** The Committee recommends:

- (i) that the Victorian Ambulance Commission have the power to establish working parties or committees as necessary to provide the Commission with specialised advice, with members of these committees or working parties coming from Ambulance Services, the Commission or its staff, or from other associated organisations;
- (ii) that such committees and working parties be responsible to and regularly report to the Victorian Ambulance Commission;
- (iii) that representatives of the staff of Ambulance Services be included on such working parties or committees wherever possible;
- (iv) that the terms of reference of such working parties or committees include a requirement that:

- . they regularly report their activities in the Victorian Ambulance Commission newsletter;
  - . they provide summaries of each report submitted to the Victorian Ambulance Commission for inclusion in the Victorian Ambulance Commission newsletter;
  - . they be responsive to suggestions; and
  - . they encourage contributions and suggestions from ambulance personnel; and
- (v) that the Victorian Ambulance Commission be required to respond to the reports of working parties or committees, and that the Commission's response be published in the Victorian Ambulance Commission newsletter.

**Recommendation 5.30:** The Committee recommends:

- (i) that the Air Ambulance Service be managed by the Victorian Ambulance Commission;
- (ii) that an Assistant Superintendent manage the operations of the Air Ambulance Service;
- (iii) that an Air Ambulance Committee be established to provide advice to the Assistant Superintendent and to the Victorian Ambulance Commission on the planning and operation of the Service;
- (iv) that the Committee consist of:
  - . a representative nominated by each of the major Ambulance Services; and

- three nominees of the Victorian Ambulance Commission, one of whom shall have appropriate medical qualifications, and the remaining two of whom shall represent non-metropolitan hospitals or communities.

**Recommendation 5.31:** The Committee recommends:

- (i) that the Ambulance Officers' Training Centre be managed by a Director, for and on behalf of the Victorian Ambulance Commission;
- (ii) that an Ambulance Officers' Training Centre Committee be established to provide advice to the Director and to the Victorian Ambulance Commission on all matters relating to ambulance training; and
- (iii) that the Committee consist of:
  - one nominee from each major Ambulance Service;
  - one Ambulance Service skills maintenance officer elected by the senior skills maintenance officers from each of the major Services;
  - one representative elected directly by all ambulance officers up to the rank of Senior Station officer;
  - one representative elected directly by all ambulance personnel with the rank of Assistant Superintendent or above; and
  - three nominees of the Victorian Ambulance Commission, two of whom shall be appropriate medical practitioners.

**Recommendation 5.32:** The Committee recommends that the future role of the Health Commission of Victoria in respect of Ambulance Services be limited to:

- (i) providing advice to the Minister of Health on the priority of ambulance services within the total health budget;
- (ii) being represented on Ambulance Service Committees of Management and on the Victorian Ambulance Commission;
- (iii) the Regional Directors of Health liaising and co-ordinating with the Regional Superintendent of the Ambulance Service that operates in their Regions; and
- (iv) providing administrative support to the Victorian Ambulance Commission by agreement between the Chairman of the Victorian Ambulance Commission and the Health Commission, or upon the direction of the Minister, with such support being paid for by the Ambulance Commission.

## 5.5 Further Review

**Recommendation 5.33:** The Committee recommends:

- (i) that the Alexandra and District Ambulance Service and the Ambulance Officers' Training Centre be reviewed in 1990;
- (ii) that the complete organisational structure of Victoria's Ambulance Services also be reviewed in 1990; and
- (iii) that these reviews be carried out as part of the one process, by an appropriate body that is not a part of the Victorian Ambulance Commission.

## Chapter Six: Financial Management

### 6.1 Budgetary Process

**Recommendation 6.1:** The Committee recommends that an immediate task for the Victorian Ambulance Commission, in conjunction with the Department of Management and Budget where necessary, be:

- (i) to develop a budget structure for all Ambulance Services that:
  - . treats the Government contribution as being in lieu of fees paid by pensioners and others who are not at present charged for transport; and
  - . is based upon sound commercial financial management principles; and
- (ii) to develop financial procedures that:
  - . enable clear identification of the real costs of the Services' separate activities;
  - . facilitate the development of measures of the financial performance of Services; and
  - . ensure that appropriate internal controls are in place.

**Recommendation 6.2:** The Committee recommends:

- (i) that the system of deficit financing be discontinued, and that Ambulance Services in future receive an annual Government contribution based on what would be the total income if all patients who have a health card paid the transport fee; and

- (ii) that any adjustments to the amount of Government contribution that may be necessary be negotiated with the Victorian Ambulance Commission during the financial year.

**Recommendation 6.3:** The Committee recommends that in relation to the Government contribution to the costs of Ambulance Services, the Commonwealth Government be requested to pay the costs of ambulance transport of pensioners and where appropriate other recipients of Commonwealth social security benefits.

## 6.2 Funding Ambulance Services

**Recommendation 6.4:** The Committee recommends:

- (i) that the Ambulance Subscription Scheme be retained;
- (ii) that subscription rates be set annually by the Victorian Ambulance Commission, subject to disallowance by the Minister of Health within thirty days of their being set by the Commission;
- (iii) that centralised data processing for the Ambulance Subscription Scheme be a responsibility of the Victorian Ambulance Commission and that all Services (except Alexandra unless they choose to) use this facility;
- (iv) that the separate Services market the Ambulance Subscription Scheme within their own regions, and receive subscriptions from those residents who wish to pay in person;
- (v) that publicity materials, subscription cards and other publications relating to the Ambulance Subscription Scheme be revised to state clearly that an ambulance is available free of charge only in emergencies or when it is medically necessary; and

- (vi) that the arrangement whereby Services may transfer funds from their Subscription Scheme takings to a reserve fund continue, with a review by the Victorian Ambulance Commission within three years.

**Recommendation 6.5:** The Committee recommends that the category of "contributor" as defined in Section 3 of the Hospitals and Charities Act 1958 no longer apply in Ambulance Services.

**Recommendation 6.6** The Committee recommends:

- (i) that Ambulance Services receive a direct Government contribution to meet the costs of inter-hospital transfers and that the costs of such transfers cease to be the responsibility of hospitals; and
- (ii) that Ambulance Services and hospitals devise effective and appropriate systems to review and control the extent of use of the inter-hospital transfer service, and to provide strict sanctions for abuse of that service.

**Recommendation 6.7:** The Committee recommends that the Royal Children's Hospital be allocated funds for the Paediatric Emergency Transport Service, including an allocation to meet the anticipated costs of ambulance transport.

**Recommendation 6.8:** The Committee recommends:

- (i) that ambulance transport fees be set annually by the Victorian Ambulance Commission, subject to disallowance by the Minister of Health within thirty days of their being set by the Commission;

- (ii) that the same scale of fees apply throughout the State; and
- (iii) that the fees be set such that if all transports were charged at that rate, including transports of pensioners and others not actually billed, then all the costs of providing and operating the statewide ambulance services would be recouped.

### 6.3 Financial Accountability

#### **Recommendation 6.9** The Committee recommends:

- (i) that the Auditor-General audit the Victorian Ambulance Commission;
- (ii) that audits of Ambulance Services be carried out under contract by local firms of accountants in accordance with auditing standards which apply to Government agencies; and
- (iii) that internal control measures be designed with careful attention to the costs of the measures to each Service as well as to the benefits of reducing the scope for misappropriation of funds.

#### **Recommendation 6.10:** The Committee recommends:

- (i) that the guidelines on the operation, expansion and development of Services be sufficiently explicit so as to minimise the necessity for Services to seek the approval of the Victorian Ambulance Commission prior to entering into expenditure commitments; and
- (ii) that the Victorian Ambulance Commission determine the levels of expenditure on various items that will require its approval.

**Recommendation 6.11:** The Committee recommends:

- (i) that output-oriented financial reporting standards be developed by the Victorian Ambulance Commission;
- (ii) that Ambulance Services provide the Victorian Ambulance Commission with regular reports on progressive expenditure compiled in accordance with these standards;
- (iii) that Ambulance Services include output-oriented financial statements in their annual reports; and
- (iv) that the Victorian Ambulance Commission include information on the income, expenditure, and financial performance of each Ambulance Service and of itself in its annual report, together with a financial summary of the financial resources received and spent by Ambulance Services and the Commission itself collectively.

**Chapter Seven: Personnel****7.1 Recruitment of Ambulance Officers****Recommendation 7.1:** The Committee recommends:

- (i) that a task analysis of the duties required of ambulance officers be organised immediately by the Victorian Ambulance Commission in order to establish the skills and qualities needed by ambulance officers to perform their duties;
- (ii) that a standard set of criteria for recruitment of ambulance officers be developed based on the findings of the task analysis, recognising that many ambulance officers will progress to middle-level positions such as station officers and that some will progress to senior management levels, and so must be capable of developing the skills necessary for these positions;

- (iii) that this set of criteria be endorsed by the Victorian Ambulance Commission and adopted by all Services; and
- (iv) that female applicants who meet the standard criteria for employment be recruited as ambulance officers.

**Recommendation 7.2:** The Committee recommends that the recruitment procedures used by Ambulance Services, including advertising, testing and interviewing procedures, be formalised and standardised by the Victorian Ambulance Commission to ensure that all applicants are considered fairly.

## 7.2 Initial and Ongoing Training of Ambulance Officers

**Recommendation 7.3:** The Committee recommends that the current policy of the Ambulance Officers' Training Centre of ensuring the relevance of course-work at the Centre be maintained, but that any steps towards altering general components of the course, such as mathematics and science, be considered carefully in view of the forthcoming introduction of Advanced Life Support training and the need to ensure a firm skills base for this training.

**Recommendation 7.4:** The Committee recommends:

- (i) that the component of the Certificate of Applied Science (Ambulance Officer) course which deals with lifting techniques be expanded, and include both practical lifting skills and instruction in the implications of incorrect lifting; and
- (ii) that periodic refresher training in correct lifting techniques be conducted within all Services.

**Recommendation 7.5:** The Committee recommends:

- (i) that the Ambulance Officers' Training Centre be retained as the educational arm of Victoria's Ambulance Services, under the control of the Victorian Ambulance Commission, but with its own advisory committee;
- (ii) that the role of the Ambulance Officers' Training Centre be expanded to include:
  - . research into all aspects of the provision of ambulance services;
  - . the monitoring of developments in other ambulance services;
  - . development in such areas as ambulance equipment and methods of evaluation of ambulance performance; and
  - . the provision of an information service to all Ambulance Services through utilisation of the Library and through access to on-line information retrieval systems; and
- (iii) that the staff numbers at the Ambulance Officers' Training Centre be reviewed, and if necessary, increased to take account of the new research and development activities and its role in Advanced Life Support training.

**Recommendation 7.6:** The Committee recommends that as a matter of urgency the Ambulance Officers' Training Centre be moved to premises more suitable than those presently occupied by the Centre.

**Recommendation 7.7:** The Committee recommends that the term "skills maintenance" be used to refer to all on-going ambulance

training both within Services and at the Ambulance Officers' Training Centre.

**Recommendation 7.8:** The Committee recommends that the involvement of the Ambulance Officers' Training Centre in skills maintenance be increased through measures such as the following:

- the organisation of seminars and skills maintenance courses conducted in Services by staff of the Ambulance Officers' Training Centre and Services' skills maintenance staff;
- development by the Ambulance Officers' Training Centre of a skills maintenance manual for advanced life support skills; and
- availability of staff at the Ambulance Officers' Training Centre to give advice and support to the Services' skills maintenance officers.

**Recommendation 7.9:** The Committee recommends that a comprehensive set of skills, organisational and personnel manuals be prepared within the Ambulance Officers' Training Centre in conjunction with Victorian Ambulance Commission and the Services, and that the resulting manuals be issued under the authority of the Victorian Ambulance Commission.

**Recommendation 7.10:** The Committee recommends:

- (i) that a full-time skills maintenance officer be appointed in each Service Headquarters and a half-time skills maintenance officer in each Control District, but that after the initial transition to the new structure and the introduction of Advanced Life Support, the number and location of skills maintenance officers be reviewed;

- (ii) that full-time skills maintenance officers be rostered on road duties one shift per week in order to maintain their skills;
- (iii) that Ambulance Services recognise the position of skills maintenance officer as an important and legitimate step in the career path of the Services;
- (iv) that skills maintenance officers be required and assisted to undertake further training, in both teaching and ambulance skills; and
- (v) that meetings of skills maintenance officers at the Ambulance Officers' Training Centre be maintained, and that careful consideration be given to the programmes to ensure optimum relevance and value of the meetings.

**Recommendation 7.11:** The Committee recommends that staff numbers in Ambulance Services be increased to allow for:

- (i) the appointment of one full-time skills maintenance officer and half-time skills maintenance officers as required in each Ambulance Service; and
- (ii) the regular release of ambulance officers to attend skills maintenance sessions.

**Recommendation 7.12:** The Committee recommends:

- (i) that the minimum resources required for training - such as training mannequins, ambulance equipment, resuscitation, intubation and infusion training equipment and a library - be determined by the Victorian Ambulance Commission in consultation with the Ambulance Officers' Training Centre; and

- (ii) that all Services be required to acquire these resources.

**Recommendation 7.13:** The Committee recommends:

- (i) that all ambulance officers trained in Advanced Life Support skills be required to undergo a skills test as formulated by the Ambulance Officers' Training Centre and be recertificated every two years;
- (ii) that all officers trained in basic life support techniques be required to undergo a skills test every five years in order to assess the officers' mastery of the skills and to highlight any areas in which refresher training or the teaching of new techniques might be appropriate;
- (iii) that officers who do not perform adequately at the skills test be taken off road duties for a period of intensive skills maintenance and refresher training at the Ambulance Officers' Training Centre if necessary, until they attain the minimum standard of skills;
- (iv) that officers trained in basic life support only, whose skills cannot be maintained, be transferred to clinic transport duties or, if the officer is suitable, to control room duties;
- (v) that Advanced Life Support trained officers whose Advanced Life Support skills cannot be maintained be restricted to use of their basic life support skills only, unless these skills also cannot be maintained, in which case the officers should be assigned to clinic transport or if the officer is suitable, to control room duties; and
- (vi) an officer who has not been employed within Ambulance Services for a period of two years be required to undergo the test referred to in part (i) above.

**Recommendation 7.14:** The Committee recommends:

- (i) that the on-going role of casual ambulance officers as an essential component in the provision of ambulance services to Victoria be recognised and endorsed;
- (ii) that an analysis of the workload of all branches staffed by casuals be undertaken periodically; and
- (iii) on the basis of this analysis, that casual officers be maintained in branches where it would be unrealistic to employ full-time officers.

**Recommendation 7.15:** The Committee recommends that in the recruitment of casual ambulance officers, both men and women who are suitable for such employment be accepted into the Services.

**Recommendation 7.16:** The Committee recommends:

- (i) that a minimum standard of training for casuals be established by the Victorian Ambulance Commission;
- (ii) that a standardised training programme and a manual for training of casual ambulance officers be developed by the Ambulance Officers' Training Centre;
- (iii) that training of casuals be conducted on a regular basis, with a record kept of when each officer last performed the skills in which he or she has been trained;
- (iv) that the Ambulance Officers' Training Centre visit branch stations staffed by casual officers to conduct seminars and short training courses in ambulance techniques;

- (v) that consideration be given to the introduction to casual ambulance officers of some Advanced Life Support skills which do not require intensive maintenance; and
- (vi) that the involvement of local doctors and other health professionals in the training and skills maintenance of casual ambulance officers be actively encouraged.

### 7.3 Recruitment and Training of Management Personnel

**Recommendation 7.17:** The Committee recommends:

- (i) that the Senior Courses Working Party be commended on their work in assessing the training needs of senior personnel and in nominating courses in management for these personnel;
- (ii) that recognition and support be given by Services to ambulance officers who undertake external management-oriented courses;
- (iii) that the nature and scope of the proposed management training be broadened to provide more opportunities for practical management experience and for interaction with managers from non-ambulance fields, through such measures as:
  - participation of senior officers in short intensive general management courses such as those conducted by the Australian Administrative Staff College or in short specialised courses in relevant fields of study; and
  - exchanges of senior personnel with management staff of the Victorian Ambulance Commission and with other organisations not necessarily related to ambulance work; and

- (iv) that more practical management experience be given to middle level ambulance personnel through the positions of Senior Station Officer and Station Officer and that these positions be given more real responsibility, especially in personnel management.

**Recommendation 7.18:** The Committee recommends that all promotion within Ambulance Service Victoria be solely on the basis of merit.

**Recommendation 7.19:** The Committee recommends that job descriptions for all positions within the Ambulance Services be developed, and used as an aid both in the selection of personnel to the positions and by the incumbents of the positions in performing their duties.

**Recommendation 7.20:** The Committee recommends:

- (i) that all future appointments to management positions at the level of Senior Station Officer and above have management skills commensurate with the requirements of the position; and
- (ii) that in recruitment of staff for senior positions which are primarily managerial, consideration be given to both ambulance and non-ambulance personnel, and that selection be based primarily on the management expertise of the applicants.

#### 7.4 Occupational Health

**Recommendation 7.21:** The Committee recommends:

- (i) that commitment to physical fitness be considered when recruiting ambulance officers;

- (ii) that, in consultation with ambulance officers and each Ambulance Service Medical Officer, gymnasium equipment be provided at all Service headquarters and control district centres and that officers be instructed in the use of this equipment; and
- (iii) that Services actively and creatively give further consideration to, and implement, ways of maintaining physical fitness, such as:
- the determination of a base level of fitness (relative to the officers' age and other appropriate criteria) to be met by all ambulance officers in active duties;
  - the determination of that base level of fitness to be publicised, promoted and used informally by officers to assess their level of fitness;
  - consideration of incentives for involvement in physical fitness programmes;
  - inclusion of physical fitness education in skills maintenance programmes within the Services;
  - the appointment of "Fitness Officers" whose duties for one shift per week would be to establish fitness programmes, educate and motivate officers to maintain their physical fitness and to organise sporting activities for the officers.

**Recommendation 7.22:** The Committee recommends that personal counselling services be available to ambulance officers, perhaps by arrangement with a suitable community organisation involved in the provision of counselling.

**Recommendation 7.23:** The Committee recommends:

- (i) that down-time be used more effectively and in a more structured way through skills maintenance and fitness activities in stations;
- (ii) that the possibility of the involvement of ambulance officers in local hospitals, either performing nursing-related duties or participating in training sessions with doctors, be explored, perhaps through the implementation of a number of pilot schemes in rural areas; and
- (iii) that consideration be given to the introduction of paging devices for ambulance officers, to facilitate use of down-time away from ambulance stations.

**7.5 Personnel Practices**

**Recommendation 7.24:** The Committee recommends that the retirement age for ambulance officers in active duties be lowered to 60 years of age, with optional retirement at 55 years of age or after 30 years service, with appropriately adjusted superannuation benefits.

**Recommendation 7.25:** The Committee recommends that the Victorian Ambulance Commission:

- (i) review the new superannuation scheme proposed by the Economic and Budget Review Committee to assess its suitability for the work patterns of ambulance personnel and if necessary negotiate for greater flexibility; and
- (ii) ensure that the benefits for all present officers, particularly those with long records of service, are protected in any change in superannuation arrangements.

**Recommendation 7.26:** The Committee recommends that the Victorian Ambulance Commission, in consultation with ambulance employee organisations, examine the salary structure for ambulance personnel, and if necessary re-negotiate the awards, observing the following principles:

- . that the differences between ranks and responsibilities be accurately reflected in the awards;
- . that the large difference between the salary levels of Station Officers and Senior Station Officers and the salary levels of the ranks of Assistant Superintendent and above be examined; and
- . that the difference in salaries between Senior Station Officers and ambulance officers of lower ranks reflect the greater responsibility of Senior Station Officers, and provide incentive for assuming the increased responsibilities of these positions.

**Recommendation 7.27:** The Committee recommends that the composition of the Appeals Board be:

- . an independent person with extensive conciliation and arbitration experience as Chairman;
- . a representative of the Ambulance Employees Federation; and
- . a representative of the employers nominated by the Victorian Ambulance Commission.

**Recommendation 7.28:** The Committee recommends that the Ambulance Services Agreement in respect of promotion and termination, and the jurisdiction of the Appeals Board, be widened to include:

- (i) all grievances against Victoria's Ambulance Services including the Ambulance Officers' Training Centre;
- (ii) all grievances made by clerical and administrative staff of Ambulance Services;
- (iii) appeals against promotions to acting positions of more than six months duration; and
- (iv) appeals against promotions up to and including the rank of Assistant Superintendent.

**Recommendation 7.29:** The Committee recommends that the Ambulance Services Agreement relating to promotion and termination be re-negotiated with the Victorian Ambulance Administrative Officers Association, with an aim to giving the Association representation on the Appeals Board when appropriate.

**Recommendation 7.30:** The Committee recommends that when appeals against promotions are permitted, they be open to ambulance officers regardless of whether or not they are employed in the Service in which the vacant position exists.

**Recommendation 7.31:** The Committee recommends:

- (i) that efforts be made by the Victorian Ambulance Commission and the separate Services to improve communications between management and other personnel, by such means as:
  - . the establishment of a regular and frequent newsletter from the Victorian Ambulance Commission to all staff;

- the establishment of a newsletter from the Regional Superintendent and the Committee of Management of each Service to all staff in that Service;
  - the availability of the minutes of all Management and Advisory Committee meetings to all senior staff, and to all staff except when this would clearly be inappropriate;
  - the entitlement of all ambulance personnel to be notified of and to attend District Ambulance Committee or Service Committee of Management meetings as observers, or to speak to any proposals before the meeting except when this would clearly be inappropriate or impractical; and
  - the introduction of all new recruits to members of the Service's Committee of Management or District Ambulance Committee; and
- (ii) that the particular importance of good communications at all levels of a Service as large as the Metropolitan Ambulance Service be noted and acted upon by the Committee of Management of that Service.

### **Chapter Eight: Ambulance Operations**

#### **8.1 Use of Ambulance Transport**

**Recommendation 8.1:** The Committee recommends that Ambulance Services continue to respond to all calls for emergency assistance without requiring any formal authorisation.

**Recommendation 8.2:** The Committee recommends that at least one of the following criteria be satisfied for non-emergency ambulance transport to be authorised:

- (i) the patient will need, or is reasonably likely to need, the special facilities of an ambulance vehicle or the specialised skills of the ambulance crew during the journey; or
- (ii) the patient's condition is such that use of alternative means of transport would:
  - . cause the patient significant embarrassment or considerable discomfort; or
  - . be unacceptable to drivers or other passengers.

**Recommendation 8.3:** The Committee recommends:

- (i) that the Victorian Ambulance Commission publish and distribute widely the criteria for ambulance transport as described in Recommendation 8.2, with an explanation of the meaning of these criteria based on the discussion in Section 8.1 of this Report;
- (ii) that these criteria and explanatory notes be reviewed regularly to ensure that they make clear those categories of cases where ambulance transport is appropriate; and
- (iii) that the criteria be distributed widely to doctors and hospitals, together with quantities of the standard authorisation form.

**Recommendation 8.4:** The Committee recommends:

- (i) that formal authorisation by a doctor or by a hospital be required, stating that the patient satisfies at least one of the criteria for ambulance transport in all non-emergency cases;
- (ii) that a standard authorisation form be developed and introduced; and

- (iii) that doctors or hospitals provide Ambulance Services with authorisations either at the time of booking an ambulance or, if this is not feasible, when the patient is collected.

**Recommendation 8.5:** The Committee recommends:

- (i) that an Ambulance Transport Review Panel be established by each Ambulance Service to review cases of possibly inappropriate authorisation of ambulance transport and to discuss such cases with the relevant doctor or hospital;
- (ii) that Ambulance Transport Review Panels in the non-metropolitan area be made up of the Regional Director of the Health Commission, the Regional Superintendent of the Ambulance Service, and the Medical Director of an appropriate hospital in the region;
- (iii) that the Ambulance Transport Review Panel in the metropolitan area be made up of the Regional Superintendent of the Metropolitan Ambulance Service and both the Regional Director of the Health Commission and the Medical Director of an appropriate hospital in the region of the Health Commission in which the relevant doctor or hospital is located;
- (iv) that the existence and functions of Ambulance Transport Review Panels be described in the criteria; and
- (v) that Ambulance Transport Review Panels accept and act upon suggestions of inappropriate authorisation of transport from ambulance officers, hospital staff or members of the public.

**Recommendation 8.6:** The Committee recommends:

- (i) that Ambulance Services accord time-critical non-emergency transports and time-critical inter-hospital transfers a high

priority;

- (ii) that the standard authorisation form require that the authorising doctor or hospital staff member indicate if the transport is time-critical;
- (iii) that Ambulance Services develop and introduce transport booking procedures which will allow control staff to identify readily whether the Service will be able to meet particular non-emergency, time-critical transport requirements close to the nominated time;
- (iv) that Ambulance Services not accept bookings for non-emergency transports if it is unlikely that an ambulance will be available on time, and negotiate an alternative time; and
- (v) that the standard criteria for ambulance transport be applied by hospitals and clinics in the selection of patients who are to be transported under a contractual arrangement between the hospital or clinic and an Ambulance Service.

**Recommendation 8.7:** The Committee recommends:

- (i) that it not be a function of Ambulance Services to co-ordinate all health transport;
- (ii) that Ambulance Services and the Victorian Ambulance Commission encourage community organisations which have or could have a role in health-related transport or in social need transport to investigate co-ordination with the Ambulance Services;
- (iii) that the Victorian Ambulance Commission negotiate with the Department of Community Welfare Services, the Health

Commission, the Local Government Department and the Ministry of Transport on the development of co-ordinated strategies for improving access to transport and patient escorting services for non-metropolitan residents in need; and

- (iv) that the criteria for ambulance transport include an attachment describing alternative arrangements for transporting or for accompanying patients on journeys.

## 8.2 Ambulance Crews and Officers' Skills

**Recommendation 8.8:** The Committee recommends:

- (i) that Advanced Life Support techniques be introduced to the operating protocols of all ambulance officers who have the capacity to learn and perform the techniques;
- (ii) that officers who are not taught to perform Advanced Life Support techniques be taught how to assist effectively in the application of Advanced Life Support techniques;
- (iii) that Ambulance Services aim to roster officers who are accredited to use Advanced Life Support techniques with those who are not;
- (iv) that Advanced Life Support techniques be introduced progressively to officers throughout the State, in priority order determined by those techniques most likely to reduce morbidity or mortality; and
- (v) that as much as possible, ambulance officers throughout the State be trained to a generally similar level at any one time although the different conditions prevailing in various areas of the State may warrant different ordering of priorities.

**Recommendation 8.9:** The Committee recommends that:

- (i) Ambulance Service Headquarters, Control District centres and branch stations allocate one officer to an ambulance vehicle in non-emergency cases in which it is clear that two officers will not be required;
- (ii) the need to maintain staffing levels of some branch stations at the current level and to continue single officer crewed vehicles because of financial constraints and the low workload be recognised; and
- (iii) the possibility of using a casual ambulance officer to support a permanent ambulance officer in responding to a call for emergency assistance, or when lifting is anticipated be investigated, and that a pilot study of such a service be initiated.

**Recommendation 8.10:** The Committee recommends:

- (i) that the location of Mobile Intensive Care Ambulance units be reviewed and each unit be located at a site central to the area each covers, to maximise the population covered and to minimise response times;
- (ii) that Mobile Intensive Care Ambulances not necessarily be based at hospitals if the review suggests that an alternative site is preferred;
- (iii) that a Mobile Intensive Care Ambulance not be based at St Vincent's Hospital until the review has been completed, and only then if location at St Vincent's is indicated in order to improve response times for a designated area;
- (iv) that the high level of medical case review, refresher training and accreditation for Mobile Intensive Care Ambulance officers

be retained; and

- (v) that the role of Mobile Intensive Care Ambulances and the comparative costs and benefits of these and standard ambulances be reviewed when Advanced Life Support is fully implemented in the metropolitan area.

**Recommendation 8.11:** The Committee recommends:

- (i) that operating protocols for all ambulance officers be developed, published and provided to each ambulance officer;
- (ii) that the protocols include both Advanced Life Support and Basic Life Support techniques; and
- (iii) that the protocols carried by each officer accurately reflect the skills and techniques that they are authorised to perform.

### 8.3 Vehicles and Equipment

**Recommendation 8.12:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for negotiating and letting contracts for the supply of ambulance vehicles;
- (ii) that a Standing Committee on Vehicle Design be established by and be responsible to the Victorian Ambulance Commission to:
  - assess advances in vehicle design and their applicability to ambulance design;
  - assess modifications to standard ambulance design including those introduced in other states or countries and to review the

applicability of such modifications to the design of Victoria's ambulances;

- . assist with arrangements for testing of new or updated vehicles and other components;
  - . determine roadworthiness and performance standards;
  - . consider suggestions from ambulance personnel for modifications to vehicles;
  - . provide advice to the Victorian Ambulance Commission on the tender specifications for the supply of ambulance vehicles, and to make recommendations on the selection of vehicles offered by the tenderers; and
- (iii) that the standing committee include representation from Regional Superintendents and District Superintendents, Committees of Management, ambulance officers and vehicle maintenance staff; and
- (iv) that the Committee be serviced by the Office of the Victorian Ambulance Commission.

**Recommendation 8.13:** The Committee recommends that the time of withdrawal from service of ambulance vehicles be determined by the roadworthiness of the vehicle.

**Recommendation 8.14:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for determining the standard supplies and items of equipment to be carried in ambulances;

- (ii) that a Standing Committee on Ambulance Equipment be established by and be responsible to the Victorian Ambulance Commission to:
- continually assess the range and quality of equipment carried in ambulances;
  - approve particular items of equipment and supplies which are assessed as suitable;
  - approve the introduction of extra pieces of equipment proposed by Ambulance Services for their own vehicles and ensure that the resultant training needs have been identified and costed;
  - in conjunction with Ambulance Services, monitor developments in hospital emergency department equipment throughout the State to ensure that ambulance equipment is compatible with or complementary to that used in hospitals;
  - assist with arrangements for testing new or updated items of equipment;
  - advise the Victorian Ambulance Commission on the implications for training or vehicle design of any recommendations to introduce new pieces of equipment;
  - consider suggestions from ambulance personnel on modifications or extensions to the range of equipment carried; and
- (iii) that the Standing Committee include representation from Regional Superintendents and District Superintendents, Committees of Management, ambulance officers, medical practitioners, the Ambulance Officers' Training Centre and skills maintenance officers; and

- (iv) the Committee be serviced by the office of the Victorian Ambulance Commission.

**Recommendation 8.15:** The Committee recommends:

- (i) that the Victorian Ambulance Commission be responsible for the development of the ambulance communications system and for the specification of system requirements;
- (ii) that Ambulance Services continue to be responsible for letting contracts for maintenance of communications equipment;
- (iii) that the major hospital in each Control District and other appropriate hospitals in Melbourne be equipped with radio equipment to enable direct communication between the hospital emergency department and ambulance officers in the field in emergencies;
- (iv) that the present programme of upgrading communication services across the State be continued as a high priority; and
- (v) that a programme of progressively providing all ambulance officers with portable radios be instituted.

#### 8.4 Ambulance Response

**Recommendation 8.16:** The Committee recommends:

- (i) that Services be required to collect and collate information on response times for all emergency calls by branch, district, type of case and distance travelled in accordance with standardised definitions developed by the Victorian Ambulance Commission;

- (ii) that information on response times be included in each Service's annual report and in the consolidated annual report of the Victorian Ambulance Commission;
- (iii) that response times be calculated from the time the call is first received by any Control District;
- (iv) that Ambulance Services recognise that response time to calls for emergency assistance is one of the prime indicators of performance and continually monitor their operations and procedures with a view to decreasing response times; and
- (v) that Ambulance Services and the Victorian Ambulance Commission develop and use other indexes of both financial and operational performance.

**Recommendation 8.17:** The Committee recommends:

- (i) that control room and dispatch procedures for non-emergency transports be handled separately from emergency requirements in the control rooms of the Metropolitan Ambulance Service, at least during the busiest periods of the week;
- (ii) that 24 hour rosters continue to operate in all Control District centres; and
- (iii) that ambulance personnel continue to co-operate with the staff of adjacent Control Districts:
  - to ensure the fastest response to emergency calls; and
  - to maximise the use of ambulance vehicles and crew.

**Recommendation 8.18:** The Committee recommends that co-ordinated work on computer aided dispatch be carried out as a high priority.

## 8.5 Relationships Between Ambulance Services and Medical Services

### **Recommendation 8.19:** The Committee recommends:

- (i) that an Ambulance Service Medical Officer be appointed to each Ambulance Service for a minimum of two sessions each week to:
- examine and report to the Ambulance Transport Review Panel on instances of reported inappropriate use of ambulance transport;
  - monitor the development of medical care skills among ambulance officers and the introduction of new equipment, particularly in relation to hospitals in the region;
  - provide guidance to the skills maintenance officers on the medical aspects of their work, and conduct or assist with training on specific medical techniques;
  - advise the Regional Superintendent of the Service and the Medical Director of the Victorian Ambulance Commission as appropriate;
  - review emergency case sheets to facilitate the identification of training needs; and
  - conduct case review sessions; and
- (ii) that Ambulance Service Medical Officers have regular meetings with the Medical Director of the Victorian Ambulance Commission to ensure a consistent approach to their duties throughout the State, to exchange information and to receive guidance on the conduct of training and case review sessions.

**Recommendation 8.20:** The Committee recommends:

- (i) that a Standing Ambulance Medical Committee be established by the Victorian Ambulance Commission to provide specialised medical input into the decision-making processes of the Victorian Ambulance Commission, particularly in relation to decisions on training, equipment, the role of Ambulance Service Medical Officers, and the interaction between Ambulance Services and hospitals;
- (ii) that the Standing Ambulance Medical Committee include representation from appropriate organisations of medical specialists, the Victorian Hospitals Association, the Ambulance Officers' Training Centre and Ambulance Service Regional Superintendents, together with a nominee of the Chairman of the Health Commission and a Professor of Social and Community Medicine or equivalent;
- (iii) that the Ambulance Medical Committee elect its Chairman; and
- (iv) that the Committee be serviced by the Office of Victorian Ambulance Commission, with the Medical Director as Secretary.

**Recommendation 8.21:** The Committee recommends that Ambulance Service Committees of Management, Control District Ambulance Committees, Regional Superintendents and District Superintendents maintain strong links with the staff of hospitals in their areas to increase the extent of operational co-ordination between hospitals and Ambulance Services.

**Recommendation 8.22:** The Committee recommends:

- (i) that regular case review sessions be held in Control District centres organised by the Service skills maintenance officer and led by the Service medical officer;
- (ii) that guidelines on the conduct of case review sessions be developed by the Medical Director of the Victorian Ambulance Commission in conjunction with the Ambulance Officers' Training Centre;
- (iii) that case review sessions be organised at times when the participation of branch station ambulance officers can be maximised; and
- (iv) that case review sessions include both Advanced Life Support and Basic Life Support techniques, together with other aspects of ambulance officers' role in the care and transport of patients.

**Recommendation 8.23:** The Committee recommends:

- (i) that the Victorian Ambulance Commission maintain close liaison with the State Emergency Service, the Country Fire Authority, and the Victoria Police;
- (ii) that Ambulance Services work with all emergency services in the planning and conduct of counter-disaster exercises; and
- (iii) that co-location of Ambulance Service facilities with those of the State Emergency Service or the Country Fire Authority or both in smaller centres be very strongly encouraged and sought after when new facilities for any of the emergency services are being developed.

## 8.6 Air and Helicopter Ambulances

**Recommendation 8.24:** The Committee recommends that the Air Ambulance be operated by the Victorian Ambulance Commission as proposed in Recommendation 5.30.

**Recommendation 8.25:** The Committee recommends that the Air Ambulance Service give priority to the transport of time-critical emergency cases and to the transport of patients for whom road transport would be detrimental to their medical condition.

**Recommendation 8.26:** The Committee recommends that the Victorian Ambulance Commission, in conjunction with the Air Ambulance Committee, establish a set of transport guidelines for the Air Ambulance Service, taking the following principles into consideration:

- that the primary role for the Air Ambulance Service must be the transport of emergency and medically necessary patient cases; and
- that only after these needs have been met, patients who meet the criteria for transport by road ambulance may be transported by air, if transport by road would be more costly to the Ambulance Services than air transport.

**Recommendation 8.27:** The Committee recommends that a careful analysis of the cost of Air Ambulance (fixed wing) transport be conducted by a transport economist prior to the next contract being arranged.

**Recommendation 8.28:** The Committee recommends that each ambulance Control District outside the metropolitan area be provided with a kit of the advanced life support equipment carried on Air Ambulance Service aircraft if an emergency is anticipated, to be kept at the local base hospital or ambulance Headquarters (whichever is the more appropriate) for use when the Air Ambulance is diverted from a non-emergency flight to provide a time-critical patient transport.

**Recommendation 8.29:** The Committee recommends that the Air Ambulance Committee review the effectiveness of arrangements to divert the Air Ambulance aircraft from non-emergency to emergency transports, and if necessary, make arrangements with the contractor to have one aircraft and one pilot on standby overnight to respond to emergency calls only.

**Recommendation 8.30:** The Committee recommends that when calling for tenders for the next contract for air services:

- (i) the Victorian Ambulance Commission accurately define the nature of air services required for the Air Ambulance Service and that this be reflected in the tender specification;
- (ii) the stretchers in the aircraft be required to be interchangeable with stretchers in road ambulances;
- (iii) the suitability for Air Ambulance operations of the present style of aircraft be recognised, and that the employment of faster, pressurised aircraft for this purpose be avoided; and
- (iv) the contract period for the provision of air services be five years, subject to satisfactory performance.

**Recommendation 8.31:** The Committee recommends:

- (i) that unless all of the components of this recommendation are implemented as an integrated development, there be no change to the present arrangements for the location and operation of the helicopter ambulance services;
- (ii) that the helicopter services operated by Peninsula Ambulance Service and the Latrobe Valley and District Ambulance Service be retained;
- (iii) that the Peninsula helicopter base be re-located at Moorabbin Airport;
- (iv) that the areas serviced by both the Peninsula and Latrobe Valley helicopter ambulances be expanded so that the Morwell-based helicopter services all of south-eastern Victoria, and the Moorabbin-based helicopter services an area outside Melbourne but within a 150 kilometre radius of Melbourne;
- (v) that the helicopter service based at Moorabbin be operated by the Westernport Control District for the Metropolitan Ambulance Service and that the helicopter service based at Morwell be operated by the Gippsland Ambulance Service;
- (vi) that both helicopter services concentrate on the transport of emergency patients for whom the speed of transport is critical;
- (vii) that the use of the Bell Longranger helicopter by the Morwell-based service be continued, and that the helicopter used by the Moorabbin-based service be upgraded to a Longranger aircraft;
- (viii) that back-up aircraft be chartered as needed;

- (ix) that the Moorabbin and Morwell-based helicopter ambulance services employ pilots on standby during day-light hours and on call from their homes at night;
- (x) that the proposal to introduce larger, twin-engine helicopters with IFR (Instrument Flying Rules) certification be rejected;
- (xi) that a limited system of helicopter landing sites be developed throughout the areas served by the helicopters, with public fund-raising to support these facilities including illuminated helicopter landing sites at one or two major metropolitan hospitals; and
- (xii) that detailed statistics on the operations of the helicopter ambulances be compiled, on the basis of which a comprehensive cost-benefit analysis of the services can be carried out prior to the letting of the next contracts.

**Recommendation 8.32:** The Committee recommends that the work currently being undertaken on communications equipment on air ambulances as part of the overall development of ambulance radio communications, be continued under the supervision of the Victorian Ambulance Commission.

**Recommendation 8.33:** The Committee recommends that efforts be made to develop clear lines of communication based on the system of linked computers between the operators of fixed wing, helicopter and road transport, to ensure that all ambulance transports are carried out by the most appropriate mode of transport, and that, where necessary, the different modes of transport are co-ordinated.

## Chapter Nine: Implementation

**Recommendation 9.1:** The Committee recommends:

- (i) that an Interim Victorian Ambulance Commission be established;
- (ii) that the Interim Commission cease to exist within 12 months of its establishment at the time of the taking office of the Victorian Ambulance Commission;
- (iii) that the functions of the Interim Commission be;
  - to oversee the establishment of the six new Ambulance Services;
  - to implement other recommendations contained in this Report which are necessary to the establishment of the new organisational framework;
  - to appoint the General Manager, the Director of Medical Services, the Director of Personnel and Industrial Relations, the Director of Finance and Administration; and
  - to undertake other functions in accordance with Recommendation 5.24 as staff are appointed to the Office of the Victorian Ambulance Commission;
- (iv) that the initial membership of the Interim Commission be as follows:
  - three members nominated by the Minister of Health one of whom should represent non-metropolitan interests, and one of whom should be nominated as the Chairman of the Interim Commission;

- . a nominee of the Ambulance Employees Association;
  - . one member of a non-metropolitan Ambulance Service Task Force elected by and from the members of all Task Forces;
  - . one member of the Metropolitan Ambulance Service Interim Committee of Management nominated by that Committee; and
  - . an officer of the Victorian Trades Hall Council nominated by the Council;
- (v) that the Regional Superintendent of the Metropolitan Ambulance Service and the General Manager of the Office of the Victorian Ambulance Commission be appointed to the Interim Commission as soon as they are appointed to these positions; and
- (vi) that when all five non-metropolitan Regional Superintendents have been appointed, they elect one to be a member of the Interim Commission.

**Recommendation 9.2:** The Committee recommends:

- (i) that a Task Force be established in each of the five proposed new non-metropolitan Ambulance Service regions;
- (ii) that the Task Forces cease to exist within 12 months of their establishment at the time of the taking office of the Service's Committees of Management;
- (iii) that the functions of the Task Forces be:
  - . collectively, to elect one of the members of the five Task Forces as a representative on the Interim Victorian

Ambulance Commission;

- to select the Regional Superintendent for each Service; and
  - to devise plans for the establishment of the new Services and oversee their implementation;
- (iv) that the membership of the Task Force in each area be as follows:
- the Presidents of the existing Committees of Management of those Ambulance Services whose existing area is predominantly in the proposed new area;
  - the Regional Director of the Health Commission;
  - a nominee of the Ambulance Employees Association; and
  - two nominees of the Minister of Health;
- (v) that the Task Forces be regarded as the interim Service Committee of Management for the implementation of the recommendations of this Report; and
- (vi) that the existing Committees of Management continue to manage the Ambulance Service in the existing districts in consultation with the Task Force until each new Service Committee of Management is constituted and formally takes office.

**Recommendation 9.3:** The Committee recommends:

- (i) that an Interim Committee of Management of the Metropolitan Ambulance Service be appointed by the Governor in Council;

- (ii) that the Interim Committee of Management cease to exist within 12 months of its establishment at the time of the taking office of the Committee of Management;
- (iii) that the functions of the Interim Committee of Management be:
- . to nominate one member as a member of the Interim Victorian Ambulance Commission;
  - . to select the Regional Superintendent;
  - . to devise plans for the establishment of the Metropolitan Ambulance Service and oversee their implementation; and
  - . to exercise the responsibilities of Service Committees of Management in accordance with Recommendation 5.17;
- (iv) that the existing Peninsula Ambulance Service Committee of Management undertake the functions of a Control District Ambulance Committee in accordance with Recommendation 5.19;
- (v) that the membership of the interim Metropolitan Ambulance Service Committee of Management be as follows:
- . four nominees of the Minister of Health, one of whom should be from the Peninsula Ambulance Service Committee of Management and one of whom should be chosen to represent the medical specialities closely related to ambulance operations;
  - . one of the three metropolitan Regional Directors of Health nominated by the Chairman of the Health Commission;

- . a nominee of the Ambulance Employees Association;
  - . a nominee of the Ambulance Service - Melbourne Committee of Management;
  - . a nominee of the Peninsula Ambulance Service Committee of Management; and
  - . one of the members should be nominated as Chairman of the Interim Committee by the Minister; and
- (vi) that the Regional Superintendent be appointed to the Interim Committee of Management as soon as formally appointed to the Regional Superintendent position.

**Recommendation 9.4:** The Committee recommends that the salary levels of existing Superintendents and other senior staff be retained for individuals where the responsibilities and salary of their position in the revised organisational structure are less than they were prior to the implementation of the recommendations contained in this Report.

\* \* \* \* \*

Committee Room

8 October 1984

\* \* \* \* \*



**APPENDIX ONE: PUBLIC HEARINGS AND WITNESSES**

MELBOURNE, 28 March 1984

Minister of Health

The Hon T W Roper, MP

SWAN HILL, 9 April 1984

Mid-Murray District Ambulance  
Service

Mr R Hancock (Treasurer)  
Mr J Mason (Superintendent)

North West Victorian Ambulance  
Service

Mr C Thomson (President, Committee  
of Management)  
The Hon K I M Wright, MLC  
(Member, Committee of Management)  
Mr G Thomas (Acting Superintendent)

Wycheproof and District  
Community Welfare Group  
Wycheproof Hospital  
Shire of Wycheproof

Mr R Bodycombe

Mrs M Dillon  
Mr G Larmour

Boort Ambulance Committee

Cr T F Moresi  
Mr T H Forbes (Shire Secretary, Shire  
of Gordon)

Mr G Bransgrove

Personal (former Superintendent,  
Wimmera District Ambulance Service)

HAMILTON, 10 April 1984

Glenelg District Ambulance

Mr J Rogers (Member, Committee of  
Management)  
Mr S Ferguson (Superintendent)

South-Western Victoria Ambulance  
Service

Mr H Neville (President, Committee  
of Management)  
Mr D Haynes (Superintendent)

Wimmera District Ambulance  
Service

Mr R Cochrane (President, Committee  
of Management)  
Mr J P Perry (Superintendent)

HAMILTON, 10 April 1984 (continued)

Hamilton Base Hospital	Mr M Scarlett (Chief Executive Officer)
Edenhope and District Memorial Hospital	Mr T Jenkins (Board of Management) Dr R Bade
Mr N Mirtschin Mr R Bowman Mr P McKenzie	Personal (Ambulance Officers, South-Western Victoria Ambulance Service)
Hopetoun and District Bush Nursing Hospital Rotary Club of Hopetoun	Mr J Puckle (Administrator)  Mr I McFarlane Mr D Pridgeon
Casterton Memorial Hospital	Mr D Jones (Chief Executive Officer) Mrs J Ross (Director of Nursing) Dr A Floyd (Committee of Management)
Mr B Williams Mr T Walkenhorst	Personal (Ambulance Officers, Glenelg District Ambulance Service)
Wimmera Base Hospital	Mr S Capp (Manager) Mrs G Curran (Director of Nursing)
Shire of Wimmera	Mr P Baldwin (Shire Secretary, Shire of Wimmera) Cr E Ruwoldt
Victorian State Emergency Service Mr J Rogers	Mr D Coldbeck (Regional Officer) Personal (Member, Committee of Management, Glenelg District Ambulance Service)

SHEPPARTON, 12 April 1984

Goulburn Valley Ambulance Service	Mr M I Darveniza (President, Committee of Management) Mr E W Thomas (Superintendent)
Northern District Ambulance Service	Mr E R Bates (President, Committee of Management) Mr K J Devereaux (Superintendent)
North Eastern Victoria District Ambulance Service	Mr S E Stone (President, Committee of Management) Mr G I Pink (Superintendent) Mr J M Caruso (Finance and Administration Manager)

SHEPPARTON, 12 April 1984 (continued)

Central Victoria Ambulance Service	Mr A W Grierson (President, Committee of Management) Mr C W Ashman (Treasurer) Mr J Rowe (Superintendent)
Victorian Ambulance Administrative Officers' Association	Mr K Rowe (President) Mr W Long (Secretary)
Echuca District Hospital	Mr S Rowley (Manager) Mr O Brown (Vice-President)
Mr P O'Meara	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)
Mr D Temple	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)
Mollyullah Country Women's Association	Mrs P Gedling Mrs M Ryan
Mr E Kay	Personal (Ambulance Officer, Goulburn Valley Ambulance Service)

MORWELL, 16 April 1984

Latrobe Valley District Ambulance Service	Mr G Thornhill (President, Committee of Management) Mrs P Boothman (Immediate Past President, Committee of Management) Mr J Pyers (Acting Superintendent)
East Gippsland Ambulance Service	Mr N Gooch (Member, Committee of Management) Mr J Little (Member, Committee of Management) Mr D Woodhouse (Superintendent)
Maffra District Hospital	Mr P Kamsma (Manager/Secretary)
For the Staff of Warragul Branch, Latrobe Valley District Ambulance Service	Mr R Stanistreet (Ambulance Officer) Ms L Brelaz (Hospital Scientist, West Gippsland Hospital)
Gippsland Trades and Labour Council	Mr G Wragg (President) Mr A Peterson
Morwell Community Health Centre	Mr J Ellingham (Treasurer)

MELBOURNE, 22 May 1984

Dr J Hendtlass	Personal (Road Safety Manager, Royal Automobile Club of Victoria)
Dr A Bacon	Personal (Anaesthetist)
Ambulance Service - Melbourne	Mr L Swindon (Member, Committee of Management) Mr H G Berry (Chief Superintendent) Mr T Bates (Manager - Operations) Mr N W Branson (Manager - Administration and Finance)
Austin Hospital	Dr B Osborne (Medical Administrator)
Victorian Hospitals' Association	Mr C Cornall (Chairman) Mr H Feehan (Executive Director) Mr T Milan Ms C Kealy Mr G Edwards
Victorian Academy for General Practice	Dr R Tunbridge (Medical Executive Officer)
Alfred Hospital	Dr B Walpole (Director of Casualty)
Victorian Ambulance Superintendents' Council	Mr E W Thomas (President) Mr A A Dalby (Secretary)

MELBOURNE, 23 May 1984

Peninsula Ambulance Service	Mr W R Lumley (President, Committee of Management) Mr D J Symonds (Treasurer) Mr T A Boyd (Acting Superintendent) Mr F L J Adams (Finance and Administration Manager)
Ambulance Service - Melbourne (Air Ambulance)	Mr H G Berry (Chief Superintendent) Mr T Bates (Manager - Operations) Mr N W Branson (Manager - Administration and Finance)
Peninsula Air Services Pty Ltd	Mr W Suhr (Director and Chief Pilot)
Mr J I'Anson	Personal (Station Officer, Ambulance Service - Melbourne)
Dr A D'Arcy	Personal (Director, Emergency Services, Royal Melbourne Hospital)

MELBOURNE, 23 May 1984 (continued)

Victorian Ambulance Services Association	Mr M I Darveniza (President) Mr N Gooch (Vice-President) Mr J Mason Mr J Perry (Secretary)
Institute of Ambulance Officers (Australia)	Mr L Hotchin (Chairman, Victorian Division) Mr A Marr (Executive Member, Victorian Division) Mr D Shugg (Executive Member, Victorian Division)
Alexandra and District Ambulance Service	Mr S Reynolds (President, Committee of Management) Mr J Gunn (Member, Committee of Management) Mr A Weeks (Superintendent) Mr B Webb (Treasurer) Dr P Bunn (Training Advisor) Mr P Dent (Training Officer)
Mr R Tye	Personal (In-Service Training Officer, Peninsula Ambulance Service)
Dr R J Young	Personal (General Practitioner, Alexandra)
Association of Casualty Supervisors of Victorian Hospitals	Dr E Brentnall (Director of Accident and Emergency Department, Box Hill Hospital)
Royal Automobile Club of Victoria	Dr J Hendtlass (Road Safety Manager)

MELBOURNE, 24 May 1984

Geelong and District Ambulance Service	Mr R Purnell (President, Committee of Management) Mr H Kroger (Treasurer) Mr D Wilson (Superintendent)
Peninsula Air Services Pty Ltd Ambulance Service - Melbourne (Air Ambulance)	Mr W Suhr (Director and Chief Pilot) Mr H G Berry (Chief Superintendent, Ambulance Service - Melbourne) Mr P Walsh (Ambulance Service - Melbourne)
Dr D Hunt	Personal (Director of Cardiology, Royal Melbourne Hospital)

MELBOURNE, 24 May 1984 (continued)

National Safety Council of  
Australia, Victorian Division

Mr R Dousset (Helicopter Pilot)

Mr P La Roche  
Dr I Siggins

Personal  
Equal Opportunity Commission  
(Assistant Commissioner)

Mr J Blossfelds

Personal (MICA Assistant Superintendent,  
Ambulance Service - Melbourne)

Motor Accident Board

Mr H Wilson (Senior Medical Advisor)

Ambulance Officers' Training  
Centre

Mr R Edwards (Chairman, Committee  
of Management)  
Mr P A Newbold (Executive Director)

Royal Children's Hospital

Dr A Duncan (Director of Intensive  
Care Unit)

Ballarat and District Ambulance  
Service

Mr A A Dalby (Superintendent)  
Mr A Rizzoli (Member, Committee  
of Management)

Casualty Services Consultative  
Council

Sir Benjamin Rank (Chairman)

Newborn Emergency Transport  
Service

Dr N Roy (Director)

Western General Hospital

Mr B Millane (Administration Director)

MELBOURNE, 30 May 1984

Health Commission of Victoria

Mr A J Ryan (Commissioner)  
Mr N Wendt (Deputy Director,  
Finance Division)  
Mr J Jolley (Patient Transport  
Administration Section, Hospitals  
Division)  
Mr P Gabriel (Patient Transport  
Administration Section, Hospitals  
Division)

Ambulance Employees' Association  
of Victoria

Mr W B Simmons (General Secretary)  
Mr G Coffey (Assistant General  
Secretary)

MELBOURNE, 30 May 1984 (continued)

Ambulance Service - Melbourne (second appearance)	Mr H G Berry (Chief Superintendent) Mr T Bates (Manager - Operations) Mr N W Branson (Manager - Administration and Finance)
Victorian State Emergency Services	Mr R J Aitken (Director)
Dr F Archer	Personal (Ambulance Services Medical Officer)
Dr I Favilla	Personal (Ophthalmologist)
St Vincent's Hospital	Dr J Griffin (Medical Superintendent) Dr G Hale (Cardiologist)

MELBOURNE, 13 June 1984

Ambulance Employees' Association of Victoria (second appearance)	Mr W B Simmons (General Secretary) Mr G Coffey (Assistant General Secretary)
Health Commission of Victoria (second appearance)	Mr A J Ryan (Commissioner) Dr D Race (Director, Hospitals Divison) Mr N Wendt (Deputy Director, Finance Division) Mr P Gabriel (Patient Transport Administration Section, Hospitals Division) Mr T Ryan (Engineer, Division of Building and Services)

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**APPENDIX TWO: VISITS BY THE PUBLIC BODIES REVIEW COMMITTEE  
CONCERNING AMBULANCE SERVICES IN VICTORIA**

22 February 1984	Full Committee	Ambulance Service - Melbourne - Headquarters in Melbourne and Northcote Branch Station
29 February 1984	Staff	Helicopter Ambulance Workshop
1 March 1984	Chairman and Deputy	Ambulance Officers' Training Centre
14 March 1984	Full Committee	Ballarat and District Ambulance Service - Headquarters in Ballarat, Daylesford Branch Station and Ballan Volunteer Station
9 April 1984	Sub-Committee	Public Hearing - Swan Hill  Mid-Murray District Ambulance Service - Headquarters in Swan Hill and Nyah West Branch Station
10 April 1984	Sub-Committee	Public Hearing - Hamilton  Glenelg District Ambulance Service - Headquarters in Hamilton
12 April 1984	Sub-Committee	Public Hearing - Shepparton  Goulburn Valley Ambulance Service - Headquarters in Shepparton
16 April 1984	Sub-Committee	Public Hearing - Morwell  Latrobe Valley District Ambulance Service - Headquarters in Morwell
3 May 1984	Staff	Air Ambulance Operations
4 May 1984	Staff	Ambulance Officers' Training Centre
8 May 1984	Sub-Committee	Geelong and District Ambulance Service - Headquarters in Geelong, and Colac Branch Station  South-Western Victoria Ambulance Service - Headquarters in Warnambool  Glenelg District Ambulance Service - Balmoral Volunteer Station

9 May 1984	Sub-Committee	Wimmera District Ambulance Service - Headquarters in Horsham and Stawell Branch Station
10 May 1984	Sub-Committee	Central Victoria District Ambulance Service - Headquarters in Bendigo  Northern District Ambulance Service - Headquarters in Echuca
11 May 1984	Sub-Committee	North Eastern Victoria District Ambulance Service - Headquarters in Wangaratta
15 May 1984	Sub-Committee	North West Victorian Ambulance Service - Headquarters in Mildura and Wentworth Branch Station
16 May 1984	Sub-Committee	South Gippsland District Ambulance Service - Headquarters in Leongatha  East Gippsland Ambulance Service - Headquarters in Sale
29 May 1984	Member	Ambulance Service - Melbourne - Ambulance Operations
12 June 1984	Members	Ambulance Officers' Training Centre
	Member	Ambulance Service - Melbourne - Ambulance Operations
14 June 1984	Members	Ambulance Officers' Training Centre
	Member & Staff	Royal Melbourne Hospital - Emergency Department
	Member	Ambulance Service - Melbourne - Ambulance Operations
15 June 1984	Members	Royal Melbourne Hospital - Emergency Department
	Members	Air Ambulance Operations
	Staff	In-Service Training Officers' Meeting- Ambulance Officers' Training Centre
18 June 1984	Members	Royal Melbourne Hospital - Emergency Department
19 June 1984	Member	Ambulance Service - Melbourne - Ambulance Operations

20 June 1984	Member	Air Ambulance Operations
21 June 1984	Staff	Royal Melbourne Hospital - Emergency Department
25 June 1984	Member & Staff	Royal Melbourne Hospital - Emergency Department
27 June 1984	Sub-Committee	Peninsula Ambulance Service - Headquarters in Frankston and Dandenong Branch Station
5 & 6 July 1984	Sub-Committee	New South Wales Ambulance Service - Headquarters in Sydney
11 July 1984	Sub-Committee	Alexandra and District Ambulance Service - Headquarters in Alexandra
13 July 1984	Chairman & Staff	MICA and Advanced Life Support Training, Ambulance Officers' Training Centre
16 July 1984	Chairman & Staff	Alfred Hospital - Emergency Department
17 August 1984	Staff	Ambulance Service - Melbourne - Clinic Transport Operations

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### APPENDIX THREE: SUBMISSIONS AND PETITIONS RECEIVED

Alexandra and District Ambulance Service  
Alexandra and District Residents - Petition of 1258 signatures  
Alexandra District Hospital  
Alfred Hospital  
Ambulance Branch Stations - Petition signed by ambulance officers from  
30 stations  
Ambulance Employees Association  
Ambulance Officers' Training Centre  
Ambulance Service - Melbourne  
Association of Casualty Supervisors of Victorian Hospitals  
Austin Hospital  
Australian Medical Association  
Australian Red Cross Society  
Dr Andrew Bacon, Berwick  
Ballarat and District Ambulance Service  
Mr S Bird, Student Ambulance Officer, Horsham  
Mrs L Blair and Mrs L Hall, Clifton Springs  
Mr J Blosfelds, Assistant Superintendent, Ambulance Service - Melbourne  
Dr E Brentnall, Director of Accident and Emergency Department, Box Hill Hospital  
Mr J Brown, Ferntree Gully  
Mr W F Buckley, Station Officer, Swan Hill  
Dr P Bunn, Eildon  
Dr J P Bush, Victoria Police Surgeon  
Casterton Memorial Hospital  
Castlemaine District Community Hospital  
Casualty Services Consultative Council  
Central Victoria District Ambulance Service  
City of Ballarat  
City of Bendigo  
City of Moe  
City of Preston  
City of Traralgon  
Cobram District Hospital  
Country Fire Authority  
The Hon S M Crabb, M P  
Mr A M Cuthbertson, Senior Surgeon, Royal Melbourne Hospital  
Dandenong and District Hospital  
Dr A D'Arcy, Director of Emergency Services, Royal Melbourne Hospital  
Mr W A Davis, Superintendent, Latrobe Valley District Ambulance Service  
Davy McKee Pacific Pty Ltd  
Mr J D'Orival, Senior Station Officer, Central Victoria District Ambulance Service  
East Gippsland Ambulance Service  
Echuca District Hospital  
Edenhope and District Hospital  
Eildon and District Community Hospital  
Ms M Ellul, Belgrave South  
Dr I Favilla, Ophthalmologist  
Geelong and District Ambulance Service  
Geelong and District Ambulance Service - staff of Werribee branch station  
Mr J Gerolemou, Ambulance Officer, Bendigo  
Gippsland Trades and Labour Council  
Glenelg District Ambulance Service

Glenelg District Ambulance Service - Ambulance Officers  
Goulburn Valley Ambulance Service  
Goulburn Valley Ambulance Service - staff  
Goulburn Valley Community Care Centre  
Grace McKellar House, North Geelong  
Ms L Gravenall, Thomastown  
Gruyere Progress Association  
Mr B Hall, Ambulance Officer, Geelong District Ambulance Service  
Hamilton Base Hospital  
Health Commission of Victoria  
Dr J Hendtlass, Melbourne  
Hobson Park Hospital - Traralgon  
Dr D G Holland, Alexandra  
Hopetoun and District Bush Nursing Hospital  
Dr D Hunt, Director of Cardiology, Royal Melbourne Hospital  
Mr J I Anson, Senior Station Officer, Ringwood  
Institute of Ambulance Officers (Australia), Victorian Division  
Ms E Jeffries, Horsham  
Mr P Kamsma, Maffra  
Kilmore Hospital  
Kyneton Taxi Service  
Mr P La Roche, Blackburn  
Latrobe Valley District Ambulance Service  
Latrobe Valley District Ambulance Service - Staff of Warragul branch  
Lifeline - Albury-Wodonga  
Lifeline - Melbourne  
Dr J Macdonald, Alexandra  
Mr M McGrath, Senior Station Officer, Peninsula Ambulance Service  
Mr J McGregor, Station Officer, Healesville  
Ms S McWilliam, Office Manager, Latrobe Valley Ambulance Service  
Maffra District Hospital  
Mr A Mathieson and three others, Ambulance Officers, Goulburn Valley Ambulance Service  
Mr J Medan, Ambulance Officer, Peninsula Ambulance Service  
Melbourne Crisis Care Centre  
Mr B Mellor, Ambulance Officer, Geelong and District Ambulance Service  
Mid-Murray District Ambulance Service  
Ministry of Consumer Affairs  
Mr K Mitchener, Ambulance Officer, Bendigo  
Molyullah Country Women's Association  
Mr A Moore and Mr W Rieck, Ambulance Officers, East Gippsland Ambulance Service  
Morwell Community Health Centre  
Motor Accident Board  
Mount Royal Hospital  
National Safety Council of Australia  
North Eastern Victoria Ambulance Service  
Northern District Ambulance Service  
North West Victoria Ambulance Service  
Mr P O'Meara, Ambulance Office, Shepparton  
Professor L J Opit, Monash Medical School, Alfred Hospital  
Mr G Ortmann, Melbourne  
Peninsula Air Services  
Peninsula Ambulance Service  
Mr L Pipkorn, In-Service Training Officer, Wimmera District Ambulance Service  
Dr P Radford, Eildon

Repatriation General Hospital, Heidelberg  
Returned Services League - Rochester  
Rotary Club, Hopetoun  
Dr N Roy, Director of the Newborn Emergency Transport Service  
Royal Automobile Club of Victoria  
Royal Children's Hospital  
Royal Melbourne Hospital  
Rupanyup and District Hospital  
St Arnaud District Hospital  
St John Ambulance Brigade and Association  
St Vincent's Private Hospital  
St Vincent's Public Hospital  
Sandringham District and Memorial Hospital  
Mr G Sellars, Ambulance Officer, Healesville  
Shire of Alberton  
Shire of Alexandra  
Shire of Ballarat  
Shire of Dunmunkle  
Shire of Gordon  
Shire of Lillydale  
Shire of Maffra  
Shire of Melton  
Shire of Mornington  
Shire of Morwell  
Shire of South Gippsland  
Shire of Swan Hill  
Shire of Upper Yarra  
Shire of Wimmera  
Shire of Wycheproof  
Mr P Southall, Traralgon  
South Western Victoria Ambulance Service  
South Western Victoria Ambulance Service - staff  
Dr A Talan, Alexandra  
Tawonga District General Hospital  
Technical and Further Education Board  
Mr D Temple, Ambulance Officer, Cobram  
Mr R Tye, Senior Station Officer, Peninsula Ambulance Service  
Mrs L Van Dulleman, Secretary, Melton Ambulance Auxilliary  
Victorian Academy for General Practice  
Victorian Ambulance Administrative Officers Association  
Victorian Ambulance Services Association  
Victorian Ambulance Superintendents Council  
Victorian Bush Nursing Association  
Victorian Hospitals Association  
Victoria State Emergency Service  
Victoria State Emergency Service - Hamilton  
Councillor A Walpole, Whorouly South  
Dr B Walpole, Director of Casualty, Alfred Hospital  
Western General Hospital  
Wimmera Base Hospital  
Wimmera District Ambulance Service  
Dr J Wiseman, Assistant Director of Medical Services, Alfred Hospital  
Wycheproof Hospital  
Dr R J Young, Alexandra

## APPENDIX FOUR: HELICOPTER AMBULANCE SERVICES

On 21 August 1984 the Minister of Health released the Report of the Committee of Inquiry into the Use of Helicopters in Ambulance Services. The Minister sent a copy of the Report to the Public Bodies Review Committee, and asked the Committee for comment on the recommendations of that Report. The first part of this Appendix contains the Committee's comments on those recommendations, and the second part considers the cost of operating a helicopter ambulance service as recommended by the Committee of Inquiry. The Public Bodies Review Committee's recommendations on the use of helicopters in ambulance services are contained in Section 8.6, and the third part of this Appendix gives the Committee's estimate of the cost of this recommendation.

### 1. Committee of Inquiry into the Use of Helicopters in Ambulance Services

**First Recommendation:** The helicopter ambulance service provided by the "Angel of Mercy" helicopter operated by the Peninsula Ambulance Service should be expanded to cover an area out to 100 to 150 kilometres from Melbourne. The service should be concentrated on transport of selected emergency, time-critical patients from site of the emergency to hospital or between hospitals with a large reduction in transport of non time-critical patients.

**Response:** The Public Bodies Review Committee agrees with this recommendation.

**Second Recommendation:** A larger helicopter should be used for the service with a minimum of a twin engined, I.F.R. certified machine of the type of the Boelkow 105 and a longer term objective of a specially designed machine of the type of the Boelkow Kawasaki BK117.

**Response:** The Committee rejects this recommendation on the basis that the expenses of operating such a helicopter for the small number of additional patients that such a helicopter would serve, and the limited facilities for IFR operation in Victoria, do not justify the use of this helicopter.

**Third Recommendation:** The "Angel of Mercy" base should be relocated closer to the centre of Melbourne, possibly at Moorabbin, and, pending finalisation of the investigation into the organisation of ambulance service in the State, should continue to be managed by Peninsula Ambulance Services.

**Response:** The Committee agrees with relocation to Moorabbin of the helicopter service, subject to the qualifications expressed in Recommendation 8.31 of this Report. In line with its recommendations on organisational structure, the Committee recommends that the Moorabbin-based service be operated by the Westernport Control District for the Metropolitan Ambulance Service.

**Fourth Recommendation:** The Latrobe Valley helicopter service should continue to operate but with concentration on transport of emergency, time-critical patients and expansion of its service area to cover all of south eastern Victoria. This will require close integration with the ambulance service involved in the transport of time critical patients and reduction in transport of non critical patients.

**Response:** The Committee agrees with this recommendation.

**Fifth Recommendation:** A professionally designed fund raising program should be developed to provide funds from the public and public organisations to assist in funding of the expanded service over the initial years.

**Response:** The Committee has some reservations about this recommendation. It believes that careful consideration should be given to the comparative benefit of professional fund-raisers, especially in the light of the substantial funds raised in the past by the Peninsula community. The Committee also suggests that in any fund-raising programme, care should be taken to ensure that unrealistic expectations of helicopter ambulance services do not develop in the areas serviced by the helicopter ambulances, in areas in which funds are raised, and elsewhere in the State.

**Sixth Recommendation:** Additional funds should be made available to permit progressive upgrading of the helicopter service by providing a more appropriate helicopter for the "Angel of Mercy" and to upgrade the service. An estimated additional \$840 000 per year is estimated initially and ultimately \$1 040 000 per year as the service develops over a period of three to five years. This will be offset by any public fund raising and costs of maintaining the existing service are expected to rise by some \$240 000 if no major functional changes are made.

**Response:** The Committee agrees that additional funds should be made available for the upgrading of the Moorabbin-based helicopter service including the provision of a Longranger helicopter. As explained in Section 8.6.3 and in the second part of this Appendix, the Committee disagrees with the costings estimated by the Inquiry.

**Seventh Recommendation:** The proposed Melbourne based helicopter service should handle selected emergency potentially time-critical patients from emergency site to the hospital, generally in the area outside the Melbourne Metropolitan area to about 120 kilometres away. The service should also provide assistance in joint road/helicopter transport for interhospital transports from adjacent Base Hospitals through a network of transfer helipads located along the main highways. Service will also be provided in closer areas at times of extreme traffic congestion or to locations where access by road transport is difficult or time consuming.

**Eighth Recommendation:** A network of helipads should be progressively developed as emergency helicopter pick up points. These should conform to Department of Transport requirements and be located roughly 20 kilometres, 40 kilometres and 90 kilometres from Melbourne. The provision of those services, as far as possible, should be done by voluntary public support, as has occurred in South Eastern Victoria. Support should be given in advice on location and design.

**Response:** The Committee considers there to be some merit to these proposals, but suggests that before any such proposals are implemented, a detailed cost benefit analysis should be carried out, taking particular account of the considerable costs of helicopters and of the needs for funds elsewhere in ambulance services. Care should also be taken to avoid the development of unrealistic public expectations about the use of the helicopter ambulance service.

**Ninth Recommendation:** Provision of helipads at two or three major emergency hospitals in Melbourne with direct access to Casualty Departments should be sought to increase speed of transport and minimise double handling of patients. Helipads should be developed close to any specialist trauma hospital which may be designated and in the vicinity of the Royal Melbourne/Royal Children Hospitals.

**Response:** The Committee agrees with this recommendation.

**Tenth Recommendation:** The organisation of control of road, helicopter and fixed wing ambulances should be reviewed in the light of any reorganisation of Victorian ambulance services. The following principles are suggested:

1. The operational control of the three types of services should be closely integrated.
2. The Health Commission should not own and operate the provision of helicopters.
3. Medical advice on allocation of patients to the different transport types should be available to ensure that inappropriate patients are not transported in fixed wing or helicopter services.

**Response:** The Committee supports the co-ordination of all types of ambulance transport in order to facilitate the transport of all ambulance cases by the most appropriate means. The Committee agrees that the providers of ambulance services - the Ambulance Services and the Victorian Ambulance Commission - should not own helicopters. Advantages exist in contracting out air services to an organisation which has a large "pool" of aircraft and pilots, which can be used to supplement the helicopter ambulance service when necessary. This arrangement would produce significant cost-savings.

The Committee strongly agrees with the availability of medical advice in the allocation of patients to the most appropriate means of transport, and believes that the appointment of Ambulance Service Medical Officers will help meet this need.

**Eleventh Recommendation:** In letting contracts for provision of helicopters, pilots and maintenance, reasonably long term contracts should be negotiated to permit the contractors to forward plan finances, facilities and support services. A minimum of three to five years is suggested. Regard should be paid to high quality back up support of maintenance, pilots, spares and replacement machines.

**Response:** The Committee agrees with this recommendation, but considers that if contracts are extended to five years they should be subject to satisfactory performance reviews.

**Twelfth Recommendation:** Fixed wing aircraft should continue to serve the Ambulance Services located over 150 kilometres from Melbourne.

**Response:** The Committee agrees with this proposal.

**Thirteenth Recommendation:** Existing contracts should be extended if possible by at least 12 months to permit replanning of the service, fund raising organisation and letting of tenders for new helicopter services.

**Response:** The Committee agrees with this recommendation.

2. Estimated Costs of Providing the Helicopter Ambulance Services Proposed by the Committee of Inquiry

The Committee of Inquiry into the Use of Helicopters in Ambulance Services gave some estimated costs for the operation of the improved service that it recommended. It did not give details of how such costs were calculated.

The following is a costing, prepared by the Public Bodies Review Committee, of the provision of an improved emergency helicopter ambulance service as recommended by that Committee of Inquiry.

The Committee of Inquiry made the following recommendations about the operations of an improved service:

- (i) The Angel of Mercy service be replaced by a Boelkow-Kawasaki BK-117 twin-engined helicopter equipped for instrument flying in adverse weather, based at Moorabbin and servicing the area up to 150 kilometres from Melbourne.
- (ii) The Latrobe Valley Bell Longranger continue to operate but extend its cover to all of south-eastern Victoria.
- (iii) Both helicopters concentrate on emergency, time-critical patients, with reduced transport of non-critical patients.

It appears to the Public Bodies Review Committee that if the helicopters are operated in such a way as to maximise the effectiveness of their response to emergencies, the following operational requirements will need to be met:

- (iv) One pilot must be on standby 24 hours a day so that the Longranger is ready to take-off within minutes of a call being received, and two pilots must be similarly available for the BK-117.
- (v) As helicopters require large amounts of maintenance, a third machine would be needed as a back-up for these two, and ideally it should be another BK-117.

The cost estimate that appears below is based on operational items (i)-(v) above and on the following eight financial items:

- (vi) Depreciation: The purchase price of each new BK-117 is taken as \$1.6 million, the price used by the Committee of Inquiry. The effective lifetime of each machine is ten years, and that straight-line depreciation of 10 per cent per annum is applied. The price of a new Longranger is taken as \$670 000, and the same depreciation rate is used.
- (vii) Interest: An interest rate of 12 per cent per annum is taken, on an average of one-half of the new cost of each aircraft. Depreciation payments (see item (vi)) in effect reduce the capital liability and thus the net interest payable each year, to an average of one-half of the new cost.
- (viii) Insurance: Insurance rates are taken as 11 per cent per annum on one-half of the new cost, although such a rate may be adequate only for the aircraft, and not for passengers, equipment or third parties.
- (ix) Government Charges: Air Navigation Charges and Certificates of Airworthiness are at estimated annual rates.
- (x) Profit and Tax: Combined level of these is assumed to average 10 per cent per annum of one-half of the total capital invested in aircraft.
- (xi) Overheads: A modest allowance for rent, hangar space, and the like.
- (xii) Aircrew: On the basis of a full emergency service as outlined in (iv) above, it is probable that seven pilots would be required for the Longranger and 14 for the BK-117, although it may be possible to reduce the total number from 21 to perhaps 18 by some sharing of rosters, allocated as 12 for the BK-117 and 6 for the Longranger. The Air Navigation Regulations impose strict limits on the numbers of hours pilots may fly or be rostered on duty. The annual cost of each pilot, including salary, workers compensation insurance and other items is taken as \$50 000. No extra aircrew cost is allocated to the spare aircraft, as it would be crewed only when one of the others was being maintained or repaired.
- (xiii) Operating Costs: Based on 500 hours of flying each year for the Longranger and 500 hours for the BK-117, at approximate costs of \$250 per hour and \$500 per hour respectively, to cover fuel, maintenance, spare part, and contingencies. No extra operating cost is allocated to the spare aircraft, as it would only be operated when one of the others was being maintained or repaired.

**TABLE A.1**

Estimated Costs of Emergency Helicopter Ambulance Service  
as Proposed by the Committee of Inquiry

Item	BK-117 Moorabbin	Longranger Morwell	BK-117 Spare
	\$	\$	\$
Depreciation	160 000	67 000	160 000
Interest	96 000	40 000	96 000
Insurance	88 000	37 000	88 000
Government Charges	18 000	18 000	18 000
Profit and Tax	80 000	34 000	80 000
Overheads	32 000	32 000	32 000
Aircrew	600 000	300 000	0
<b>Total fixed costs</b>	<b>1 074 000</b>	<b>528 000</b>	<b>474 000</b>
Operating 500 hours	250 000	125 000	0
<b>Total costs</b>	<b>1 324 000</b>	<b>653 000</b>	<b>474 000</b>

**TOTAL ANNUAL COST OF SERVICE = \$2 451 000**

This costing assumes a high quality service aimed at very rapid response to time-critical emergencies. A lower cost service could be provided, but would probably mean lower speed or suitability of response. Cost saving measures include:

- No spare helicopter as a back-up, relying on ad hoc charter as needed: saving difficult to estimate, but perhaps \$300 000.
- Pilots on call from home at night, leading to longer response time: savings again difficult to estimate, but perhaps \$300 000.
- Operating contract placed with a large operator of helicopters, perhaps allowing aircrew cost savings through pilots being on standby for helicopter ambulance and other helicopter flights, although this could lead to longer response times to time-critical emergencies: savings difficult to estimate.

- . Dispensing with the requirements for twin-engines, and for IFR certification. IFR allows aircraft to land or take-off in certain adverse weather conditions at suitably equipped landing sites. As there are few of these available in the metropolitan area (Essendon and Tullamarine only) or outside it, the value of such a feature appears rather limited as hospitals, accident sites and so on would not be so equipped.
- . It is possible that the BK-117 may in time be certificated to fly with only one pilot. If this happens, a saving of about \$300 000 would be possible.

3. Estimated Costs of the Public Bodies Review Committee's Recommended Helicopter Ambulance Service

The cost of this Committee's recommendations is estimated as follows.

<b>TABLE A.2</b>			
Estimated Cost of Recommended Emergency Helicopter Ambulance Service			
Cost Item	Longranger Metropolitan	Longranger Morwell	Longranger Back-up
	\$	\$	\$
Depreciation	67 000	67 000	67 000
Interest	40 000	40 000	40 000
Insurance	37 000	37 000	37 000
Government Charges	18 000	18 000	18 000
Profit and Tax	34 000	34 000	34 000
Overheads	32 000	32 000	32 000
Aircrew	200 000	200 000	0
<b>Total fixed costs</b>	<b>528 000</b>	<b>428 000</b>	<b>228 000</b>
Operating 500/300 hours	125 000	75 000	0
<b>Total costs</b>	<b>553 000</b>	<b>503 000</b>	<b>228 000</b>

Total Annual Cost = \$1 281 000

With a back-up helicopter chartered as required, there would be a saving of about \$100 000, making the total annual cost of the service about \$1 180 000. The same scope for further cost savings would apply as with the recommendation of the Committee of Inquiry.

\* \* \* \* \*

**APPENDIX FIVE: WAGE RATES FOR AMBULANCE PERSONNEL**

The wage rates here given for personnel under the Ambulance Services Award and those under the Ambulance Superintendents and Senior Administrative Officers are current at October, 1984.

1. Ambulance Services Award

---

Operational Personnel	\$ Week
Senior Station Officer	363.10
Station Officer - Headquarters or Branch with 10 men	343.80
Station Officer - Branch less than 10 men	329.80
Assistant Station Officer/Regional Relieving Officer	321.60
Ambulance Officer	313.00
Student - Level 3	299.30
Student - Level 2	284.60
Student - Level 1	253.90
Clinic Transport Officer	253.90
Trainee Clinic Transport Officer	244.40
Mobile Intensive Care Margin (as defined)	20.00

---

The rates prescribed above will be increased for all purposes (except for purposes of calculation of Clause 3 - Shift Allowance) by:

- \$47.80 during the first year of service,
- \$52.10 during the second year of service,
- \$55.70 during the third year of service and thereafter.

Wage rates for Ambulance Service - Melbourne Operational Staff are calculated, by agreement, on an averaged penalty basis in lieu of normal penalty rates. Minutes of Wages Board meeting of 8 December, 1980 contain details of calculation method.

---

Clerical Personnel	\$ Week
Sales Controller (AS-M only)	383.60
Controller Patient Accounts and Subscriptions (AS-M)	337.00
Controller Accounting (AS-M only)	323.60
Controller EDP (AS-M only)	337.00
Pay Officer (AS-M only)	323.60
Assistant Pay Officer (AS-M only)	293.90
Teletypist	269.10
Data Entry Clerk	269.10
Banking Clerk	280.00
Supervisor	289.10
Secretary	278.50
Private Secretary	286.60
Audio Typist/Stenographer	269.10
Accounts Clerk	260.10
Records Clerk	253.70
Pay Clerk	260.10
Office Machine Operator	260.10
Emergency Switchboard Operator	270.00
Switchboard Operator	260.10
Receptionist	260.10
Copy Typist/General Clerk	260.10
Subscriber Sales Representative Collector	253.10

The rates prescribed above will be increased for all purposes (except Clause 3):

\$38.30 during the first year of service,

\$41.30 during the second year of service,

\$44.50 during the third year of service and thereafter.

---

2. Ambulance Superintendents and Senior Administrative Officers Award

	Super/ Secretary Wage Rate	Deputy Super. Wage Rate	Assistant Super. Wage Rate
Operational Personnel	\$	\$	\$
(a) In charge of:			
up to 14 other employees	623.90	-	504.80
15 to 19 other employees	649.10	-	504.80
20 to 24 other employees	679.70	-	504.80
25 to 34 other employees	705.00	535.70	504.80
35 to 49 other employees	762.80	579.40	541.10
50 to 74 other employees	804.80	612.60	572.20
75 to 99 other employees	843.30	641.60	599.00
100 to 199 other employees	887.30	674.20	632.20
200 other employees and over	929.70	705.00	-
(b) At Ambulance Service Melbourne only			
Assistant Superintendent			616.20
Assistant Superintendent (MICA)			659.10
Assistant Superintendent (Operations)			659.10
Administrative Personnel			
Finance & Administration Manager (AS-M only)			698.70
Finance & Administration Manager (Services other than AS-M)			
65 per cent of his Superintendent's Salary			
Office Manager (AS-M only)			560.00
Office Manager (Services other than AS-M)			
60 per cent of his Superintendent's Salary			
Supply & Maintenance Manager (AS-M only)			467.40
Workshop Manager (AS-M only)			560.00
Personnel Officer (AS-M only)			467.40
Personnel & Industrial Relations Manager (AS-M only)			560.00

Profile of Committees of Management in Victoria's Ambulance Services

Service	AGE					SEX		OCCUPATION							LENGTH OF SERVICE TO COMMITTEE (years)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
Alexandra	5	-	2	3	-	5	-	-	2	-	1	1	-	1	1	2	1	
Ballarat	18	5	3	5	5	18	-	3	-	6	7	2	3	8	3	1	6	
Central Victoria	13	-	2	4	7	12	1	2	-	4	4	3	5	5	2	1	5	
East Gippsland	5	-	-	3	2	5	-	-	1	2	2	-	-	-	-	-	5	
Geelong	10	-	-	5	5	9	1	2	-	5	3	1	4	1	2	2	5	
Glenelg	10	3	2	3	2	8	2	-	1	1	3	5	1	3	5	1	1	
Goulburn Valley	10	3	3	2	2	10	-	1	2	4	1	2	2	1	4	3	2	
Latrobe Valley	9	1	4	2	2	8	1	1	2	2	1	3	2	5	2	2	-	
Mid-Murray	11	3	3	4	1	10	1	-	1	3	2	5	1	2	2	3	4	
North-Eastern Vic.	12	1	6	4	1	11	1	1	2	1	2	6	-	5	4	-	3	
Northern	7	-	2	2	3	7	-	-	-	1	2	4	2	-	2	3	2	
North West Vic.	11	2	5	2	2	11	-	-	1	3	2	5	1	5	2	-	4	
Peninsula	8	1	2	3	2	8	-	2	1	1	2	2	2	3	1	1	3	
South Gippsland	2	-	-	1	1	1	1	-	-	-	1	1	1	-	-	-	2	
South Western	10	1	1	2	6	10	-	-	-	5	2	3	4	1	2	3	4	
Wimmera	8	1	1	5	1	7	1	2	-	3	2	1	2	3	4	-	1	

A - Number of Replies  
 B - Under 40  
 C - 40-50  
 D - 51-60  
 E - 60+  
 F - Male  
 G - Female  
 H - Medical/Ambulance  
 I - Other Profession

J - Business/Management  
 K - Self Employed/Farmer  
 L - Other  
 M - Retired  
 N - 1-4  
 O - 5-9  
 P - 10-14  
 Q - 15+

Compiled by the Public Bodies Review Committee from questionnaires completed by members of the Services' Committees of Management in July/August 1984.



Gippsland District Ambulance Service, South-Western Victoria Ambulance Service and Wimmera District Ambulance Service for review and require the said Public Bodies Review Committee to inquire into, consider and report to the Parliament on the following proposals, matter or things, that is to say:-

To receive submissions and evidence with regard to matters referred to in the following terms of reference and to report and make recommendation with regard to these matters in order to review the present and future operation of Ambulance Services in Victoria.

Without limiting the scope of the enquiry the Committee is asked to report on:-

- (a) the role of ambulance services in Victoria's health transport system.
- (b) the number and boundaries of Ambulance Services, taking into account regional boundaries being introduced by the Health Commission of Victoria.
- (c) the method of administration of ambulance services, including the role, selection and training of committees of management and senior ambulance officers - this should also include the role of local ambulance committees.
- (d) financial management and reporting systems.
- (e) the systems of recruitment and initial and in-service training of ambulance officers.
- (f) the relationship between central services such as air ambulance and the various regional and sub-regional services.
- (g) the relationship between hospital and ambulance financial and management systems.
- (h) the role of the Health Commission of Victoria in the provision of ambulance services and their administration and planning.

And doth specify that an interim report is to be presented to Parliament by September 1984 if the Parliament is then sitting or if Parliament is not then sitting within seven days after the next meeting of Parliament; and a final report to be presented to Parliament by December 1984 if the Parliament is then sitting or if Parliament is not then sitting within seven days after the next meeting of Parliament.

And the Honourable Thomas William Roper, Her Majesty's Minister of Health for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL  
Clerk of the Executive Council

---



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- (d) financial management and reporting systems.
- (e) the systems of recruitment and initial and in-service training of ambulance officers.
- (f) the relationship between central services such as air ambulance and the various regional and sub-regional services.
- (g) the relationship between hospital and ambulance financial and management systems.
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TOM FORRISTAL  
Clerk of the Executive Council

\* \* \* \* \*

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\* \* \* \* \*

## EXTRACT FROM THE PROCEEDINGS

The minutes of the Proceedings of the Committee show a Division which took place during the consideration of the draft report. A summary of the proceedings follows:

WEDNESDAY, 3 OCTOBER 1984

### Recommendation 5.1

The Committee recommends that the following bodies should cease to exist:

Ballarat and District Ambulance Service,  
Central Victoria District Ambulance Service,  
East Gippsland Ambulance Service,  
Geelong and District Ambulance Service,  
Glenelg District Ambulance Service,  
Goulburn Valley Ambulance Service,  
Latrobe Valley District Ambulance Service,  
Mid-Murray District Ambulance Service,  
North-Eastern Victoria District Ambulance Service,  
North West Victorian Ambulance Service,  
Northern District Ambulance Service,  
South Gippsland District Ambulance Service,  
South-Western Victoria Ambulance Service, and  
Wimmera District Ambulance Service.

Ms Sibree moved, as an amendment, that the words "Alexandra and District Ambulance Service" be inserted before the words "Ballarat and District Ambulance Service".

Question - That the words proposed to be inserted be so inserted - put.

The Committee divided.

Ayes, 2

Mr N A Pope  
Ms P A Sibree

Noes, 8

The Hon B A Chamberlain  
Mr J E Delzoppo  
Mr B J Evans  
The Hon D M Evans  
Mr R H Miller  
Mr K H Remington  
The Hon M J Sandon  
Mr T Sidiropoulos

And so it passed in the negative.

\* \* \* \* \*



PARLIAMENT OF VICTORIA

PUBLIC BODIES REVIEW COMMITTEE

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*Twelfth Report to the Parliament  
Future Structures  
for Water Management  
Volume 4  
Final Report*

**IRRIGATION AND WATER RESOURCE MANAGEMENT**

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*Ordered to be printed*

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MELBOURNE  
F D ATKINSON    GOVERNMENT PRINTER

November 1984



REPORT ON IRRIGATION AND WATER RESOURCE MANAGEMENT

TABLE OF CONTENTS

List of Tables and Figures	iv
Preamble	v
Chairman's Foreword	vi
Members and Staff of the Committee	viii
Summary of Report	xiii
Guide to Report	xix
Chapter 1: Introduction	1
Chapter 2: Resource Management and Water Supply Development in Victoria	15
Chapter 3: Water Resource Management and Community Benefits	39
Chapter 4: Objectives and Performance of Irrigation Management 1904-1908	61
Chapter 5: Issues in Water Resource Development	87
Chapter 6: Contemporary Objectives and Strategies for Water Resource Management	177
Chapter 7: Proposals for Change	186
Chapter 8: Implementation	259
Chapter 9: Full List of Recommendations	263
Appendix 1: Public Hearings, Witnesses and Discussions	287
Appendix 2: Visits by the Public Bodies Review Committee	289
Appendix 3: Submissions Received	290
Appendix 4: Formal References	294
Appendix 5: References	297
Minority Report of Mr B J Evans, M P	301

### List of Tables and Figures

Table	Title	Page
3.1	Irrigation Water Storages in Selected Countries	40
3.2	Gross Value of Irrigated Output per unit area in Australia and Comparable Climatic Areas of California	42
3.3	Contribution of Victorian Irrigation to Total Victorian and Total Australian Production of Agricultural Commodities, 1981-82	47
3.4	1901 and 1981 Populations of Some Irrigated Areas	50
3.5	Population Densities of Predominantly Irrigated and Predominantly Non-Irrigated Local Government Areas	53
3.6	Population Densities of Extensively Irrigated Areas South of the River Murray and of Generally Unirrigated Areas North of the River Murray	55
5.1	Areas of Concentrated Groundwater Usage for Irrigation in Australia	127
5.2	State Rivers and Water Supply Commission Expenditure and Water Volume Delivered	129
5.3	Costs incurred by Irrigation but not Debited, 1981-82	130
5.4	Revenue from Irrigation 132	
5.5	Financial Operations of Irrigation Districts, 1982-83	133
5.6	Estimates of Annual Depreciation Allowances Required	138
5.7	Irrigation Capital Works funded by the State Budget	142
5.8	Irrigation Districts Interest and Capital Liability, 1982-83	144
5.9	Interest Paid by all Commission Districts, 1982-83	145
5.10	Cost Estimates of Target Rate of Return	146
5.11	Qualifications of Senior Commission Officers	170
Figure		
1	Water Resources and Utilisation	17
2	Year of Completion and Capacity at Full Supply Level of Victorian Storages	19
3	Major Irrigation and Domestic and Stock and Urban Water Supply Districts	22

## PREAMBLE

In presenting its Twelfth Report to Parliament, the Committee indicates that the Report is accompanied by a Minority Report by Mr B J Evans, M P, in accordance with Section 4N(4) of the Parliamentary Committees Act 1968.

## Chairman's Foreword

This Report concludes the Committee's first reference. All of the public bodies that make up the non-metropolitan water industry were referred to the Committee in April 1980, and such was the magnitude of the task that it has taken four and a half years to complete.

During that time, the industry has been reviewed not only by this Committee, but also by a number of other agencies and organisations. Some people in the industry suggest that it has been over-reviewed and that it has not been given the opportunity to settle down and absorb the changes recommended for it. If this is so, it is probably because the industry generally went for too long without any major changes, and is now having to accept change at a rapid rate. In this the water industry is not alone, and many other components of the public sector in Victoria have had the same experience. Indeed, a large part of the motivation for establishing this Committee, with its unique powers, was the perception that many agencies of Government had not adequately responded to the profound changes in their operating environments over the last decades.

The Committee believes that many of the conclusions it has reached concerning the non-metropolitan water industry would be replicated in many other agencies. It is common knowledge that previous investigations by the Committee have helped to generate considerable change in other agencies. The Committee welcomes these changes.

The Committee is acutely conscious of its powers and the effects of its recommendations. Its conclusions have been very carefully arrived at after reviewing all of the available evidence. It has followed an extended if not unparalleled process of participation and involvement of all of those most directly affected in the irrigation industry.

As far as irrigation management is concerned, the Committee has travelled to almost every part of the State, it has recorded over 530 pages of evidence at 14 public hearings, it has received over 150 submissions, and it has held discussions with

several hundred people. At the end of this exhaustive process it has achieved almost total consensus on every recommendation made in this Report. The extent of this consensus reflects the degree of all-Party participation and all-Party support for the Committee's findings.

For this review, the Committee's research staff has consisted of Greg McConnell, seconded from the Department of Water Resources half-time for three months and full-time for another two months, and Murray Frazer, our Director of Research. They have coped extremely well with very large amounts of information, most complex issues, and often very diverse viewpoints amongst those putting forward information. They have served the Committee very well with ideas and drafts for discussion. Particular note is appropriate of the work of the Director of Research, who has worked exceptional hours to bring together both this Report and the even longer Thirteenth Report of the Committee, which is being tabled in Parliament almost simultaneously. Dr Frazer has made an invaluable contribution to the Committee. He has demonstrated a careful, systematic and erudite approach to our work, together with a down to earth, practical appreciation of the complexity of the irrigation industry.

The secretarial staff have been led by Ray Purdey, the Committee's Secretary, and they have done everything required of them. On behalf of all members of the Committee, I would like to pay a special tribute to the work for the Committee of Mrs Jean Anderson. She joined the Committee as a Stenographer when it started in March 1980, and so has had a longer involvement with this reference than all but one of the Committee members. She worked with the Committee until she became ill in August this year. The speed and accuracy of her typing and her care and attention to detail set very high standards that have greatly helped the Committee in its work.

Finally, I wish to make special recognition of the contribution of Joy Whitfield, who worked with us from mid-August to mid-October as a word-processor operator. Her fast and accurate work, her concentration on the task, and her cheerful willingness to work long hours when needed, made a very substantial contribution to having this lengthy report prepared in time.

Robert H Miller, M P  
Chairman

**Nomination of Members of the Public Bodies Review Committee**

EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

---

FRIDAY, 2 JULY 1982

14. JOINT INVESTIGATORY COMMITTEES - The Honourable W.A. Landeryou moved, by leave, That, contingent upon the enactment and coming into operation, this Session, of legislation to establish Joint Investigatory Committees:

\* \* \*

(d) The Honourables M.J. Arnold, B.A. Chamberlain, D.M. Evans, J.V.C. Guest and M.J. Sandon be members of the Public Bodies Review Committee.

Question - put and resolved in the affirmative.

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WEDNESDAY, 20 OCTOBER 1982

9. PUBLIC BODIES REVIEW COMMITTEE - The Honourable A.J. Hunt moved, by leave, That the Honourable J.V.C. Guest be discharged from attendance upon the Public Bodies Review Committee and that the Honourable C. Bubb be added to such Committee.

Question - put and resolved in the affirmative.

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EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

---

THURSDAY, 1 JULY 1982

36. COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the coming into operation of the Parliamentary Committees (Joint Investigatory Committees) Act 1982 -

\* \* \*

(d) Mr Delzoppo, Mr Evans (Gippsland East), Mr Miller, Mr Pope, Mr Remington, Mrs Sibree and Mr Sidiropoulos be appointed members of the Public Bodies Review Committee. (Mr Fordham) - put and agreed to.

## **PUBLIC BODIES REVIEW COMMITTEE**

**of the Parliament of Victoria**

### **COMMITTEE MEMBERS**

The Members of the Public Bodies Review Committee as appointed by the Forty-Ninth Parliament are:

**Mr Robert Miller, M P, Chairman**

Robert Miller was elected Member for Prahran in May, 1979. A barrister by profession, Mr Miller served as a Human Rights Officer for the United Nations in New York (1967-70) and lectured in Law at Monash University for ten years. Mr Miller was a member of the Victorian Parliamentary Delegation to the Constitutional Convention, Adelaide, 1983.

**The Hon Bruce Chamberlain, M L C, Deputy Chairman**

Bruce Chamberlain was elected Member for Western Province in June, 1976 and prior to that represented the Dundas Electorate for three years. A practising barrister and solicitor, Mr Chamberlain was also a Hamilton City Councillor for four years and has served on a number of local community groups. Mr Chamberlain is Opposition Spokesman for Planning and Environment.

**The Hon Michael Arnold, M L C**

Michael Arnold was elected Member for Templestowe Province in June, 1982. A practising barrister and solicitor by profession, Mr Arnold is a member of Amnesty International and many other associations and community groups.

**The Hon Clive Bubb, M L C**

Clive Bubb was elected Member for Ballarat Province in July, 1979. Before taking up farming, Mr Bubb was an Industrial Relations Manager and Advocate with the Victorian Chamber of Manufactures. Since entering Parliament Mr Bubb has served on the Public Accounts and Expenditure Review Committee and the Printing Committee. He is Opposition spokesman on Industrial Relations.

**Mr John Delzoppo, M P**

John Delzoppo was elected Member for Narracan in April, 1982. A former pharmaceutical chemist, Mr Delzoppo has been a councillor of the Shire of Buln Buln for 16 years and was President of the Council on three occasions. He has also served on a number of community groups. Mr Delzoppo is the Opposition Spokesman on Local Government.

**Mr Bruce Evans, M P**

Bruce Evans was elected Member for Gippsland East in July, 1961. A farmer and former RAAF officer, Mr Evans has also served on a number of local community groups. Mr Evans' Parliamentary service includes six years as Deputy Leader of his Party (1964-70), Party Whip since 1970 and service on thirteen Parliamentary Committees over twenty three years.

**The Hon David Evans, M L C**

David Evans was elected Member for North Eastern Province in June, 1976. A farmer, Mr Evans served as a councillor with the Shire of Oxley for nine years. Since entering Parliament Mr Evans has served as Party Spokesman on Conservation, on Economic Development and on Forests. Mr Evans is also a Member of the Library Committee.

**Mr Neil Pope, M P**

Neil Pope was elected Member for Monbulk in April, 1982. A qualified Town Clerk and former local government officer, Mr Pope also served as Industrial Officer with the Municipal Officers' Association. Mr Pope was a Lilydale Shire Councillor for three years.

**Mr Keith Remington, M P**

Keith Remington was elected Member for Melbourne in a by-election in December, 1977. A Bank Manager by profession, Mr Remington was President of the Australian Bank Officers Association (1968-78) and was a Board Member of the Royal Automobile Club of Victoria for eleven years. Before entering Parliament Mr Remington was a Councillor with the City of Doncaster and Templestowe for six years and Mayor during 1969-70.

**The Hon Malcolm Sandon, M L C**

Malcolm Sandon was elected Member for Chelsea Province in June, 1982. Before entering Parliament, Mr Sandon was a Federal Industrial Officer with the Municipal Officers' Association. Mr Sandon also tutored part-time at Latrobe University Sociology Department (1973-74) and lectured in Liberal Studies at Swinburne Institute of Technology (1975-76).

**Ms Prudence Sibree, M P**

Prudence Sibree was elected Member for Kew in a by-election in August, 1981. A practising barrister and solicitor by profession, Ms Sibree was a Member of the Consumer Affairs Council (1975-81) and currently serves on a variety of boards and community groups. Ms Sibree is the Opposition Spokeswoman for Early Childhood Development, Youth and Women's Affairs.

**Mr Theo Sidiropoulos, M P**

Theo Sidiropoulos was elected Member for Richmond in a by-election in December 1977. A former small business proprietor, Mr Sidiropoulos was a Collingwood City Councillor for ten years and Mayor during 1977-78. Mr Sidiropoulos is currently a Member of a number of local community groups.

**Drafting Sub-Committee for the Review of Irrigation and  
Water Resource Management**

Mr Robert Miller, M P, Chairman

The Hon Bruce Chamberlain, M L C

The Hon Michael Arnold, M L C

The Hon David Evans, M L C

**Committee Staff**

Murray Frazer, B Sc (Hons), Ph D, Dip Ed (Tert), M Admin, Director of Research

Ray Purdey, B Bus (Acc), Secretary

Margret Holmes, B A, A L A A, Research Officer

Greg McConnell, B A (Hons), M Env Stud, Research Officer

Kathryn McAnalley, B A (Hons), Research Assistant

Jean Anderson, Word-processor Operator

Andrea Agosta, Stenographer

Joy Whitfield, Temporary Word-processor Operator



## Summary of the Twelfth Report of the Public Bodies Review Committee

### REPORT ON IRRIGATION AND WATER RESOURCE MANAGEMENT

#### Chapter One : Introduction

In April 1980, the Public Bodies Review Committee received its first reference: all the public bodies in the non-metropolitan water industry of Victoria. In eight earlier reports, the Committee has considered all the major parts of this industry except irrigation and the broad problems of water resource management generally. These are the two major topics considered in this Report, with the Rural Water Commission and the First Mildura Irrigation Trust being the bodies actually under review.

This review has been carried out with essentially the same methodology as the Committee's other reviews. In it, the Committee has been guided by four major themes: the contemporary relevance of the fundamental objectives behind water resource management, the effectiveness of the principles that govern the management and use of water in Victoria, the efficiency and effectiveness of the agencies concerned, and accountability to the community for the resources being used.

#### Chapter Two : Resource Management and Water Supply

Victoria's rainfall is not high, and varies considerably in different parts of the State and from year to year. Extensive water reservoirs have a capacity of about three-quarters of the long-term annual average streamflow (Section 2.1). Irrigation development in Victoria began last century, but the essential components of the present system were introduced by the Water Act 1909 (Section 2.2). The present arrangements are largely based on the Water Act 1958, under which irrigation districts, private diversions of water for irrigation, and stock and farm domestic supplies are authorised (Section 2.3).

The large reservoirs and distribution channels are called major headworks (Section 2.4), and these supply water to the irrigation districts, most of which lie along the River Murray in northern Victoria (Section 2.5). A complex administrative system has developed to operate the system (Section 2.6). Responsibility for most capital investment is borne by the State, although the irrigators pay a large proportion of the operating costs (Section 2.7).

### **Chapter Three : Water Resource Management and Community Benefits**

Irrigation exists in many climatic areas in Australia, and different techniques are used in different areas (Section 3.1). Production from irrigated agriculture accounts for between 20 and 30 per cent of Victoria's total agricultural output, or about 5 per cent of the national total (Section 3.2). Closer settlement schemes have been based on intensive cultivation and irrigation since the early years of the century. Large-scale irrigation developments allow very large numbers of people now to live and work in previously arid and only marginally productive areas (Section 3.3).

More widespread benefits of irrigation come through the use of irrigation facilities for recreation, the generation of hydro-electricity and flood mitigation, although few details are available on how large or widespread are these benefits (Sections 3.4 and 3.5).

### **Chapter Four : The Objectives and Performance of Irrigation Management 1904-1984**

The Committee has looked closely at what have in practice been the fundamental objectives behind the operations of the system for supply of irrigation water since 1904. For the first few years of the State Rivers and Water Supply Commission, development and use of land and water resources and the generation of an adequate direct return on the State's investment were sought (Section 4.2). Important changes in 1909 introduced procedures that emphasised resource development and placed less emphasis on financial return, and Government policies since then have - until the late 1970s - increasingly placed less and less emphasis on any direct financial returns.

Thus the fundamental objective of the Commission in practice has been the development and maintenance of closer rural settlement, although until the late 1930s Governments regarded a direct financial return as a fundamental objective to be pursued eventually (Section 4.3). The Committee concludes that the Commission has been effective in pursuing its fundamental objective, although the second objective has in effect been abandoned. It is not possible to say whether the Commission has also been efficient in achieving its objective, or whether it could have been more effective and more efficient as the data necessary for this are not available (Section 4.4).

Although the Commission's field operations and engineering management are generally effective, its management of the resource system as a whole appears to have been less successful. The Committee concludes that, as the irrigation system has changed and matured over the years, the fundamental objective pursued by the Commission has become no longer relevant to contemporary society. The objective and the methods that were appropriate to a pioneering water supply system are not relevant to a mature system operating in a very different economic and market environment (Section 4.4 and 4.5).

### **Chapter Five : Issues in Water Resource Development**

It is clear that many important problems have developed in the management of water resources generally and in the irrigation industry specifically. The Committee notes that there has been a growing recognition of these issues over the last five years, and that many steps have been taken to start overcoming them. In Chapter Five the Committee seeks to identify the major issues as a basis for devising ways of better utilising the resources of water, physical infrastructure, and farming skills that are available.

Some of the issues concern the organisational structure that affects the use of water resources, and the inter-relationships between the numerous agencies involved. The Committee concludes that these inter-relationships are quite inadequate, particularly those between the Rural Water Commission and the Department of Agriculture (Section 5.1). Resource management problems are also of great importance, covering matters such as the effects of the present methods of allocating water, and the contribution of water resource management to the social and economic development of the State (Section 5.2).

The Committee has also considered numerous financial matters, including the nature and distribution of the costs of operations, maintenance, depreciation and capital. It finds serious inadequacies in the information available on some of these items, and in the provision of funds for depreciation (Section 5.3). Many issues in agriculture and in technology have also been analysed, such as the prospects for change in the production of various commodities, and technological change on farms and within the irrigation system (Section 5.4).

Lastly, some consideration has also been given to a range of environmental, administrative and management problems (Sections 5.5 and 5.6).

### **Chapter Six: Contemporary Objectives and Strategies for Water Resource Management**

The Committee has considered the kinds of matters that the fundamental objective of irrigation and water resource management should cover, and it concludes that the fundamental objective should be: to contribute to the greatest extent possible to the social and economic development of the State and of the nation as a whole, while recognising the particular needs of specific regions and the need to consider both short-term and long-term developments (Section 6.1).

A changed fundamental objective by itself can achieve little, and so to assist in producing the changes in the organisational principles, the operating methods and the attitudes necessary to cope with the problems and issues described in Chapter Five, the Committee recommends five basic organisational strategies to be adopted by all agencies in the water industry in their pursuit of the new fundamental objective. The strategies are flexibility, commercial-base, customer-orientation, future-orientation, and accountability (Section 6.2).

### **Chapter Seven : Proposals for Change**

The Committee has concluded that the achievement of the recommended objectives would be substantially aided by a clear separation of the varied water management tasks. It thus has recommended that the Department of Water Resources be given all the powers and responsibilities for it effectively to carry out statewide policy and planning tasks. The Rural Water Commission should have four major activities:

first, the operation and maintenance of major storages and regional distribution channels; second, the operation of regional drainage, salinity and groundwater control systems; third, the provision for a fee of technical support services to the water industry generally; and fourth, the sale of water to a variety of water retailers. The Committee recommends that, after a period of discussion and consultation with relevant groups, local retailing activities in irrigation districts be devolved to autonomous, elected District Irrigation Boards. The Department of Agriculture should be given responsibility for providing all non-water services to irrigators, including enhanced levels of product research, market development, and on-farm advice (Section 7.2).

A new arrangement for retailing irrigation water is recommended, based on seven District Irrigation Boards. The Boards should be largely elected from their customers, and would have responsibility for selecting a District Manager who would be responsible to the Board for the operations of the District. Districts should operate within policies laid down by the Department of Water Resources, and when Government support grants are taken into account, they should be self-financing (Section 7.3).

The Committee recommends that Government support for irrigated agriculture, through the payment of the interest on sunk capital, should continue. It does, however, consider that major changes are needed in the methods of financing rural water services, because of the clear deficiencies in the present methods. The Committee recommends that measures of both financial and operational performance be developed that indicate the costs of providing services to customers and the effectiveness with which those services are provided. These measures should concentrate on the performance in terms of the output of each autonomous District or each major unit within the Commission.

Government support to irrigated agriculture should be for specific purposes or to aid specific groups, and should be entered into accounts as a standard item of revenue. When such revenue is included, all Districts or major units should be self-financing (Section 7.4).

Pricing policies should aim to recover all operating costs and the revenue needed to fund a proper depreciation provision. Pricing and the accounting systems should operate along the lines of a modern commercially-based enterprise. The systems

should also show where resources are being used least effectively within the organisation, so that actions can be taken to improve the levels of service to customers. Cross-subsidies from one group of irrigators to another should be identified, and preferably eliminated. Ongoing Government support, including the payment of interest on sunk capital, should be identified as such in the accounts of Districts and other activity centres (Section 7.4).

To introduce greater flexibility into the system and to assist irrigators in managing their farms, the Committee recommends that the compulsory payment for the full-water right, whether or not it is all used, should be abolished. The Committee makes no recommendation on the actual level of water charges: these should be determined for each District under the principles outlined in this Chapter.

The Committee has not investigated water allocations in detail, but it strongly endorses the concept of transferable water rights, either temporary or permanent, at market prices. It also considers that the system of transferability introduced should have minimum levels of administrative complexity, and should seek the lowest possible level of engineering or other constraints (Section 7.5).

The Committee recommends more careful and more future-oriented planning within the water industry and within irrigated agriculture, but it cautions against rigid, prescriptive planning. It recommends an output-oriented management information system, and substantially more research into possible markets and possible new crops, and into problems that may be associated with these (Section 7.6).

### **Chapter Eight : Implementation**

The changes recommended in this Report are considerable, and cannot be implemented rapidly. The Committee recommends that they be implemented over a period of three years, during which time it is essential that there be considerable participation in discussions, planning and implementation by irrigators and their representatives. The Committee believes its recommendations will give irrigators greater scope to respond positively to the changes in their operating environment, and will enable the water resources of the State to be used with greater efficiency and greater effectiveness than at present.

## Guide to the Twelfth Report

### IRRIGATION AND WATER RESOURCE MANAGEMENT

#### Chapter One : Introduction

1.1	The Water Industry Reference	1
1.2	Significance and Scope of this Report	5
1.3	Major Themes	9
1.4	Conduct of the Inquiry	11
1.5	Outline of Report	13

#### Chapter Two : Resource Management and Water Supply Development in Victoria

2.1	Water as One of Victoria's Resources	15
2.2	Early Development	20
2.3	Current Legislative and Administrative Arrangements	24
2.3.1	Legislative Provisions	24
2.3.2	Districts for Irrigation	25
2.3.3	Private Diversion of Water for Irrigation	26
2.3.4	Stock and Farm Domestic Supplies	26
2.3.5	River Murray Commission	27
2.4	Major Headworks	29
2.5	Irrigation Districts	30
2.6	Operation of the Irrigation System	33
2.6.1	Supply of Water to Irrigators	33
2.6.2	Water Rights	34
2.7	Financial Responsibility for Rural Water Services	37

### **Chapter Three : Water Resource Management and Community Benefits**

3.1	Irrigated Agriculture in Victoria: National and International Perspective	40
3.2	Agricultural Production from Irrigation in Victoria	44
3.2.1	Irrigation in Victoria	44
3.2.2	Value of Production	45
3.3	Irrigation and Regional Economic Development	49
3.3.1	Closer Settlement Schemes	49
3.3.2	Effects on Population	52
3.4	Recreation and Tourism	57
3.5	Hydro-Electricity and Flood Mitigation	60

### **Chapter Four : Objectives and Performance of Irrigation Management 1904-1984**

4.1	Introduction	61
4.2	The Objectives of Irrigation Management 1904-1908	63
4.2.1	Government Objectives	63
4.2.2	Statutory Objectives	64
4.3	The Objectives of Irrigation Management 1908-1984	66
4.3.1	Changes in 1908	66
4.3.2	The Royal Commission on Water Supply	69
4.3.3	Changes in 1944	70
4.3.4	Objectives in Practice	71
4.3.5	Changes 1970-1984	71
4.4	Performance of Irrigation Management 1904-1984	74
4.4.1	Fundamental Objective	74
4.4.2	Field Operations Management	75
4.4.3	Engineering Management	77
4.4.4	System Management	78
4.5	Changes in the Environment of Water Resource Development	82

## Chapter Five : Issues in Water Resources Development

5.1	Structural Issues	89
5.1.1	Structural Changes since 1980	89
5.1.2	Relations with Other Major Resource Management Agencies	90
5.1.3	Department of Agriculture	92
5.1.4	Environment Protection Authority	94
5.1.5	Department of Minerals and Energy	96
5.1.6	Land Protection Division	97
5.1.7	First Mildura Irrigation Trust	98
5.2	Resource Management Issues	99
5.2.1	The Allocation of Water Between Alternative Uses	99
5.2.2	Allocation of Water Between Irrigators	105
5.2.3	Effects Upon Irrigators	110
5.2.4	Water Resource Use and State-wide Development	114
5.2.5	Use and Development of Resources	124
5.3	Financial Issues	128
5.3.1	Operational and Maintenance Costs	129
5.3.2	Renewals, Enhancement and Depreciation	136
5.3.3	Capital Works and Debt Servicing	141
5.3.4	Total Cost and Government Support	145
5.4	Issues in Agriculture and in Technology	150
5.4.1	Trends in Irrigated Agriculture	150
5.4.2	The Outlook for Demand and Supply	152
5.4.3	Farm-Based Technological Change	154

5.4.4	Farm Productivity Increases	156
5.4.5	Systemwide Technological Change	157
5.4.6	Rates of Change	158
5.5	Environmental Issues	160
5.5.1	Salinity and Groundwater Management	160
5.5.2	Soil Quality	162
5.5.3	The Wider Environment	162
5.6	Administrative and Management Issues	165
5.6.1	Organisational Structure	165
5.6.2	Consumer Oriented Approach to Provision of Irrigation Services	168
5.6.3	Personnel and Professional Skills	169
5.6.4	Information, Reporting and Accountability	172
5.7	Summary of Issues	175

## **Chapter Six : Contemporary Objectives and Strategies for Water Resource Management**

6.1	Fundamental Objective	177
	<b>Rec 1:</b> Fundamental Objective for Water Resource Management	179
6.2	Five Basic Strategies	180
	<b>Rec 2:</b> Five Basic Strategies for Water Resource Management	184

## **Chapter Seven : Proposals for Change**

7.1	The Effects of the Changes	187
-----	----------------------------	-----

<b>7.2</b>	<b>Structure and Organisation</b>	<b>189</b>
7.2.1	Management of Water Resources	189
<b>Rec 3:</b>	<b>Separation of Functions</b>	<b>190</b>
<b>Rec 4:</b>	<b>Functions of Department of Water Resources</b>	<b>191</b>
<b>Rec 5:</b>	<b>Functions of Rural Water Commission</b>	<b>194</b>
<b>Rec 6:</b>	<b>Private Diversions</b>	<b>195</b>
7.2.2	Operating Rural Water Services	195
<b>Rec 7:</b>	<b>Retailing by District Irrigation Boards</b>	<b>197</b>
<b>Rec 8:</b>	<b>First Mildura Irrigation Trust to continue</b>	<b>198</b>
7.2.3	Departmental Oversight	199
<b>Rec 9:</b>	<b>Oversight by Department of Water Resources</b>	<b>199</b>
7.2.4	The Role of the Department of Agriculture	199
<b>Rec 10:</b>	<b>Role of Department of Agriculture</b>	<b>201</b>
<b>7.3</b>	<b>Retailing Rural Water Services</b>	<b>204</b>
7.3.1	District Irrigation Boards: Structure and Functions	204
<b>Rec 11:</b>	<b>Membership of Boards</b>	<b>205</b>
<b>Rec 12:</b>	<b>Planning by Boards</b>	<b>206</b>
<b>Rec 13:</b>	<b>District Managers</b>	<b>207</b>
7.3.2	District Irrigation Boards: Boundaries	207
<b>Rec 14:</b>	<b>New Boundaries for GMID</b>	<b>209</b>
<b>Rec 15:</b>	<b>Seven new Irrigation Districts</b>	<b>210</b>
<b>Rec 16:</b>	<b>FMIT invited to join Sunraysia District</b>	<b>211</b>
<b>Rec 17:</b>	<b>Most other Districts to be retained</b>	<b>211</b>
<b>Rec 18:</b>	<b>Commission Districts to be Activity Centres</b>	<b>212</b>
<b>Rec 19:</b>	<b>Implementation over three years</b>	<b>212</b>
7.3.3	Customer Services within the Rural Water Commission	212
<b>Rec 20:</b>	<b>Improvements in Customer Services</b>	<b>214</b>

7.4	Financing of Rural Water Services	215
7.4.1	General Principles	215
Rec 21:	Financial Strategies for Services	216
Rec 22:	Continued payment of interest by State	217
Rec 23:	Financial bases of Operations	220
Rec 24:	Specific purpose direct grants	223
Rec 25:	Operations to be self-financing	224
Rec 26:	Payment of interest on sunk capital	224
Rec 27:	Retention of funds generated	225
Rec 28:	Powers for self-financing	226
Rec 29:	Implementation to be over two years	227
7.4.2	Pricing Policies - Statewide Operations	227
Rec 30:	Charges of the Commission	229
Rec 31:	Water wholesaling to be self-financing	229
Rec 32:	Recovery of costs less State support	231
Rec 33:	River Murray Commission costs	233
7.4.3	Pricing Policies - Operations of the District Irrigation Boards	233
Rec 34:	Charges of the Boards	234
Rec 35:	Districts to be self-financing	234
Rec 36:	Cross-subsidies to be eliminated	234
Rec 37:	Recovery of costs less State support	235
Rec 38:	Implementation to be over two years	236
7.4.4	Water Charges	236
Rec 39:	Payment only for water used	237
Rec 40:	Setting of charges	238
Rec 41:	More frequent payment of charges	239
7.4.5	Pricing Policies - Private Diversions	239
Rec 42:	Pricing of private diversions	240
7.5	Water Allocations	241
7.5.1	Future Allocations of Water	241
Rec 43:	Future allocations of water	242

7.5.2 Existing Allocations of Water	242
Rec 44: Transferability of water	243
Rec 45: Flexible system of transfers	243
7.6 Planning, Management and Information	245
7.6.1 Strategic and Corporate Plans	245
Rec 46: Plans for irrigated agriculture	246
Rec 47: Commission's corporate plan	247
7.6.2 Information and Accountability	248
Rec 48: Improved management information system	249
Rec 49: Compilation of asset register	250
Rec 50: Improved annual reporting	251
7.6.3 Research and Information Needs	251
Rec 51: Improved research and dissemination	253
7.6.4 Rural Support Policies	253
Rec 52: More effective forms of support	254
7.6.5 Water Management Functions at the Regional Level	254
Rec 53: Support for Districts	256
7.7 Staff and the District Irrigation Boards	257
Rec 54: Preservation of staff entitlements	257
<b>Chapter Eight: Implementation</b>	<b>259</b>
<b>Chapter Nine: List of Recommendations</b>	<b>263</b>

## REPORT ON IRRIGATION AND WATER RESOURCE MANAGEMENT

### CHAPTER ONE : INTRODUCTION

#### 1.1 The Water Industry Reference

The Public Bodies Review Committee was established by the Parliamentary Committees (Public Bodies Review Committee) Act 1980, and it received its first reference on 2 April 1980. This reference came from the Legislative Assembly, and it required the Committee to review the State Rivers and Water Supply Commission and each constituted water, sewerage, drainage and river improvement trust or authority in Victoria, excluding the Melbourne and Metropolitan Board of Works. This reference was amplified by an Order in Council of 20 May 1981 which made it clear that the reference also included the Local Governing Bodies constituted under the Water Act 1958, the Ballarat Water Commission and the Ballarat Sewerage Authority, the Dandenong Valley Authority, the First Mildura Irrigation Trust, the Geelong Waterworks and Sewerage Trust, the La Trobe Valley Water and Sewerage Board, the Mildura Urban Water Trust, and the West Moorabool Water Board.

Amendments to the Parliamentary Committees Act 1968 effected by the Parliamentary Committees (Joint Investigatory Committees) Act 1982 restructured the Committee, and established a coherent system of parliamentary committees largely based on the structure and style of this Committee. The original references were formally transferred to the restructured Public Bodies Review Committee by resolution of each of the Houses of Parliament, and the Committee thereby had access to all the evidence placed before its predecessor.

On 1 May 1984, the Governor in Council approved a reference that was complementary to the original reference. This further reference required the Committee to enquire into and report to the Parliament on the "powers, functions and duties with respect to irrigation exercised and performed by the State Rivers and Water Supply Commission or by any successor body or bodies", and it required the report to be presented to Parliament by 31 December 1984. Thus the scope of

the Committee's enquiry is defined by both the early reference and this more recent complementary reference.

The water industry reference was very large and complex, covering a total of 375 public bodies. The Committee has already completed a substantial proportion of this reference, and in its Sixth, Seventh, and Eighth Reports, it made recommendations concerning many major aspects of the reference. These covered such matters as the central management of the industry, the retailing of urban water and sewerage services at local and regional levels, the oversight of the provision of urban water and sewerage services, river management, and associated transitional arrangements.

The present Report completes the Committee's consideration of its first reference. It has two major concerns: the provision of water services to the irrigated agriculture in Victoria, and the overall management of water as one of Victoria's major resources by the Rural Water Commission and by the Department of Water Resources. These two bodies succeeded the State Rivers and Water Supply Commission and the Ministry of Water Resources and Water Supply on 1 July 1984, and in many cases throughout this Report, a reference to the State Rivers and Water Supply Commission should be taken as including the Rural Water Commission. When the distinction is important, clear reference will be made to whichever is appropriate.

The Report also makes recommendations concerning the First Mildura Irrigation Trust, it considers some broader matters related to the provision of a range of other services to irrigated agriculture, and it considers the relationship between the irrigation sector and water resource management as a whole in the State.

The precise terms of reference for this inquiry are specified in the Parliamentary Committees Act 1968 as amended. This states that when reviewing any body or bodies, the Committee must report to Parliament on the question of whether or not the body or bodies under review should cease to exist. In doing so, the Committee is empowered to consider any matter that it considers relevant, and it is required in particular to consider the following specific matters:

- (1) whether or not the objects of the body are worth pursuing in contemporary society;
- (2) whether or not the body pursues its objects efficiently, effectively and economically;
- (3) whether or not the structure of the body is suited to the activities it performs;
- (4) whether or not the body duplicates the work of another person or body;
- (5) the financial and other liabilities and obligations of the body;
- (6) the staff of the body (including officers or employees of the Public Service whose services are being made use of by the body);
- (7) the extent to which the body seeks information as to the effect of its activities and acts on the information it receives;
- (8) the extent to which the body considers the public interest when performing its activities;
- (9) the extent to which the body encourages public participation in its activities;
- (10) the manner in which the body handles complaints about its activities; and
- (11) the extent to which the body is prepared to improve its structure, composition or procedures.

In carrying out this part of the review, the Committee has followed the now well-established general style and methodology described in its earlier reports. In its Ninth Report, of December 1983, the Committee affirmed its commitment to the six basic principles of operation that were first proposed in the First Report of the Committee to Parliament in December 1980. The Committee feels very strongly that the observance of these principles has substantially contributed to its work as an agent of reform, both before and after the restructuring of Parliament's committee system in mid-1982.

For this part of the review, the Committee has, however, slightly amended the third and sixth of the principles. With the amended words in bold type, the six operating principles that have governed this last stage of the review of the non-metropolitan water industry by the Committee are:

- (1) Open: each review should as far as possible be by an open process;
- (2) Parliamentary: the Committee should operate in the first instance as an instrument of the Parliament rather than of Government or Party;
- (3) Consultative: the Committee should seek to enter into genuine discussion with all relevant groups **and individuals**;
- (4) Research-based: the Committee's hearings should be augmented by independent high quality research;
- (5) Working Committee: the Committee itself should be the working, reviewing agency, not simply endorsing the work of others; and
- (6) Constructive: the Committee's work should be a constructive **and future-oriented** review of policy, not a negative audit of the past.

In all of its reviews, the Committee has consulted widely with individuals as well as with groups. The Committee believes that its accessibility to concerned individuals is of such importance that it should be made explicit in the operating principles, and it has therefore amended the third principle as shown above. In addition, the Committee does not see its role as concentrating on detailed analysis of past events, as involving the allocation of blame for present or past inadequacies, or as attempting to correct previous specific administrative decisions or deficiencies. The Committee has always been firmly of the view that its work should be future-oriented: that is, it should at all times be seeking not only constructive solutions to present problems, but also to problems that appear certain or likely to develop in the foreseeable future. To emphasise this, it has amended the sixth principle as shown.

\* \* \* \* \*

## 1.2 Significance and Scope of this Report

This Report completes the reference given by Parliament to the Committee some four and a half years ago. Recommendations of the Committee in its Sixth, Seventh and Eighth Reports have been concerned primarily with issues related to the provision of a large range of specific water services. In this Report, the Committee considers one more specific service, the management of water services to irrigated agriculture, and it considers for the first time the processes for and objectives of water resource management in a far more general sense. Recommendations made on these matters in this Report follow an extensive inquiry by the Committee, supported by independent research, submissions from irrigators and the general public, public hearings and field visits by the Committee and its staff.

The review of the water industry by the Committee has followed a long period of comparative stability, during which the basic structures of the industry have remained largely unchanged. The principal policies followed by the industry were developed largely as a result of an earlier extensive inquiry conducted during the late 1930s. While the basic structures and policies have remained largely unchanged, the pressures for change have developed to the point where a new approach is widely felt to be necessary.

The changes that affect the industry have come from a number of directions, especially in more recent years. The Committee believes that its inquiry has been a major catalyst for review and re-examination of policies and objectives, and has already led directly to many significant changes and has indirectly stimulated many more. The most important of these changes was the establishment of the Rural Water Commission and the Department of Water Resources, and the abolition of the State Rivers and Water Supply Commission and the Ministry for Water Resources and Water Supply. Other reforms have also been put in place, especially in the areas of corporate planning, information systems and financial management and reporting.

The creation of the Rural Water Commission and the Department of Water Resources on 1 July 1984 established a broad organisational and administrative framework for the management of resources and the provision of services. The Act establishing the new Commission sets down minimum standards for such matters as

the exercise of Ministerial responsibility, accountability, broad objectives, auditing, and financial reporting and accounting. These provisions have become, largely as a result of this Committee's earlier work, standard requirements in the re-development of public sector agencies.

There are some important issues which, intentionally, were not addressed at the time of the creation of the organisational framework of the Rural Water Commission and the Department of Water Resources. These include the definition of the broad context for the management and allocation of resources, the quality of service provision, and policies relating to the financial management of the Commission and the planning of operations. These issues are amongst the subjects of this Report.

The Committee recognises the very great importance of water resources to the State. Water is one of Australia's scarcest natural resources, and even in comparatively well-watered Victoria, few rivers or streams are entirely reliable as sources of industrial, urban domestic, rural domestic, stock or irrigation water.

The provision of adequate and reliable supplies of good quality water throughout non-metropolitan Victoria has generated a multi-million dollar industry upon which depends the entire social and economic structure of large areas.

In terms of the volume of water used, irrigation is by far the largest component of the industry, although in all parts of the State first priority in water supply is given to urban and stock and domestic users. Irrigation consumes over 80 per cent of the water used in Victoria, while metropolitan Melbourne uses about 10 per cent. There is also very substantial capital investment in irrigation, from the State in storages and distribution channels and from individual farmers in on-farm works. This industry receives subsidies from the general taxpayer, and various aspects of it have developed a number of serious problems in recent years, in areas such as finance, markets for irrigation produce, increasing levels of salinity, and so on. Despite its size and importance, the Committee believes that irrigation must not be viewed in isolation, but must be looked at as one component - albeit a very important component - of the total patterns of water-use and of agriculture in Victoria.

The Committee has a very strong concern for the effective and efficient use of the State's resources: such a concern is required of the Committee by its terms of reference, and has been a dominant factor behind all of its investigations and reports. The resources involved in this review are physical, financial, and human: and in the context of irrigation the technical skills of large numbers of farmers are a vitally important component of the human resources.

The Committee believes that Victoria has strong comparative economic advantages over most of the rest of Australia, in terms of both water resources and good agricultural land. The purpose of this Report is to provide a clear context within which the Rural Water Commission, the Department of Water Resources and the Department of Agriculture should be able to manage these resources to give the greatest possible advantage to the community as a whole from these economic advantages. The Report aims to do this by suggesting what should be the fundamental objectives of operation and management of the system of irrigated agriculture, how these objectives should fit into a wider context of the overall management of water as one of the State's most important resources, and suggesting strategies by which the operation of the water distribution system can contribute to the achievement of these objectives.

The Committee was faced with a complex task in reviewing the activities and responsibilities of the State Rivers and Water Supply Commission not covered in its earlier reports. This complexity arises largely from the breadth of responsibilities which the Commission performed, and from the intricate linkages which have developed between these activities over the years. In its Eighth Report, the Committee has already referred to an apparent confusion of roles for the Commission, whereby over the years it became (p 57) "part retailer of water services, part wholesaler, part constructing authority, part irrigation commission and part policy and priority adviser to the government".

Moreover, the Commission is only one of a number of Government agencies which between them are responsible for the management of the State's water and water-related land resources, and which provide services to irrigated agriculture. The complex of poorly co-ordinated legal, organisational and administrative arrangements has developed in an ad hoc manner, with each new stage usually being added in response to some specific historical need rather than as part of a planned and integrated expansion of activities.

The complexity of these arrangements raised the question of just how broad should be the Committee's inquiry. To investigate properly the current and desirable future objectives and performance of the Rural Water Commission, the Committee has taken a broad view in its inquiry. As a result, the Committee has made some observations about a number of matters related to water resource management that do not fall directly into the Commission's responsibilities. The Committee believes that these matters profoundly affect water resource management generally, and irrigated agriculture in particular. Within this broad framework, the choice of topics to be covered in detail in this study has been influenced by a number of factors, including the requirements of the Parliamentary Committees Act 1968 as amended, the priorities and needs as articulated by various representatives of the irrigation industry, and by the availability to the Committee of time, information and research staff.

The Committee considers it to be fundamental that policy concerning the use of water resources must be part of a holistic State system of use of water, that allocates the resources in such a way as to support the social and economic development of the whole State, while recognising the particular needs and interests of specific regions - in the same way as other natural resources should be used.

The principles and practices recommended in this Report are likely to be of great significance for the use of Victoria's water resources into the twenty-first century. The Committee's aim is to ensure that maximum use is made of these resources and of the State's comparative advantage in ways that match and are integrated with the State's overall social and economic development policies. The Committee itself considers this Report to be one of the most important that it has produced.

\* \* \* \* \*

### 1.3 Major Themes

In preparing this Report, the Committee has found it convenient to work to a number of major themes. These are specified in the Committee's terms of reference, and they also were shown by the very large amount of information available to the Committee to be matters of prime importance.

These themes have guided the Committee's analysis and discussion of the issues that have been presented to it, and they have strongly influenced the objectives, strategies and detailed recommendations contained in the later stages of this Report. The themes are:

- . the contemporary relevance of the fundamental objectives that are at present behind the management of water resources in Victoria and the degree of integration, co-ordination and consistency with the management of other resources;
- . the effectiveness of the principles and methods used in the management and use of Victoria's water resources, and in the management and delivery of water services to irrigated agriculture;
- . the efficiency, effectiveness and responsiveness to the needs of users of water services of the agencies responsible for the planning and supply of water services; and
- . the accountability to Parliament and to the community at large of those agencies for their management of both the water resource and the very substantial quantities of the community's capital that is entrusted to them.

The Committee has carried out its analysis with a strong commitment to what has been a fundamental and unquestioned principle of the management of water resources in Victoria since 1886 - for almost one hundred years. That is, that the waters of the State are public property that do not belong to the owners of any land through which they flow. (Some minor exceptions to this principle exist, that date from before 1886.) They are a resource owned by the people of the entire State, and so the benefits accruing from their use should, in some sense, flow to all the residents of the State.

Water is a particularly valuable resource in Victoria - as in all of Australia - because there are smaller and less reliable natural supplies of it than in most other countries. In the Committee's view, this comparative scarcity of the water resource makes it all the more necessary that it be used with great care, and that the planning and management of its use aim at producing the maximum benefit for all Victorians.

In this review of irrigation and water resource management, the Committee has sought to use the themes given above to develop a policy and organisational context that will encourage this approach to the management and use of water.

\* \* \* \* \*

## 1.4 Conduct of the Inquiry

The Committee's inquiry into water resource management and irrigation management has required a long period of time, largely because of the complexity and extremely broad nature of the reference. Many aspects of the Committee's work over the four and half years since it received this reference have been related to the matters discussed in this Report, although not all are explicitly referred to here.

The Committee has commissioned two technical reports to assist it and the irrigation industry in considering the issues covered in this Report. The first of these was commissioned early in 1981 from Neilson Associates of Canberra. Their report, entitled Irrigation Management in Victoria, was submitted to the Committee in October 1981, and has been widely circulated throughout Victoria. The Committee invited responses to this report, and it has received 46 responses, totalling over 300 pages. Throughout this Report, this document is referred to simply as "Neilson". Full details of this and the other references used in the Report are given in Appendix Five.

The second technical report was commissioned from the Centre of Policy Studies at Monash University in mid-1983. The Centre's report was presented to the Committee in December 1983, and is entitled Study of the Distribution of Costs and Benefits of Victoria's Irrigation Systems (referred to here as "Centre"). It, too, has circulated very widely. The Committee invited responses to this document also, and it has received 41, totalling some 270 pages.

Some other activities of the Committee have been part of the irrigation review, and the following is a list of the major irrigation-related activities:

February 1981	Public Bodies Review Committee visit to irrigation districts; submission to Committee by the State Rivers and Water Supply Commission of <u>Management of Irrigation Systems in Victoria</u> .
July 1981	Public Bodies Review Committee public hearings on irrigation management in Echuca, Mildura and Melbourne.
October 1981	Submission to the Committee of report commissioned from Neilson Associates, <u>Irrigation Management in Victoria</u> .

March 1982	Closing date for public submissions to Committee in response to Neilson's report.
February 1983	Closing date for submissions to reconstituted Public Bodies Review Committee on all aspects of irrigation management.
April 1983	Committee visits to irrigation areas in northern, north-western, and north-eastern Victoria and East Gippsland, with public hearings in Shepparton, Mildura and Maffra.
August 1983	Committee visits to private diverters in West Gippsland.
December 1983	Submission to the Committee of report commissioned from Centre of Policy Studies, Monash University, <u>Study of the Distribution of Costs and Benefits of Victoria's Irrigation Systems.</u>
March 1984	Closing date for submissions to Public Bodies Review Committee on the Centre's report.

Appendices to this Report list visits made by the Committee to Victoria's irrigation areas, the public hearings it has conducted specifically related to irrigation, and the witnesses who have given evidence at the hearings. In the course of these four and a half years, the Committee has received a total of almost 700 submissions and it has recorded about 3300 pages of evidence at public hearings. Over 530 of these pages referred specifically to irrigation. The Committee has also had less formal discussions with several hundred more individuals. This Report of the Committee draws upon all these sources for its information and its ideas.

The Committee would like to place on record its gratitude to all involved in the irrigation industry for their co-operation and helpfulness - and for their patience, as this inquiry has stretched over the years. The dedication, enthusiasm and skill of irrigators has generally impressed Committee members: it is the aim of the Committee in this Report to help ensure that these qualities of our irrigators are assisted to continue to operate effectively and efficiently in the decades to come.

## 1.5 Outline of Report

Chapter Two outlines briefly some of the important physical characteristics of the water supply system in non-metropolitan Victoria, and some of the key legislative and administrative arrangements.

Chapter Three briefly describes the nature and the extent of the agricultural production from Victoria's irrigation areas, and considers how irrigation has allowed the development of substantial population centres in northern Victoria. It notes also other benefits arising from irrigation, such as recreational benefits, the generation of hydro-electricity, and some contribution to flood mitigation. The Chapter does not consider any of the costs of obtaining these benefits.

Chapter Four examines what have in practice been the fundamental objectives pursued by the State Rivers and Water Supply Commission over the greater part of its existence. This examination requires the analysis in some detail of some historical material, and the distinction between the professed initial objectives of the Government at the time the Commission was established and the objectives that the Commission was in fact required to pursue. The performance of the Commission in seeking to meet what has in practice been its objective is then considered. The Chapter ends with an analysis of the relevance of this objective to contemporary society.

Many issues relevant to water resource management and to the management of irrigation are outlined in Chapter Five. These cover a wide variety of matters, including organisational structure, resource use, finance, changes in agriculture and in the technology of irrigated agriculture, environmental matters, and some other matters of administration, management and personnel.

These issues have developed over the years, and to varying extents they present problems for the continued effective management of water resources and for the efficient use of the substantial resources involved in this industry.

In Chapter Six the Committee proposes what it considers should be adopted as the fundamental objective of water resource management and of the provision of water supplies to irrigated agriculture. It also proposes a set of five strategies to be followed in putting this objective into practice.

Chapter Seven describes in some detail the Committee's proposals for change. The proposals cover the structure and organisation for water resource management and for servicing irrigated agriculture, the methods of retailing water services to irrigators, the financing of rural water services, water allocations, and a variety of matters relating to planning, management, reporting and staffing requirements.

Chapter Eight briefly notes the need for a carefully planned programme of implementation of the numerous change proposals.

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## CHAPTER TWO: RESOURCE MANAGEMENT AND WATER SUPPLY DEVELOPMENT IN VICTORIA

### 2.1 Water as One of Victoria's Resources

Water is generally considered to be one of Australia's scarcest natural resources, and the distribution of it across the country has always been one of the most important influences on the patterns of settlement and development.

In Victoria rain and snow falling within the State or in the mountains of south-eastern New South Wales determine the greater part of this resource. The only major river to enter the State from elsewhere is the Snowy River in far East Gippsland.

The annual average rainfall across Victoria is 650 millimetres, with amounts ranging from about 250 millimetres in the Mallee to over 2500 millimetres in some localised mountain areas. Rainfall in East Gippsland is on average evenly distributed throughout the year, while all other areas of the State on average have a little more rain in winter than in summer.

The variability of the rainfall is of great importance. All areas are subject to occasional very heavy rainfalls, with amounts such as a highly localised 78 millimetres in one hour in central Melbourne on 17 February 1972 and 891 millimetres in the month of June 1952 at Tanybryn in the Otway Ranges amongst the extremes.

More significant from the point of view of managing water as a resource is the variability from year to year. Variability is of major importance in agriculture, and in the design of water storages. It has been estimated that Australian streams taken overall exhibit between two and three times the annual flow variability of the world's rivers. Several different measures of this variability can be used, and on any of them, the variability of rainfall in Victoria is high, particularly north of the Great Dividing Range.

This variability means that the actual annual rainfall or the actual annual flow in a river is rarely equal to the long-term annual average. In fact, the annual flow in most of Victoria's rivers is frequently more than twice the long-term average, and it is frequently less than half. On some streams the variability can be spectacular: for example, the Macalister River at Glenmaggie has an average annual flow of 590 000 megalitres, but it has varied from 1 570 000 in 1952-53 to 140 000 in 1967-68 - a ratio of eleven to one. The ratio on the Campaspe River in northern Victoria is quite striking: from 823 000 megalitres in 1956-57 down to only 752 megalitres in 1944-45, a ratio of almost 1100 to one!

There is a substantial geographic variability as well. The portion of Victoria to the east of Melbourne contains about 40 per cent of the State's area, but 80 per cent of its average river flow, while the north-western 40 per cent of the area contains only 3 per cent of the river flow. Water quality also changes from east to west, with some eastern rivers containing as little as 10 per cent of the total dissolved solids of some western streams.

An annual average rainfall of 650 millimetres over the 227 600 square kilometres of the State gives a total annual average precipitation of almost 150 million megalitres. Evaporation, transpiration by vegetation, accession to underground storages and other factors result in a total long-term annual average flow of all Victorian rivers of about 20 million megalitres, although there is a large year by year variation. Figure 1 shows diagrammatically the estimated average annual flow in each major river in Victoria, and the proportion of this flow that is at present utilised or committed. It is estimated that about 1.4 million megalitres each year is added to groundwater (or underground) storages.

The total usable water storage capacity in Victoria is now 15.5 million megalitres (including Lake Hume), or about three-quarters of the long-term annual average streamflow. The total annual consumption for domestic, industrial, stock and agricultural purposes is about five million megalitres, or one-quarter of the average annual flow. Annual consumption in the area supplied by the Melbourne and Metropolitan Board of Works is about 500 000 megalitres, or ten per cent of total State consumption. Domestic and industrial use through public water supply schemes other than in Melbourne consume another 5 per cent, while stock and other domestic supplies use about 4 per cent. The remaining four million megalitres (or about eighty per cent of the total consumption) is used for irrigated agriculture.

MURRAY-DARLING DIVISION

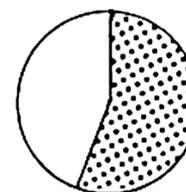
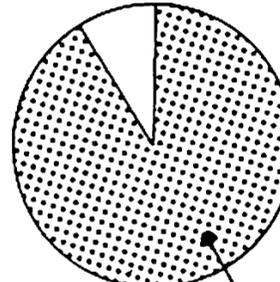
- 1 Upper Murray River
- 2 Kiewa River
- 3 Ovens River
- 4 Broken River
- 5 Goulburn River
- 6 Campaspe River
- 7 Loddon River
- 8 Avoca River
- 9 Murray Riverina
- 14 Mallee
- 15 Wimmera - Avon Rivers

SOUTH-EAST COAST DIVISION

- 21 East Gippsland
- 22 Snowy River
- 23 Tambo River
- 24 Mitchell River
- 25 Thomson River
- 26 La Trobe River
- 27 South Gippsland
- 28 Bunyip River
- 29 Yarra River
- 30 Maribyrnong River
- 31 Werribee River
- 32 Moorabool River
- 33 Barwon River
- 34 Lake Corangamite
- 35 Otway Coast
- 36 Hopkins River
- 37 Portland Coast
- 38 Glenelg River
- 39 Millicent Coast

LEGEND

ESTIMATED TOTAL YIELD

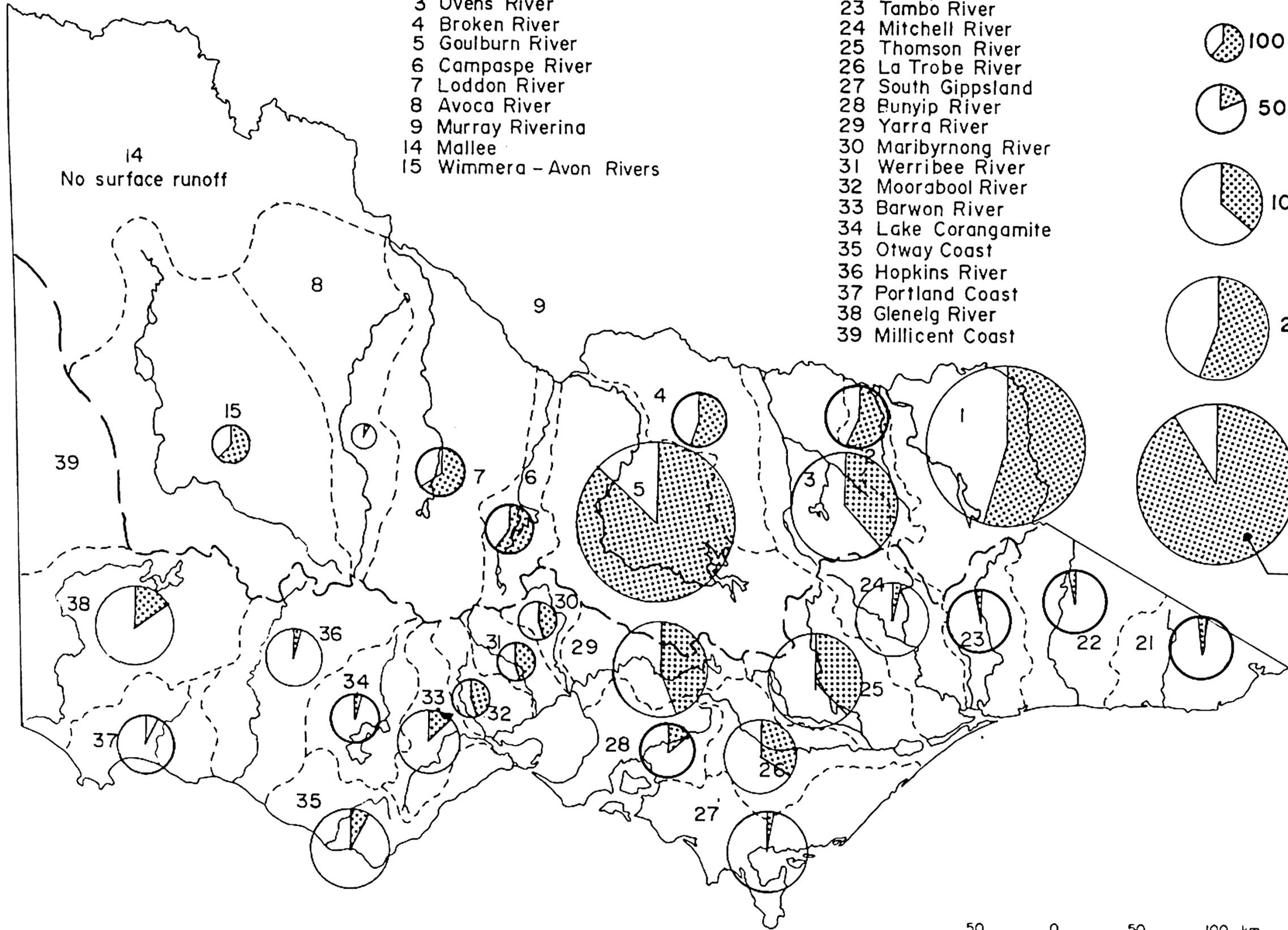
-   $100 \times 10^3$  ML/a
  -   $500 \times 10^3$  ML/a
  -   $1000 \times 10^3$  ML/a
  -   $2000 \times 10^3$  ML/a
  -   $3000 \times 10^3$  ML/a
- Volume of water utilized or committed

50 0 50 100 km



WATER RESOURCES AND UTILIZATION

FIGURE 1



There are at present about 66 significant storages in Victoria: Figure 2 lists the years of completion and enlargement of each, and shows the growth in total storage capacity in Victoria since 1857. It has been estimated that the technically practicable limit to the diversions from rivers that could be obtained is about eight million megalitres each year, although substantial additional storages would be needed to produce with this figure. Most of the significant water resources still capable of development are in East Gippsland, which is a substantial distance from existing major irrigation areas. It is, however, not far from the brown coal deposits of the Latrobe Valley and surrounding areas, and future industrial developments in this region may require large volumes of water.

Substantial quantities of good quality water are found at comparatively shallow depths underground. This water is generally referred to as "groundwater". Although it has been used in small quantities for many years, it is not widely used at present in Victoria. The total annual use is about 300 000 megalitres, or about 20 per cent of annual recharge, of which some 200 000 megalitres are used for irrigation. The total groundwater store is very much larger - perhaps thousands of times larger - although not all is of good quality.

The development of the water resources of the State has affected flooding and flood mitigation, and some environmental and conservation matters. Changes in social attitudes in recent years have placed increased emphasis on the maintenance of environmental and conservation values, and on recreation. Despite the increased importance that these characteristics now have for the community at large, little comprehensive data exists on the processes at work or on the management approaches needed to maintain and protect them. Some water resources are committed to non-consumptive uses, which include recreation, some environmental needs, and hydro-electric power generation.

\* \* \* \* \*

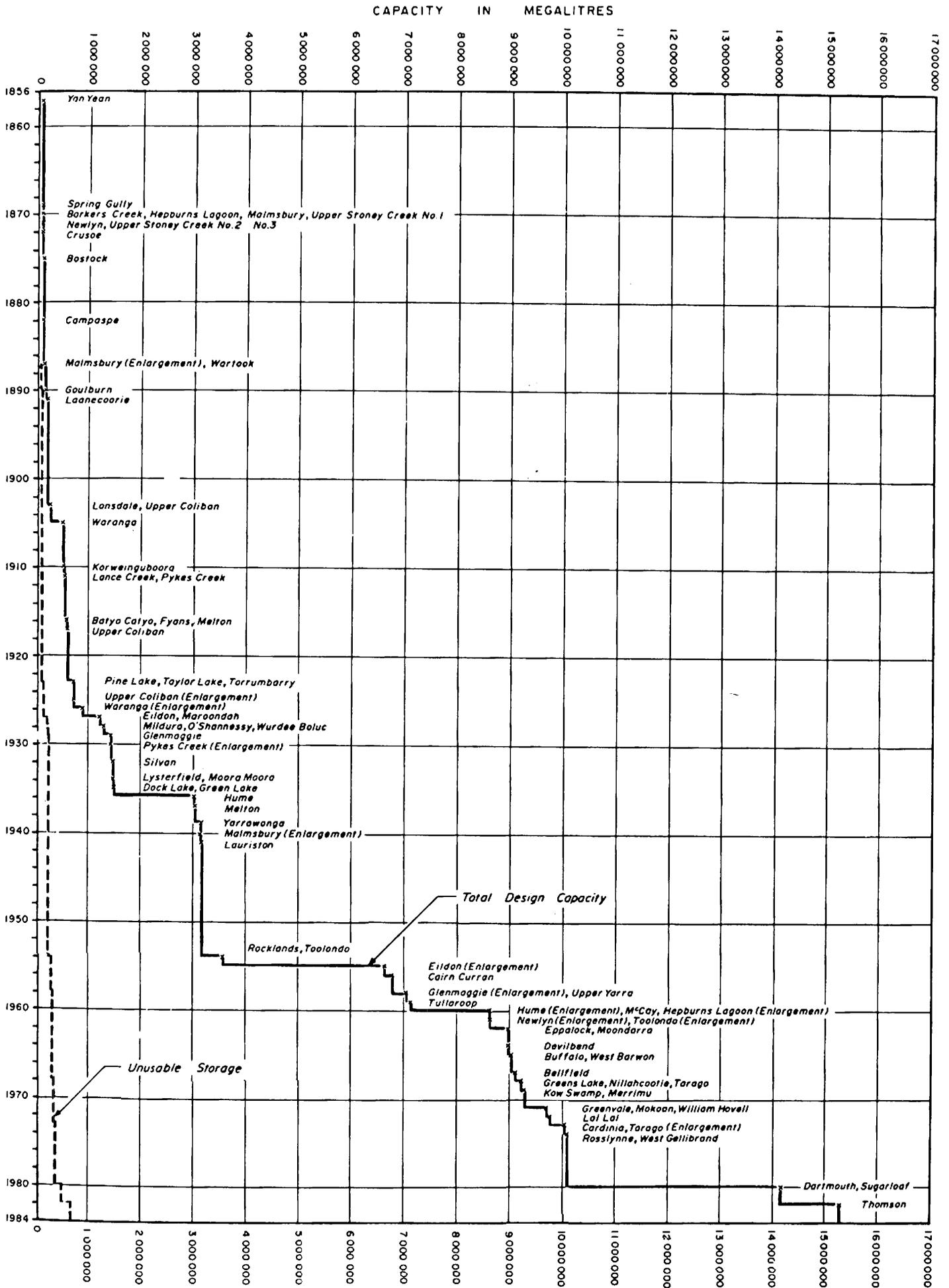


FIGURE 2

YEAR OF COMPLETION AND CAPACITY AT F.S.L. OF VICTORIAN STORAGES

## 2.2 Early Development

As early as 1860, some landowners were engaged in small-scale private irrigation in various parts of Victoria, and there were advocates of the construction of storages on streams and of channels to supply water to the dry plains. A severe drought in the years 1877-1881 led the Government to commission a report on water supply and irrigation of the northern plains, by this time becoming increasingly settled.

This led to the first Water Conservation Act in 1881, to the establishment under that Act of the first Waterworks Trusts in 1882, and to the amendment of the Act in 1883 to allow the formation of Irrigation Trusts. The position remained unsatisfactory, however, and in 1884 Alfred Deakin - then Victorian Minister for Water Supply - was appointed Chairman of a Royal Commission on Water Supply. Deakin was most impressed with American experience, and in particular with the contrast between Colorado, where all waters were declared to be public property, and many other states that lacked this provision and in consequence had great legal problems in carrying out developments.

As a result of the recommendations of Deakin's Royal Commission in 1886, the Irrigation Act 1886 was passed. This abolished any new claims to private riparian rights, and declared all surface waters to be public property, a revolutionary and far-sighted provision that was subsequently followed by all other states in Australia. Many local irrigation trusts were then established, and several large construction works commenced in 1887. George and William Chaffey agreed on a private development at Mildura in 1886, but intense political opposition delayed ratification of this agreement. The Chaffey project went ahead, and after some difficult times in 1895, was taken over and has since been operated by the First Mildura Irrigation Trust, a locally elected authority.

Many of the trusts got into financial difficulties quite quickly, and as a result of a further Royal Commission in 1896, an Act of 1899 provided for a substantial writing down of the capital debts of some trusts. The Water Act 1900 provided that no charge should be made for any water supplied to trusts from declared "national works", so introducing into Victorian irrigation the idea of free headworks.

These measures were not enough, and by about 1904 the system essentially failed financially. By this time there were nearly ninety irrigation and waterworks trusts in Victoria. However, the storages available were too small to supply the large numbers of channels that had been constructed, control of the sources of supply was divided, the trusts lacked powers to impose charges that would compel proper use of water, many landowners were not very interested in irrigation, and there was a general ignorance of good irrigation practices.

These difficulties led to the Water Act 1905, abolishing all the trusts (except the First Mildura Irrigation Trust) and establishing instead what has been described as "a new form of corporate body" - the State Rivers and Water Supply Commission - to undertake the development of irrigation and water supply across the State. At the time, Parliament was told that the new body was to have the authority of Government with the initiative of private enterprise : these are characteristics often advanced as central motivations for establishing public bodies, and this Report will return to the theme later.

Under the Water Act 1905 it was the responsibility of the Commission to advise on how Victoria's water resources could be utilised in the best interests of the people of the State, and to direct the development of Victoria's irrigation and waterworks districts and town water supplies outside Melbourne accordingly. The Water Act 1909 altered the basis of charging for irrigation water, and introduced the present system of a fixed water right and compulsory charging for that amount of water. Although the formal expression of its powers has changed somewhat since then and other powers have been added, these basic responsibilities remained with the Commission until 1984.

The 1909 Act was followed by a period of intensive development, which was greatly accelerated by the soldier settlement movement immediately after the First World War. During the period 1906 to 1935, the total capacity of storages in Victoria (including those for the supply of Melbourne) increased from 500 000 megalitres to 3 000 000, and the area irrigated increased from 43 000 hectares to 198 000.

Massive development continued after the Second World War, and the State's storage capacity increased from a total 3 200 000 megalitres in 1950 to a vast 15 500 000 megalitres today. The basic organisational and administrative structure



has however remained little changed since 1909. Figure 2 shows the growth in total storage capacity in Victoria over the years, and Figure 3 shows the location and extent of the major irrigation and domestic and stock water supply districts.

\* \* \* \* \*

## 2.3 Current Legislative and Administrative Arrangements

### 2.3.1 Legislative Provisions

The statutory basis for management and development of the State's water resources is provided in a number of pieces of legislation. The principal Acts are:

- . Water Act 1958;
- . Groundwater Act 1969;
- . Environment Protection Act 1970;
- . Drainage of Land Act 1975; and
- . Water (Central Management Restructuring) Act 1984.

Other functions and responsibilities related to the management of the State's water resources are included in several other pieces of legislation. The Committee made some recommendations concerning the reform of water law in its Seventh Report to the Parliament.

The Water Act 1958 provides the statutory basis for administration of rural water services within Victoria. The Water Act 1958 restates the 1886 principle that "the right to the use and flow...of the water at any time in any river...shall...vest in the Crown". This most important provision means that this particular resource cannot be appropriated solely for individual benefit. Its use and management are ultimately the responsibility of the State.

The Water (Central Management Restructuring) Act 1984 amends the Water Act 1958 to alter in substantial fashion the statutory basis for provision of rural water services, and it re-defines many of the functions and responsibilities previously exercised by the State Rivers and Water Supply Commission. However, this Act does not alter the statutory provisions related to the administration and provision and management of a range of water and water related services to irrigated agriculture.

Until the 1984 Act, the State Rivers and Water Supply Commission had virtually complete responsibility for administration of publicly operated schemes for irrigation, stock and domestic water supply, and major rural drainage and

desalination schemes, throughout Victoria. In addition, it was responsible for the licensing and supervision of private diversion of water from streams, other surface sources and from groundwater.

The Water Act 1958 provides that where an authority constituted under the Act proposes to develop a scheme of water supply or drainage, there must be a defined "district" within which that scheme operates. Under the provisions of the Act several types of districts can be, and have been, constituted: these districts are described below. This Act also provides the legislative basis for the system of water rights, which is outlined in Section 2.6 below.

### 2.3.2 Districts for Irrigation

About 500 000 hectares on some 17 000 farms across Victoria are irrigated for intensive agricultural production from publicly owned water storage and distribution systems, mostly constructed and operated by the Commission. These irrigated areas operate as twelve irrigation "districts", each in some respects managed as a separate unit, although many draw their supplies of water from the same storages.

Three of the districts are in the south of the State - Macalister (near Sale), Werribee, and Bacchus Marsh. The first of these is primarily a dairy area, and the other two are mostly vegetables and orchards.

The other irrigation districts are all in the Murray Valley, drawing the greater part of their water from the Murray and Goulburn Rivers. The Goulburn Murray Irrigation District (GMID) is by far the largest, irrigating around 430 000 hectares; the others are Red Cliffs, Campaspe, Merbein, Robinvale, Tresco, Nyah, First Mildura Irrigation Trust, Coliban and Wimmera. The First Mildura Irrigation Trust is an autonomous authority acting under the general supervision of the Commission. The Coliban "district" is the irrigation component of the Coliban water system, a combined urban and rural supply serving Bendigo, Castlemaine and surrounding areas, while the Wimmera "district" pumps its water directly from the Wimmera - Mallee stock and domestic system.

All districts except that of the First Mildura Irrigation Trust are operated by the Commission. As these districts - and the Goulburn Murray Irrigation District in

particular - form the basis of Victoria's irrigation system, they are described in more detail in Section 2.5 below.

### 2.3.3 Private Diversion of Water for Irrigation

Private diversion of water from rivers and streams for irrigated agriculture commenced very early in Victoria's settlement. Almost all such diversions are now licensed by the Commission, whether they are from streams whose water flow is regulated by Commission-operated storages, such as from the River Murray in the orchard and vineyard areas of Colignan and Nangiloc forty kilometres upstream from Mildura, from unregulated streams such as in the ranges of South Gippsland, or from underground ("groundwater") as in the Koo-Wee-Rup swamp area of West Gippsland. Private diverters provide all the capital for their diversion and distribution works, and for the installation and operation of pumps. Licences may be issued for periods of up to 15 years for groundwater or for diversions from regulated streams, or annually for diversions from unregulated streams. The purpose of regulating private diversions is to ensure that the capacity of the streams or aquifers is not exceeded, and to distribute the available water equitably.

Private diverters operate in most parts of the State, in a very wide range of environments. In some areas (such as the ranges of South Gippsland) the fuel costs of pumping water around a farm can be very high, while in other areas on-farm distribution costs are low but the costs of pumping from an underground aquifer may be substantial. All private diverters pay fees or licence charges, to cover the costs to the Commission of the services provided.

At 30 June 1983, the Commission was responsible for administering about 10 600 licences, permits and agreements authorising diversion of surface waters and extraction of groundwater for irrigation purposes. These permits and licences authorise "diversion" of some 823 000 megalitres per annum for use on 150 000 hectares (Annual Report, vol 1, pp 33, 35 and 102).

### 2.3.4 Stock and Farm Domestic Supplies

Across Victoria there are several systems supplying water to small towns and to farming properties for domestic purposes and for watering stock. By far the largest of these systems is the Wimmera-Mallee system, operated by the Commission. Storages for this system are in and around the Grampians, and water flows under

gravity north as far as Ouyen and Underbool, 200 kilometres away. It is often described as one of the largest such systems in the world.

The system commenced in the work of individual landowners as early as the 1850s, and was continued by local shire councils until the establishment of the Commission in 1905. It now serves about 28 000 square kilometres, 20 000 farms and 60 townships, with almost 10 000 kilometres of Commission channels and over 6000 kilometres of channels on farms. Supply is all by open channel, and losses of water by leakage and evaporation are high, particularly in the northern part of the system. The system is linked to the Waranga Western Main Channel near Wycheproof. Some diversion from this system for irrigated agriculture exists in the areas around and between Horsham and Murtoa.

A smaller stock and domestic system is the Millewa system in the Northern Mallee, serving about 2500 square kilometres south-west of Mildura. This system is now entirely in pipelines.

#### 2.3.5 River Murray Commission

The River Murray Commission comprises Commissioners appointed by the Governors of Victoria, New South Wales and South Australia, and by the Governor-General of the Commonwealth of Australia. The Commonwealth's representative is the President of the Commission.

The function of the Commission is to administer the River Murray Waters Agreement, originally ratified by the four participating governments in 1916 and amended several times since. This Agreement provides for the construction of water conservation works approved by the four governments, the operation and maintenance of these works, the sharing of the waters of the River Murray between the three states concerned, protection of the catchment above Hume Reservoir, and the release of dilution flows from the Hume to control salinity in the River Murray.

In 1982, a new Agreement was drawn up, following protracted discussions concerning the enhancement of the Commission's role. This new Agreement extends the responsibilities of the Commission in the areas of resource management, environmental protection and water quality management. Capital costs of all works

of the Commission are shared equally between the four governments, and operational and maintenance costs are met equally by the three states.

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## 2.4 Major Headworks

The term "headworks" is used to describe large storage reservoirs, smaller reservoirs that regulate and direct the flow of water, main channels for distributing water, and any associated works that supply water to areas rather than to individual farms.

The major storages are Lakes Eildon, Hume and Dartmouth. Lake Eildon was initially completed in 1937 and substantially enlarged in 1955 to a capacity of 3 390 000 megalitres. Water is released from Eildon into the Goulburn River. Lake Hume was initially completed in 1936, and was substantially enlarged in 1960 to a capacity of 3 038 000 megalitres. Lake Dartmouth was completed in 1978 and has a capacity of 4 000 000 megalitres. Dartmouth and Lake Hume are both controlled by the River Murray Commission. Storages in the Snowy Mountains of New South Wales contain very large quantities of water, including a great deal that would otherwise have flowed down the Snowy River through East Gippsland into Bass Strait. No water from the Snowy Mountains is used directly for irrigation in Victoria: it all passes through Lake Hume first.

Other major storages include Lake Glenmaggie on the Macalister River, enlarged in 1958 to a capacity of 190 000 megalitres, Lake Mokoan (365 000), Waranga Basin (411 000), Rocklands Reservoir (345 000), Lake Eppalock (312 000), Cairn Curran Reservoir (148 000) and Toolondo Reservoir (107 000). Many other smaller storages are of great importance locally.

The most important regulatory structures are Goulburn Weir on the Goulburn River near Nagambie, 30 kilometres north of Seymour, Torrumbarry Weir on the River Murray 30 kilometres north-west of Echuca, and Yarrawonga Weir also on the River Murray some 50 kilometres north-west of Wangaratta. The most important channel is the Waranga Western Main Channel, which receives the water diverted from the Goulburn River at Goulburn Weir. The Channel heads west for around 300 kilometres, connecting with the Campaspe and Loddon Rivers. It ends near Birchip where it connects with the channel system of the Wimmera-Mallee Stock and Domestic Water Supply System.

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## 2.5 Irrigation Districts

The Goulburn Murray Irrigation District is Australia's largest integrated irrigation system. It covers 820 000 hectares, with around 430 000 hectares - or about half - actually being irrigated. The District extends 270 kilometres from Yarrawonga and Shepparton in the east to Boort and Swan Hill in the west, and from the River Murray south for an average of about 60 kilometres.

The southern part of the District is supplied from the Goulburn, Campaspe and Loddon Rivers, which are linked by the Waranga Western Main Channel. The major storage for this part of the District is Lake Eildon. The northern part of the District is supplied from the River Murray at Yarrawonga Weir, at Torrumbarry Weir, and by two small pumping stations near Swan Hill. The major storages for this part of the District are Lake Hume, Lake Dartmouth, and the lakes of the Snowy Mountains scheme.

Over the last forty years or so, there has been substantial development within the District. There has been construction of major new storage capacity (Dartmouth, enlarged Eildon, enlarged Hume), expanded capacity of main distribution channels and of natural creeks used as channels, construction of pumping stations, enlargement and remodelling of main supply channels and of drains in all areas, and some salinity control works. The greater part of the costs of these works has been met by the Victorian Government, through Works and Services funds. These works have resulted in improved security of supply and improved levels of service to irrigators.

The Campaspe Irrigation District of 3900 irrigated hectares is on the southern edge of the Goulburn Murray Irrigation District, near Rochester, and is supplied by diversions from the Campaspe River at Campaspe Weir. The only storage is Lake Eppalock, which also provides some water to the Coliban system and some to the Waranga Western Main Channel. The district has had considerable development since Lake Eppalock was completed in 1963.

Tresco Irrigation District of 1100 irrigated hectares is a small slightly elevated area near Lake Boga, supplied by pumping from the northern distribution channels of Goulburn Murray Irrigation District. Supply and drainage are both by pipelines.

Nyah Irrigation District also of 1100 irrigated hectares is another small area, about 25 kilometres downriver from Swan Hill. Water is pumped directly from the Murray, and its supply and drainage are also both by pipelines.

Robinvale Irrigation District of 2100 irrigated hectares was established after the Second World War, and is about twice the area of Nyah or Tresco. It also pumps directly from the Murray and its supply and drainage are by pipelines.

Merbein (3400 irrigated hectares) and Red Cliffs (4800 irrigated hectares) Irrigation Districts are each roughly twice the area of Robinvale, and they are adjacent to the First Mildura Irrigation Trust. The three operate closely together, and all pump their water directly from the Murray. Drainage in all three is by pipeline, and water supply is by a mixture of open channel and pipeline, with the channels progressively being replaced with pipelines.

These five Commission districts in the Mallee are known as pumped districts because all their water is directly pumped into the distribution network. This is in contrast to flowing under gravity from rivers into the network as is the case with most of the waters of the other districts, which are consequently known as gravity districts.

The First Mildura Irrigation Trust is unique in that it is an autonomous statutory body operating under the general supervision of the Commission. It is the only survivor of the numerous independent irrigation trusts that were established late in the nineteenth century. The Trust was established in 1886 by George and William Chaffey under a special agreement of Queen Victoria. It irrigates about 8000 hectares of vineyards and orchards, and pumps water directly from the River Murray. Drainage is almost all by pipeline, and supply is about two-thirds pipe and one-third channel.

The Werribee River system just west of Melbourne supplies Bacchus Marsh Irrigation District (1200 hectares, 50 kilometres west of Melbourne) and Werribee Irrigation District (3200 hectares, 30 kilometres south-west), with storage in Pykes Creek Reservoir, Lake Merrimu and Melton Reservoir. These storages also supply urban areas such as Werribee, Melton and Bacchus Marsh. The Bacchus Marsh District is small, and is largely devoted to orchards and market gardens to supply Melbourne. Distribution is about half open channels and about half pipelines. Its soil type makes

a drainage system unnecessary. Werribee District is almost three times the area of Bacchus Marsh, and is increasingly devoted to market gardening. Distribution is mostly by concrete channels, with drainage by open channels.

Macalister Irrigation District, at 33 000 irrigated hectares the State's second largest district, is located immediately upstream of Sale, in East Gippsland. Storage is Lake Glenmaggie on the Macalister River, supplemented by diversions from the Thomson River at Cowwarr. Lake Glenmaggie fills in most years, and so holding water from one year to the next is of less importance than in other areas. Distribution is mostly by channels, and drainage is also by channel. The District is mainly used for dairying.

Wimmera Irrigation System covers a number of scattered areas around and between Horsham and Murtoa. Its water is pumped from the supply channels of the Wimmera-Mallee stock and domestic system, and all supply and drainage is by open channels. About 3000 hectares on some 320 farms are irrigated by permit rather than by water right (see Section 2.6 below).

Coliban Irrigation System is a varied system that irrigates some 4000 hectares in several regions, around and between Castlemaine and Bendigo. More farms are supplied in this area than in any other district except Goulburn Murray Irrigation District, although the average quantity supplied to each is the lowest of all the State's irrigation areas. Three quarters of supply is by channel, and there is no drainage system. Supply is from the Coliban Water System, which is a combined urban and rural supply serving Bendigo, Castlemaine and surrounding areas. The system gets its water from the Malmsbury, Lauriston and Upper Coliban Reservoirs on the upper reaches of the Campaspe River. The Committee made some recommendations about this area in its Sixth Report, but did not then refer to irrigation.

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## 2.6 Operation of the Irrigation System

### 2.6.1 Supply of Water to Irrigators

The State Rivers and Water Supply Commission provided the Committee with considerable information about the operations of the water supply systems. In the operational context, the Commission notes that the primary purpose of the public irrigation systems is to provide water to meet the reasonable requirements of established irrigation crops, taking into account the need to ensure reliability of supplies during the dry years to which each area is subject. In the three southern districts (Macalister, Werribee, Bacchus Marsh), the generally more reliable supply (in relation to the size of the demand) and the shorter droughts mean that less water is retained in storages from years of high river flow. To service the northern districts, the main water storages are operated so as to store large quantities of water in years of high river flow for use in drier seasons.

The optimal extent of this storage carryover is not easy to assess. The Commission states that its policy is to operate its northern areas so that 100 per cent of the water right (see section 2.6.2) will be supplied in the worst year in any repeat of the worst drought recorded in 80 years of records, and that 130 per cent of water right, or more, will be supplied in all normal or near normal years (MISV, p 15).

The basic aims of water distribution are, according to the Commission (MISV, pp 15-16):

- to deliver water to meet the needs of irrigated crops, subject to physical constraints of the supply system;
- to achieve equitable distribution of available resources; and
- to minimise water losses.

Basic management of the operations of the system is organised from "District Centres", of which there are 13 serving irrigation areas across the State. District Centres are operationally relatively autonomous centres, each under the control of a District Engineer. Water bailiffs within each District are responsible for operating channels and control devices to supply water to irrigators in response to orders placed by them. Typically, one bailiff supplies between 60 and 100 farms. The

distribution systems are generally manually operated and so labour intensive, although some automation is now being evaluated.

In some of the pumped districts irrigators are supplied with water at pre-determined times during the irrigation period, according to a roster. In other areas, each irrigator orders water from the water bailiff as it is needed, specifying the desired starting date, and the rate and duration of flow.

Rates and timings of applications of irrigation water vary, depending upon a number of factors including the type of soil, the season, and the type of crop. On a Goulburn Valley dairy farm, summer pasture might receive between 10 and 15 separate waterings to an average depth of about 65 millimetres at 10-14 day intervals from spring to early autumn. In contrast, vineyards usually receive about six waterings from spring to autumn, averaging about 140 millimetres depth.

The Commission provides a range of extension and advisory services to irrigation farmers, on matters ranging from specialist advice on farm layout to advice on weed control practices.

### 2.6.2 Water Rights

As has been noted earlier in this Chapter, the right to use and control water in any lake or river in Victoria has been vested in the Crown since at least the Irrigation Act 1886. A complex system has developed to allocate this water between various users, and a brief summary of this system follows.

The primary allocation of water to the irrigation districts is contained in Schedule Three A of the Water Act. The first call on water is supply of whatever stock and domestic requirements exist in the district. The remaining water is available for appropriation by the Commission for irrigation. The Commission allocates this water to farming properties within each district as "total water rights" of a specified number of megalitres in accordance with rules laid down in the Water Act. These water rights are allocated to land physically capable of being supplied by the channel system - "commanded" - and suitable for use in irrigated agriculture. The rights are allocated to the land rather than to the land owner, and in general cannot be sold, or leased to a person who does not own that land, or transferred to other

land. Stock and domestic requirements and water rights rarely consume all the water available in a district, and so each year the Commission makes an allocation of "sales water", which is an extra quantity of water that an irrigator may choose to buy, usually expressed as a percentage (above 100 per cent) of the water right allocation.

Technically, the total water right of each landholding in the Goulburn Murray, Campaspe and Macalister Irrigation Districts is made up of two components: a "basic water right" of a specified number of megalitres per hectare, and an "extra water right". In Macalister, the extra water right equals the basic water right, and so the total water entitlement of a property is directly proportional to the area.

Bacchus Marsh and Werribee Irrigation Districts have no extra water right, the basic water right in these districts being the same number of megalitres per hectare as the total water right of the Macalister. In the pumped districts of the Mallee, extra water rights may be allocated under certain conditions for the spray irrigation of extra land at the same constant rate per hectare as the basic water right.

In the Campaspe and Goulburn Murray Irrigation Districts, the extra water right is more complex and results in a non-linear relationship between total water volume allocated and property size. Under the basic formula smaller properties receive more water per hectare than do larger properties; thus the standard is that a property of less than 16.2 hectares receives 5.334 megalitres per hectare, while one of over 89 hectares receives 1.016 extra megalitres for every extra hectare. There are, however, very many anomalies that have developed in the system, and these are discussed further in Section 5.2 below.

For most purposes, there is no practical distinction drawn between basic and extra water rights, so that the important figure is the total water right. Landholders are charged for their total water right, whether they use it all or not: some of the consequences of this provision are considered in Section 5.2.

The Commission regards the system of water rights as serving three main purposes. First, it establishes the relative rights of the respective land holdings to supplies of water in the event of a shortage of supply. Second, it is a means towards stabilising revenues of the irrigation districts, as the water right is paid for whether or not all

of the water is in fact used. Third, it provides a convenient and equitable index for expressing the available seasonal allocations of water.

The existing rules and formulas concerning water rights in the Goulburn Murray Irrigation District have developed over many years in an extremely complex fashion. The question of allocation of water in northern Victoria was referred by Parliament to the Parliamentary Public Works Committee in 1975, and this reference was transferred to the Salinity Committee of the Victorian Parliament in 1982 when that Committee was established and the Parliamentary Public Works Committee was abolished.

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## 2.7 Financial Responsibility for Rural Water Services

The distribution of financial responsibilities for irrigation and for other rural water services is an extremely complex subject, and no clear or comprehensive explanation is available. The matter is discussed in some detail in Section 5.3, and only a brief outline is given here.

All the capital costs of headworks - that is, major storages and main distribution channels - are borne by the State, with the users of the services making no direct contributions to the cost. The total capital investment in these works is some hundreds of millions of dollars. Districts, and the ratepayers within districts, make some payments towards the operating costs of headworks and main channels, although the proportion of such costs paid by districts is not clear from the Commission's published accounts.

All of the capital and most of the operating costs of water distribution works are also borne by the State. In gravity irrigation districts, surface drainage installations, and works designed to mitigate salinity problems are paid for by the State. In contrast, in the pumped irrigation districts, where the produce is usually of higher value and it has been essential to install drainage works to preserve future production levels, irrigators have directly contributed one-half of the capital costs of drainage and salinity control works.

Irrigation districts are required by the provisions of the Water Act 1958 to raise from irrigators all the costs of operations within the district, and in most districts in recent years this requirement has been met. This has not always been the case, and some districts have accumulated deficits on maintenance accounts, or have deferred necessary maintenance works for excessive lengths of time, or have done both.

An important issue is the financing of capital works that are needed to renew and modernise existing distribution works, both across whole regions and within districts. Increasingly there will be a need to upgrade facilities to meet more stringent needs of irrigators brought about by technological developments on farms (see Section 5.4). There is some disagreement over whether funds for these developments should

be provided by irrigators or by the State. The present practice is for charges to irrigators to include a modest component for such renewals and enhancements.

Stock and domestic districts are also required to cover their operating and maintenance costs. In recent years, landowners have been required to bear the entire cost of on-farm works for these purposes and to make some contributions towards the capital costs of headworks and main distribution channels.

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## CHAPTER THREE : WATER RESOURCE MANAGEMENT AND COMMUNITY BENEFITS

In 1944, after a particularly severe drought, the Government of the day announced that a major expansion of the system of water supply was to occur. The Government was determined that development up until that time was to be only a "stepping stone to much greater development" and it prepared a programme aimed at embracing all features of water supply in every part of the State.

The principal strategy of the Government was to "more than double the (then) storage provision for the State". However, at the same time, and in keeping with the broader goals referred to above, the policy endorsed the concept of multi-purpose development. That is:

"Every water conservation project should, if possible, be 'multiple-purpose', that is, it should fulfil two or more of the following functions; irrigation, town water supply, rural domestic and stock supply, power development, flood control, stream regulation, soil conservation, wild life conservation and recreation" (VPD 1944, p 519).

This Chapter outlines the benefits that have accrued from the implementation of this broad objective, building as it did on the achievements of the previous sixty years. It is important to note that this chapter makes no attempt to assess the costs associated with these benefits, and it does not detail problems or difficulties that have arisen as a result of present practices. Nor does it consider whether the effectiveness and efficiency with which the benefits have been achieved could have been higher, although some of these matters will be considered in later chapters of this Report. The aim of this Chapter is to outline the social and economic importance of water resource management - and of irrigation in particular - to the community generally.

### 3.1 Irrigated Agriculture in Victoria : National and International Perspective

Australia has a high level of irrigation development, with about 0.105 hectares of irrigated land per head of population. This compares with 0.084 hectares per head for the United States, 0.042 hectares per head for the Soviet Union, and 0.101 hectares per head for the People's Republic of China. Construction of storage reservoirs has been a most significant factor in the development of Australian irrigation: its importance can be gauged from the fact that the volume of water stored per hectare of a land irrigated in Australia is significantly higher than in other countries with large irrigation industries, as is shown in Table 3.1. Another notable aspect of Australian irrigation is the very limited extent to which groundwater is used as a source of water, in Australia generally and in Victoria in particular (see Section 5.2.5 below).

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**TABLE 3.1**  
IRRIGATION WATER STORAGE IN SELECTED COUNTRIES

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Country	Storage per hectare irrigated (millions of litres)
Australia	15.2
United States	7.6
Egypt	3.8
India	1.5

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Source: Smith et al, p 103.

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Irrigated agriculture has been developed in a wide range of climatic zones in Australia, including the Mediterranean climate of the south, the tropical climate of the north, and the subtropical climates of the mid-latitudes. The largest irrigation developments are found in northern Victoria and in southern New South Wales,

where irrigated pastures dominate. This dominance is reflected in 57 per cent of the national irrigated area being devoted to pasture, with Victoria and New South Wales contributing 92 per cent of this area. Much of the irrigated pastures of the southeast are utilised for milk production (mainly in Victoria), and some are used for fat lamb, merino wool, and beef production.

A small portion of Australia's irrigated area is devoted to more intensive horticultural and agricultural crops which are generally of high value, and in many cases these have provided the basis for schemes for closer settlement. In northern Victoria, dairying has been the major basis for such schemes.

In southern New South Wales, owing to low-cost water and soils of low permeability, rice has become a major crop, using over 85 per cent of the water diverted for irrigation from the Murrumbidgee River. In northern New South Wales and in southern Queensland better soils predominate and cotton is the dominant irrigated crop, with the area sown to it continuing to expand. In northern Queensland, sugarcane is widely irrigated and it provides the mainstay of irrigated agriculture. In South Australia irrigation is used largely for high-value horticultural crops and for whole milk production from grazed pastures.

Historical developments are reflected in the current irrigation techniques, with non-pressurised surface methods being used on 76 per cent of Australia's irrigated areas, although pronounced state differences exist. In Queensland 41 per cent of the irrigated area is under non-pressurised flood or furrow methods of irrigation and 59 per cent is under pressurised, pipeline-based spray or trickle irrigation. In contrast, in Victoria and New South Wales 87 per cent of the irrigated area is irrigated by non-pressurised, surface flood or furrow methods and the remaining 13 per cent by pressurised pipeline methods. Much of the area that is flood irrigated is composed of soils of low permeability, and this combination can easily create conditions of transient waterlogging.

Pressurised supply systems (pipelines) allow greater control over the quantity, frequency, and placement of water. They permit a greater range of soils to be irrigated and although higher energy costs are involved, higher value crops and yields may be possible. Such techniques were not well developed when irrigation expansion was proceeding at its most rapid rate: so they were not then considered as

an alternative, nor were they considered appropriate for the irrigation of pastures. As substantial economic and technological changes have occurred since many of the major developments were initiated, extensively revised practices may be more appropriate now.

Comparisons (see Table 3.2, and also Section 5.4) of the values produced per unit area of irrigated agriculture in Australia with those in comparable climatic areas of

TABLE 3.2

GROSS VALUE OF IRRIGATED OUTPUT PER UNIT AREA  
IN AUSTRALIA AND COMPARABLE CLIMATIC AREAS OF CALIFORNIA

	Gross value of output \$/ha	Main production
Australia (1978-79)		
Victoria 550 000 hectares	676	Milk, meat, fruit
New South Wales 715 000 hectares	726	Field crops, grazing livestock, fruit
Queensland 256 000 hectares	1256	Sugar, field crops, vegetables
California (1979-1980)		
Yolo County	1380	Tomatoes, wheat, rice
Colusa County	1461	Rice, wheat, fruit
San Joaquin County	2205	Milk, grapes, tomatoes
Tulare County	3490	Fruit, field crops, meat
Total irrigated area = 700 000 hectares		

Based on \$US 1.13 = \$A1.00. Source: Smith et al, p 118 and Smith p 178.

the United States suggest that the production efficiency in much of the irrigated agriculture of Australia is generally low. These figures take no account of differences in the costs of production or in the quantity produced per hectare.

Output per hectare is lowest in Victoria, where about 85 per cent of the irrigated area is under pasture for grazing animals, compared with 47 per cent in New South Wales and 12 per cent in Queensland. The highest value output per hectare is in Queensland, and is associated with the growing of sugarcane on 38 per cent of that State's irrigated area. The suggestion from this comparison is that the low-value output of Victoria and New South Wales is associated with the large area devoted to relatively low-value output from grazed pastures and from associated surface irrigation. Conversely, Queensland irrigated agriculture is based on high-value crops, and uses more controlled systems of irrigation.

The output of irrigated agriculture in California is higher than in Australia, in places very substantially so. The counties of San Joaquin and Tulare in California are, in part, associated with large animal enterprises based on high-density feedlot systems, supplied from highly productive fodder crops and grains from the surrounding irrigated area. Evidence given to the Committee suggests that there may be scope for developments along these lines in Victoria, and this is discussed in more detail in Section 5.4 below.

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## 3.2 Agricultural Production from Irrigation in Victoria

### 3.2.1 Irrigation in Victoria

The following data on the physical characteristics of irrigation in Victoria has been taken from a paper prepared by an officer of the State Rivers and Water Supply Commission for a conference in 1983 (D Anderson). Although it concentrates on northern Victoria, it gives a good general picture of the scale and nature of the activity.

The area of land classified as suitable for irrigation in northern Victoria has remained steady at 750 000 hectares since 1974-75. This had increased from 600 000 hectares in 1970, which figure was in turn substantially higher than the 460 000 hectares so classified in 1960-61. The maximum area actually irrigated in any one year in northern Victoria was 477 000 hectares in 1972-73, an increase of almost 40 per cent over 1960.

The quantity of irrigation water delivered has increased at a greater rate than has the area irrigated. Deliveries of water to farms in northern Victoria nearly doubled in the ten years to 1981-82, from 1 233 000 megalitres to 2 444 000. Deliveries increased by 2.7 per cent in the ten years to 1981-82, although the area irrigated fell slightly. The delivery of 2 510 000 megalitres in northern Victoria in 1981-82 was the maximum for any season.

The amount of water applied by irrigators to each irrigated hectare has increased by some 10-15 per cent over the past two decades. Typical application rates were around 5.0 megalitres per hectare in the 1960s and early 1970s, but these have increased in recent years to 5.5 or 5.8 megalitres per hectare. Different crops being grown under irrigation do not account for the increased water use.

Throughout the past twenty years, the proportion of the total irrigated area in northern Victoria planted to pasture has been very high and constant at about 83 per cent. The areas of perennial and annual pasture both increased gradually in the years to about 1970, but since 1973 the area of perennial pasture has remained relatively constant at about 170 000 hectares and the area of annual pastures has also been constant at about 204 000 hectares.

Other products occupy only a small proportion of the total area irrigated in northern Victoria. Vines are the next most important irrigated culture, but occupy only 4 per cent of the total irrigated area at 19 000 hectares, an area constant since 1970. Other cultures are cereals - 19 000 hectares in 1981-82, which have increased sharply over recent years, orchards - 11 000 hectares, which have fallen from 16 000 hectares in 1970-71, and lucerne which at 4500 hectares in 1981-82 is only one third of the area planted in the early 1970s. Market gardens, oilseeds and other categories each account for less than 2 per cent of the total area irrigated.

### 3.2.2 Value of Production

The total area of irrigated land in Victoria at present is about 570 000 hectares, including areas irrigated by private diversions and all of the Commission's districts. As has been noted, the greatest use of this is for pasture production, which supports much of the State's dairying as well as - in order of decreasing total value of production - grazing of beef cattle, prime lamb production and wool production.

Intensive crops are of considerable significance because of their high economic value, but they do not cover a large proportion of the irrigated land or use a large proportion of the available water. In decreasing order of economic value, the main intensive crops are: canning, fresh and jam fruits, dried vine fruits, vegetables, tobacco, table and wine grapes, hops, citrus fruits. Broadacre crops such as wheat, sorghum and oilseeds, use only a small proportion of the total area and contribute a very small proportion of the total value of production.

Of the total irrigated land, about 87 per cent is supplied with water by the Commission, with the rest of the land being supplied by private diverters. Private diverters nevertheless provide 33 per cent of the total value of irrigated production for the entire State, because of a greater emphasis on crops rather than pasture.

There have been major changes in the pattern of use of irrigation water in Victoria over the last 70 years. Early use of irrigation was primarily for crops, lucerne and fruit, rather than for pasture as now. For example, in the period between the establishment of the State Rivers and Water Supply Commission in 1905 and the First World War, pastures (annual and perennial) occupied only about 36 per cent of Victoria's irrigated land, compared with 80 per cent in the year 1979-80. Lucerne,

cereal crops and fodder crops all occupied very much larger proportions of the irrigated lands than they do now.

This major change was largely caused by the inability of the red-brown earth soils in most of the irrigation areas to stand up to cropping under irrigation. Two problems developed: first, soils over much of the area became waterlogged after careless irrigation or wet weather as clay subsoils retarded drainage, and second, after several years of cultivation the soils tended to set hard after irrigation, making it difficult for irrigation water to penetrate, for roots to grow strongly, or for seedlings to emerge.

This change from primarily cropping to primarily pasture, virtually forced upon the irrigation community by the characteristics of the predominant soil types, is unfortunate, because crops are basically more productive than pastures.

Table 3.3 gives details of the total value of production from irrigated areas in Victoria, from Victoria as a whole, and from all of Australia, for the year 1981-82. Figures for 1982-83 are not used because of the distortions produced by the very bad drought of that year across all of Victoria. The table has been compiled by the Committee from data provided by the State Rivers and Water Supply Commission and from publications of the Australian Bureau of Statistics, and so its accuracy depends on the accuracy of the estimates made by these agencies.

The table indicates the substantial contribution to Victoria's total agricultural output made by irrigated agriculture. In the year 1981-82, the total estimated agricultural production in Victoria was \$2484 million, of which \$565 million, or almost 23 per cent, came from irrigation. For individual commodities, the proportions to be produced with irrigation ranged from 2.7 per cent for grain (wheat, barley, oats, others) - with only \$10.8 million coming from irrigation - up to virtually 100 per cent for the \$15.9 million of table and wine grapes (the value of grapes produced without irrigation is very small).

The major commodities produced by irrigation are milk and milk products, with the total in 1981-82 being \$222 million: this was about 45 per cent of the Victorian total production of milk and milk products. The next most significant commodity is vegetables at \$96 million, or 76 per cent of the Victorian total. Table 3.3 shows that

TABLE 3.3

CONTRIBUTION OF VICTORIAN IRRIGATION TO TOTAL VICTORIAN AND TOTAL AUSTRALIAN PRODUCTION OF AGRICULTURAL COMMODITIES, 1981-82

Commodity	Vic Irrig Prod'n \$ Million	Vic Total Prod'n \$ Million	Vic Irrig Share of Vic Total % Share	Aust Total Prod'n \$ Million	Vic Irrig Share of Aus Total % Share
<b>Livestock Products</b>					
Milk and Milk Products	222.0	491.2	45.2	978.8	22.7
Beef and Veal	39.8	379.6	10.4	1717.0	2.3
Lamb and Mutton	14.9	167.7	8.9	584.1	2.6
Wool	15.0	331.2	4.5	1683.4	0.9
<b>Sub-total</b>	<b>291.7</b>	<b>1369.7</b>	<b>21.3</b>	<b>4963.3</b>	<b>5.9</b>
<b>Fruit and Vegetables</b>					
Vegetables	96.1	125.8	76.4	463.3	20.7
Dried vine fruits	54.4	59.8	91.0	76.7	70.9
Table and wine grapes	15.9	15.9	100.0	107.4	14.8
Citrus fruit	10.4	10.7	97.2	81.2	12.8
Other orchard fruit	59.8	64.5	92.7	208.6	28.7
<b>Sub-total</b>	<b>236.6</b>	<b>276.7</b>	<b>85.5</b>	<b>937.2</b>	<b>25.2</b>
<b>Cereals and Industrial Crops</b>					
Grain (wheat, barley, other)	10.8	397.1	2.7	2934.3	0.4
Hay (wheat, oats, other)	2.9	10.8	26.9	72.7	4.0
Oilseeds	1.2	4.7	25.5	52.0	2.3
Tobacco and hops	21.9	22.3	98.2	64.4	34.0
<b>Sub-total</b>	<b>36.8</b>	<b>434.9</b>	<b>8.4</b>	<b>3123.4</b>	<b>1.2</b>
<b>Other</b>	<b>0</b>	<b>402.9</b>	<b>0</b>	<b>2289.9</b>	<b>0</b>
<b>TOTAL</b>	<b>565.1</b>	<b>2484.2</b>	<b>22.7</b>	<b>11313.8</b>	<b>5.0</b>

Compiled by the Public Bodies Review Committee from "Value of Irrigation Production 1981-82", State Rivers and Water Supply Commission working paper, 1983 (1st column), and Value of Agricultural Commodities Produced - Australia 1981-82, Australian Bureau of Statistics, September 1983 (Cat. No. 7503.0) (2nd and 4th columns). Figures for "Victorian Irrigation" include both private diverters and irrigation districts. All values are "local values" - that is, farm gate - rather than market values.

around 85 per cent of all of Victoria's fruit and vegetables are produced in irrigation areas, a far higher proportion than of dairy produce, other livestock products, or of cereals and other products.

In national terms, Victorian irrigation is of considerable significance. Total national agricultural production in 1981-82 was around \$11 300 million, of which Victorian irrigation produced 5 per cent or \$565 million. By individual commodities, the proportions ranged from 0.4 per cent of the nation's grain production up to 71 per cent of the total production of dried vine fruits.

It is interesting to note that the major national agricultural commodities by value of production are grain, beef and veal, and wool; for all of these, the proportion of the national total produced by Victorian irrigation is very small indeed. The contribution to the national total of Victorian irrigation's major commodities is very much more substantial. Victorian irrigation produces about 23 per cent of the national total of milk and milk products, about 21 per cent of the national vegetable production, and about 25 per cent of the total fruit and vegetable production.

The figures in Table 3.3 are all for 1981-82, which was a reasonably typical year. The following year was a year of severe drought across all of Victoria: as a result the proportion of total Victorian agricultural production produced with the aid of irrigation increased to around 30 per cent.

The table indicates the very significant role played by irrigation in Victoria's total agricultural output, and the substantial contribution it makes also to the total national production.

\* \* \* \* \*

### 3.3 Irrigation and Regional Economic Development

The investment of capital resources in all facets of the water supply system has led to economic development at the national and state level, and - perhaps more significantly - has substantially influenced the regional economic development of areas provided with irrigation water. Thus investment as the engine for growth and development, with irrigation as the vehicle through which the investment has been made, has led to the growth of large population centres, and to regions characterised by higher population density in the irrigated areas of the State.

The political and social bases for the locational aspects of this expenditure and of the resulting investment patterns, make it difficult to apply the tools of conventional economic analysis to them, and also call into question the value of doing so. However a description of the effects on regional economic development is not so difficult, although again no discussion or assessment of the costs of this development is provided here.

#### 3.3.1 Closer Settlement Schemes

At the time the State Rivers and Water Supply Commission was established, the northern part of Victoria was comparatively sparsely populated. It was a hot and dry area, with few reliable sources of water. Then - as now - most of the major rivers maintained flow throughout the year, although some had very low flows in the summer months, particularly in the driest years when some ceased altogether. Most flowed through to the River Murray, but those in the north-west usually faded out in swamps (the Avoca) or lakes and sand dunes (the Wimmera).

Mildura was a small and struggling irrigation settlement. Echuca was an important rail link to Melbourne, and already had a long history as a major river port. Other settlements in what are now the northern irrigation districts were very small, or virtually non-existent. Table 3.4 shows the populations of the shires and towns, boroughs or cities as appropriate of Kerang, Mildura and Shepparton in both 1901 and 1981. Closer settlement of rural areas had been Government policy for some time, and closer settlement legislation dated from 1898. As has been noted, about 90 small irrigation trusts existed, but these mostly failed financially in about 1904.

**TABLE 3.4**  
1901 AND 1981 POPULATIONS OF SOME IRRIGATION AREAS

		1901	1981
Kerang	- town/borough	1222	4260
	- shire	7505	4520
Mildura	- town/city	1606	15 740
	- shire	3325	19 070
Shepparton	- town/city	2067	24 570
	- shire	4525	7400
TOTALS		20 250	75 560

Source: Australian Bureau of Statistics, census results, 1901 and 1981.

In 1907 Elwood Mead (then Chief of the Irrigation Investigations Bureau of the United States Department of Agriculture) became Chairman of the State Rivers and Water Supply Commission. He convinced the Government that to be successful irrigation must be an intensive activity on small, closely settled holdings. Closer settlement in irrigation-supplied areas became perhaps the fundamental objective governing the management of the irrigation system from then on (see Section 4.1).

This objective was pursued not only through the general management policies of the Commission, but through direct means as well. The Government began to acquire large pastoral holdings in irrigation areas, subdivided them into smaller blocks, and resold them. In 1909 the Closer Settlement Act 1906 was amended to permit the acquisition by the Land Purchase and Management Board - established in 1904 and later renamed the Closer Settlement Board - of land in irrigation districts for future settlement, on the recommendation of the Commission.

The Board and the Commission worked rapidly, and the area irrigated rose from 34 000 hectares in 1910 to 228 000 in 1917, with some 4 500 settlers in occupation.

In that year, legislation to encourage the settlement on the land of returned servicemen was introduced. Dryland soldier settlement was managed by the Closer Settlement Board, and settlement in irrigation districts by the Commission: all the Board's powers in these areas had been transferred to the Commission in 1915. Soldier settlement was amalgamated with general closer settlement activities in 1928, by which time over 10 000 soldiers had been settled on the land. Although most succeeded, a significant number failed, because of a combination of falling prices, farms that were too small, and inadequate farming skills.

Increasing difficulties led in 1933 to the appointment of a Royal Commission on settlement, and to the launch of a five year assistance plan which included amongst its provisions amalgamations of farms to increase the area of many of them.

Immediately after the Second World War, Commonwealth-State agreements led to more carefully prepared soldier settlement schemes. Both dry land and irrigation farming were included in this, and considerable care was taken to select suitable settlers and to prepare their blocks adequately before they took over, by providing houses, out-buildings and basic farm improvements such as fences and water supply. With additional financial aid, most of these settlers were successful.

Separate soldier settlement schemes ceased in 1959, but the Rural Finance and Settlement Commission continued to re-subdivide previously dry land areas opened for irrigated agriculture. Irrigation projects since then have included the East Goulburn Project near Shepparton, and the Rochester Project. The most recent major irrigation development by the State Rivers and Water Supply Commission is Robinvale. This is a small district developed largely during the 1950s, and which gets its water by direct pumping from the River Murray.

Other closer settlement schemes based on irrigation have been privately developed, and the Nangiloc-Colignan area on the River Murray about 40 kilometres upstream from Mildura is one of the largest and most recent of these.

In recent years there has also been increasing use of groundwater for irrigation, and of small on-farm dams to trap natural run-off or to re-use water draining off irrigated areas. In some areas, several farmers have co-operated to construct slightly larger storages.

### 3.3.2 Effects on Population

There can be no doubt that the irrigation schemes of northern Victoria are directly responsible for the presence of substantial numbers of people in the area from Yarrawonga in the east to Merbein in the west. The effects of irrigation are perhaps most striking in the Sunraysia area, where the transition from arid Mallee scrub to rich vineyards or citrus plantings is sudden and spectacular.

In the Goulburn Murray Irrigation District the difference is rarely quite as dramatic, but the contrast between the dairy country of Tongala and Echuca and the grazing lands just across the River is still very marked. Table 3.4 has given some indication of just how marked an effect the development of irrigation has had.

Attempts to put numbers on the extent of the population increase due to irrigation are made difficult and imprecise by the large number of variables involved. It is also virtually impossible to estimate what the population of a city such as Shepparton would be now if there were no irrigation around it.

One method of attempting to estimate the direct contribution of irrigation to the population of northern Victoria is to compare the population density, measured by the number of residents per square kilometre, of irrigation areas with that of similar areas nearby. Table 3.5 compares the population densities of a number of local government areas that have very substantial areas of irrigated land in them with the population densities of nearby and broadly similar local government areas that have little or no irrigation within them. Urban areas that lie more-or-less entirely within a shire have had their area and population added to those of that shire in the table, while those lying at a shire boundary have half their area and half their population added to the shire total.

Table 3.5 shows that the Shire of Cobram has an area of 440 square kilometres, the vast majority of which is within the Goulburn Murray Irrigation District. With an estimated resident population of 6410 at 30 June 1981, it has a population density of 14.6 people per square kilometre. Immediately across the River Murray is the Shire of Berrigan, much of which is not part of an intensive irrigated agriculture project. This Shire has an estimated resident population of 7650 (at 30 June 1981) and an area of 2050 square kilometres: its population density is thus 3.7 people per square kilometre.

TABLE 3.5

POPULATION DENSITIES OF PREDOMINANTLY IRRIGATED AND PREDOMINANTLY  
NON-IRRIGATED LOCAL GOVERNMENT AREAS

Local Government Area	Population Density (1)	Area (2)	Population (3)	Ratio (4)
Cobram	6410	440	14.6	3.9
Berrigan (includes Tocumwal)	7650	2050	3.7	
Cobram	6410	440	14.6	2.0
Yarrawonga	4580	630	7.3	
Rodney and $\frac{1}{2}$ Kyabram	17600	1040	16.9	5.4
Euroa	4330	1410	3.1	
Cohuna	4760	500	9.5	10.5
Wycheproof	3900	4120	0.9	
Numurkah	6160	720	8.6	1.6
Benalla (City and Shire)	12860	2340	5.5	
Deakin + $\frac{1}{2}$ Kyabram	8930	970	9.2	2.6
Huntly	3130	880	3.6	
Mildura (City and Shire)	34810	10570	3.3	11
Wentworth	7100	26170	0.3	
Mildura (City and Shire)	34810	10570	3.3	11
Walpeup	3700	10800	0.3	
Kerang (Borough and Shire)	8780	3280	2.7	3.9
Wakool	5200	7550	0.7	
Deakin and $\frac{1}{2}$ Echuca	10190	970	10.5	5.8
Murray and $\frac{1}{2}$ Deniliquin	7980	4390	1.8	
Average ratio =				5.8

For notes (1) - (4) see next page.

## Notes for Table 3.5

- (1) Estimated Resident Populations at 30 June 1981. Victorian figures are from Australian Bureau of Statistics Estimated Resident Population in Local Government Areas, Victoria, 30 June 1981 and 1982, Catalogue number 3201.2, 6 July 1983. New South Wales figures are from Estimated Resident Population and Components of Change in Local Government Areas (Final) New South Wales, 1976 to 1981, catalogue number 3208.1, August 1983.
  - (2) Areas in square kilometres. All figures from Australian Bureau of Statistics.
  - (3) Number of residents per square kilometre.
  - (4) (Number of residents per square kilometre in irrigated area) divided by (Number of residents per square kilometre in dry land area).
- 

The largely irrigated Shire of Cobram thus supports almost four times as many people per square kilometre as does the largely unirrigated Shire of Berrigan.

The average amount by which the population densities of the irrigated shires shown in Table 3.5 exceeds the population densities of the unirrigated shires is almost six. Note that this calculation in one sense underestimates the effect of irrigation, because very few shires are all irrigated and so the population density of the whole shire is less than that of the irrigated part, and many of the shires marked predominantly non-irrigated have some irrigation within them.

Another estimate can be obtained by adding the populations and areas of the twenty local government areas along and near to the south bank of the River Murray from Yarrawonga to Mildura that have substantial irrigation areas in them, and compare the results with the ten local government areas along and near to the north bank of the River: the results are shown in Table 3.6. The areas south of the River contain about 170 000 people in 35 000 square kilometres, compared with about 46 000 people in 76 000 square kilometres in north of the River. The largely irrigated areas in Victoria thus support eight times as many people per square kilometre as the adjacent and largely unirrigated areas of New South Wales. Although there are other differences, the biggest difference between these areas is the presence of the very large-scale irrigation schemes south of the River.

TABLE 3.6

POPULATION DENSITIES OF EXTENSIVELY IRRIGATED AREAS  
SOUTH OF THE RIVER MURRAY AND OF GENERALLY UNIRRIGATED AREAS  
NORTH OF THE RIVER MURRAY (1)

	Total Popu- lation	Total Area	Popula- tion Density	Ratio
South of River Murray (2)	170 390	34 900	4.9	
				8.1
North of River Murray (3)	45 800	76 060	0.60	

## Notes for Table 3.6

- (1) Figures from the same sources as in Table 3.5.
- (2) Comprising all of the following local government areas : Yarrawonga, Tungamah, Cobram, Numurkah, Shepparton Shire, Shepparton City, Rodney, Nathalia, Deakin, Waranga, Echuca, Rochester, East Loddon, Gordon, Cohuna, Kerang Shire, Kerang Borough, Swan Hill Shire, Swan Hill City, Mildura Shire, Mildura City.
- (3) Comprising all of the following local government areas : Corowa, Jerilderie, Berrigan, Conargo, Deniliquin, Murray, Wakool, Windouran, Balranald, Wentworth.

Large-scale irrigation projects and closer settlement policies have thus been highly successful in permitting large numbers of people to live in areas where dryland farming alone would be unlikely to support them. Indeed, if these 20 Victorian local government areas were inhabited at the same population density as the adjacent parts of New South Wales, their total population would be only about 21 000.

In other words, although other factors are present as well, irrigation has probably increased the population in these areas by about 140 000. This is the result of the vision and determination of people like Elwood Mead and the Chaffey brothers, and of those who worked with them and after them.

\* \* \* \* \*

### 3.4 Recreation and Tourism

Water based recreation, using both natural and man-made facilities, is one of the State's major economic activities - and moreover one of the fastest growing. Man-made facilities, which have been developed either to provide water supplies or to manage water resources, have great potential to provide a range of recreational opportunities, both active and passive. Often these benefits derive from the location of storages in scenically attractive areas or in areas having significant landscape values. Often storages and their associated support facilities enable public access to areas otherwise difficult to get to for the majority of the population.

The assessment of the recreational values of water resources which have been developed for supply purposes is very complex. This is due largely to the often countervailing effects of such developments on the resource base itself. That is, while on the one hand "development" creates the potential for a range of recreation opportunities, it also pre-empts or forecloses upon a range of other recreational opportunities. Different groups within the community may be affected, so that complex social equity problems arise.

The Committee has received a considerable amount of comment on the recreational and aesthetic values of facilities constructed for water supply purposes. It is, however, important to stress that overall very little reliable information exists in a format which is suitable for analysing these values in an objective fashion. The discussion that follows is, as with other parts of this Chapter, descriptive of benefits alone with no reference to costs or problems, or to possible alternative ways of achieving these benefits.

In several parts of Victoria, facilities built for irrigation purposes or settlements initially developed for irrigation purposes have become of considerable importance as recreation or tourism centres. Thus facilities such as Lake Eildon and Lake Hume are popular boating and fishing areas, and the Mildura area is a major tourist centre.

The major recreational activities on irrigation facilities are boating and swimming. Power boats and water skiing are very popular on storages such as Lake Eildon, Lake Hume, Lake Nagambie, Lake Mulwala (Yarrawonga Weir) and Lake Eppalock.

Sailing boats are also used on these lakes, but in smaller numbers. Large numbers of people also visit these and other lakes without boats, to picnic by the waters and perhaps swim. On Lake Eildon houseboats may be hired by the day or week. On many of the irrigation storage lakes, fishing is also very popular.

Reliable figures for the numbers of people using the facilities in these ways are not available. The most accurate figures that are available come from the National Parks Service. This Service keeps accurate records of visitors to Fraser National Park, which contains some of the main boating access to Lake Eildon. In 1982-83, this Park had 46 000 day visitors and 39 000 camper nights. The Service also has rough estimates of the number of visitors to Eildon State Park, which covers a larger area than Fraser National Park but is generally more remote and is less accessible to boat trailers. In 1982-83 the State Park had about 5000 day visitors, and about 12 000 camper nights. The National Parks Service has no estimates of the numbers of boats launched through facilities at Eildon State Park.

Although recreational use of many irrigation storage facilities is permitted and is quite large in scale, the facilities are not managed in such a way as to maximise recreational opportunities. Thus some storages are entirely closed to the public (for example, Tullaroop Reservoir). Others are closed at, say, six o'clock in the evening, and camping is rarely permitted adjacent to these various lakes. In dry years the considerable fall in water levels greatly reduces recreational opportunities, and can substantially disrupt established patterns of use - particularly in Lakes Eildon and Hume. In addition, the construction of some irrigation facilities has destroyed some recreational opportunities: for example, Lake Eildon has destroyed some bushwalking and camping opportunities as well as river fishing areas, and Lake Dartmouth has flooded one of Victoria's finest white-water canoeing rivers.

Despite these limitations and costs, large numbers of people clearly do make quite extensive use of many irrigation storage facilities for recreational purposes.

The economic contribution of recreation and tourism is very hard indeed to assess, largely because the sort of data that would allow any reasonably objective evaluation is not collected. One rough assessment can be made with the data that is readily available. The Australian Bureau of Statistics each year calculates and publishes the total annual takings of all tourist accommodation facilities for

accommodation only, for each region in Victoria. Facilities covered include hotels, motels, guest houses and caravan parks.

A measure of the economic importance of tourism in each region can be obtained by dividing these annual accommodation takings by the total population of the region. In the Melbourne region, the accommodation takings in 1981-82 were \$68 million : over a population of 2.8 million, this is an annual figure per resident of only \$24, the lowest of the twelve regions into which the Bureau divides Victoria. The total takings for accommodation in Northern Mallee were almost \$9 million, higher than in any region other than Melbourne. The region is thus one of the most important tourist areas in the State. The highest annual accommodation takings per head of resident population is \$122, also for the Northern Mallee region. This suggests that tourism is of greater economic importance to this region than it is for any other region of the State.

Without large-scale irrigation, the Northern Mallee region would be virtually entirely dry and largely unproductive Mallee scrub. The warmer climate and the much greater amount of winter sunshine than in southern Victoria mean that, even without large-scale irrigation, some tourist facilities would probably have been constructed there. However the presence of the extensive irrigation settlements centred on Mildura and Swan Hill has undoubtedly contributed very substantially to the area's attraction as a tourist centre.

Other regions with substantial irrigation areas in them are Goulburn and Loddon-Campaspe. In terms of both total annual accommodation takings and of annual accommodation takings per head of resident population, these are both at or slightly lower than the average for the non-metropolitan regions. This suggests that, despite several heavily used facilities, tourism is not a major component of the region's economy, and nor are these regions major tourism centres for the State. The contribution to the State of recreation and tourism associated with irrigation facilities in these areas thus appears to be low.

On the general question of recreation and tourism, it should be noted that these are amongst the most rapidly growing industries at present. As this trend is expected to continue tourism may well become economically more significant than irrigation in some areas. Changes to management plans and practices may then become necessary.

### 3.5 Hydro-Electricity and Flood Mitigation

Hydro-electricity is generated at power stations at the following major water storages in Victoria: Lake Eildon, Lake Dartmouth, Lake Cairn Curran and Lake Hume. Hydro-electricity is also generated in the Kiewa Scheme on the Bogong High Plains, and at Rubicon, but neither of these is associated with major storages. The contribution of these stations to Victoria's total electricity production is small, being only about three per cent. Of their total potential generating capacity of some 1500 gigawatts hours per annum, the stations produce on average about 600 gigawatt hours.

At the four main storages, most of the water that is released for irrigation is allowed to pass through the power stations to generate electricity. The State Electricity Commission has some influence over the time of day at which the water is released, thus allowing the power to be generated at times of peak load. Water that passes through these stations is in effect used twice: first, for generating electricity and second, for irrigation.

Few details appear to be available on the economics of such an arrangement, but the Centre of Policy Studies estimated the annual net benefit of the electricity so generated at \$10 million (Centre, Appendix D, p 4).

Water storages built and operated for water supply purposes can and do contribute to the mitigation of the damage caused by flooding. The maximum contribution to flood mitigation would be provided by keeping storages empty for as much of the time as possible, so providing maximum capacity to absorb flood waters.

The Rural Water Commission believes that the use of storages for water supply purposes is compatible with a limited flood mitigation role, while not permitting maximum flood mitigation. It has also been suggested that because irrigation leads to increased development and higher population densities on flood plains - as well as other places - it may in fact increase the potential for loss and damage by floods.

Very little analysis of this question has been done to date, and no firm conclusions can be reached.

## CHAPTER FOUR : THE OBJECTIVES AND PERFORMANCE OF IRRIGATION MANAGEMENT 1904-1984

### 4.1 Introduction

The Committee is required to assess the relevance to contemporary society of the objectives of public bodies that it is reviewing, and to assess the effectiveness with which those objectives are pursued. In this Section, these assessments are made for the basic objectives of the Commission.

Assessments of effectiveness can be carried out in a variety of ways, and on a variety of levels. The Committee's concern in this Chapter is with effectiveness at the most fundamental level: how effective has the Commission been in achieving the primary purpose or purposes for which it was established. In addition, the Committee's task is to make this assessment on the basis of relevance "to contemporary society" - that is, to society in general, rather than to any specific group within it. Thus its evaluation must be in the broad context of the effectiveness and relevance to the people of Victoria as a whole. In many matters, this may well be the same as their relevance to specific key groups, such as irrigation farmers, or food processing companies, or dry-land farmers, and so on: but for other matters the interests of these groups may not be entirely the same.

To assist in achieving their fundamental purpose, organisations usually establish many operational objectives. It is not uncommon then for these operational objectives to become in practice the objective of the organisation, rather than being primarily a means towards achieving the fundamental purpose. Such a displacement of goals frequently leads an organisation into becoming unduly dependent upon one particular method or technique or style of approach, with a resulting loss of flexibility in its pursuit of the original purpose of the organisation.

Organisations as large and complex as the Commission have many operational objectives, that frequently overlap with one another and may even compete. When the performance of the whole organisation is being considered, the emphasis needs to be on the basic objectives of the organisation. That is, the assessment needs to be in terms of the purposes for which the organisation exists.

In the case of the Rural Water Commission, this is not an easy or straightforward task, because clear fundamental objectives for the organisation are not easily found. The Water Act 1958 as amended to 1984 contains a listing of the powers and objectives of the Commission, but it contains no statement of any fundamental objective for the Commission - no statement that indicates why the Commission exists or how its success should be measured.

The Committee recognises that this is not unusual, and that very few of Victoria's public bodies contain such statements in the statute that establishes them. In its Tenth Report to Parliament, on the Small Business Development Corporation, the Committee noted that the Small Business Development Corporation Act 1976 contained no clear statement of the fundamental objectives of the Corporation, but did state that: "The Corporation shall have power to do all things necessary" to advance small business (emphasis added). As these words clearly cannot mean what they say, what do they mean? The statement gives no indication of why the Corporation was set up, of what particular goals it should pursue, or of what priorities it should observe - or, less directly, of what principles it should observe when setting its own priorities. More or less the same observations apply to the State Rivers and Water Supply Commission and to the Water Act 1958.

In the case of the Commission, it is also important to note that there have been many changes in its operations and in the Act governing it since the passage of the Water Act 1905 under which it was established. In this Chapter the Committee has sought to establish the fundamental objectives of the organisation, and has then made an assessment of the effectiveness of the Commission in meeting these objectives. The Chapter concludes with an evaluation of the relevance to contemporary society of the objectives.

In submissions, in evidence, and in private discussions with irrigators and with Commission officers, it has repeatedly been stressed that the manner in which present arrangements have developed over the decades is of very great importance. The Committee agrees that an accurate understanding of the basic objectives of the Commission in fact cannot be obtained without taking an historical perspective, and examining the objectives specified at different times since 1904.

## 4.2 The Objectives of Irrigation Management 1904-1908

### 4.2.1 Government Objectives

In 1904 the Government introduced sweeping - even quite radical - changes to the policies governing the management and administration of irrigation in the State. These changes were provoked by the financial crisis that affected the industry in that year. The objectives of these changes were clearly expressed by the Honourable George Swinburne, then Minister for Water Supply, in introducing the Water Acts Consolidation and Amendment Bill into Parliament in September 1904. During his second reading speech, Swinburne said:

"The irrigation question is presented to us under two aspects. First, it is an absolute necessity to conserve the whole of the available waters of the State, and to distribute them to the best possible advantage and obtain the best beneficial use of them in production. At the same time, in carrying out this great order, it is necessary that the Government should see that the money is spent in the most business-like manner, and that the system should pay its way as far as possible" (VPD 1904, p 1418).

Later in the same speech, he repeated the two objectives that the Government had in mind in formulating its policies rather more pointedly:

"Not only do you want to get an adequate return for the money which you have invested in the channels and headworks, but you also want so to rate the lands as to encourage production" (p 1424).

Swinburne went on to say:

"I should not be at all surprised if, in the next fifteen or twenty years, some of (the irrigation) districts will return 6 per cent, 7 per cent or 8 per cent to the State on account of the water supply" (p 1425).

The objectives and expectations of the Government in 1904 were clear enough. In fact, the fundamental objectives had changed little since the first Irrigation Act, introduced by Alfred Deakin in 1886, and were twofold: first - to develop the land and water resources of the State and to obtain the best beneficial use of them in production, and second - to achieve this in an efficient manner resulting in a direct financial return to the State. These two objectives were to be achieved "at the same time".

It is important to note that in their extremes, these two objectives are not necessarily mutually consistent. Thus if a policy were chosen that concentrated solely on achieving the maximum direct financial return to the State, it would be expected to develop for irrigation only the most productive lands, and only those capable of being supplied by comparatively short channels from storages of only medium size and cost. High productivity and high value crops would be produced, and rapid response to changing market and technological conditions would be encouraged. The total area closely settled through irrigation and the total agricultural production could be expected to be rather less than at present, although it is not possible to estimate by how much. Such a policy might well succeed in generating the kind of positive, direct rate of financial return to the State envisaged by Swinburne.

In contrast, a policy that concentrated solely on the development of water and land resources and that sought maximum total agricultural production might - in the extreme case - provide irrigation water free of charge to all who requested it. This could generally be expected to result in larger areas of land being closely settled than at present, and the total production might be larger than at present, although once again it is not possible to estimate by how much. Such a system would involve very large capital and operating costs to the State, and with no direct income the State clearly could receive no direct return - it would instead suffer a substantial direct loss.

These two positions are both rather unrealistic extremes, and the Committee is not suggesting that Swinburne or anyone else has seriously advocated either. But these extremes do illustrate that some degree of difficulty exists in simultaneously achieving the two objectives so clearly stated by Swinburne. Many of the measures that might be introduced to further the development objective could be expected to hinder the achievement of the financial rate of return objective, and vice versa. The task facing the Government and the new State Rivers and Water Supply Commission in 1905 was to find an acceptable balance between the two.

#### 4.2.2 Statutory Objectives

While the intentions of Government as explained in a speech to Parliament are clearly of considerable importance, the manner in which those intentions are transferred into legislation is usually of far greater influence on the subsequent

operations of an organisation. The particular organisational or administrative arrangements specified in legislation, or procedures that the legislation requires an organisation to follow, may in fact make it extremely difficult for the stated objectives to be achieved. In particular, when administrative details are prescribed in legislation, the goal of those details can easily be forgotten within the organisation, and the goal displacement referred to in section 4.1 can all too readily occur. In its Tenth Report the Committee has noted its view that, as a general rule, legislation should say little about administrative details, in order to avoid this kind of problem.

The Water Act 1905 specified a framework within which the Commission was expected to manage and control the works of water supply and drainage vested in it. The Commission was not given executive powers to develop the irrigation system. These powers and responsibilities remained with the Parliament which authorised expenditure, the Minister who could require the Commission only to prepare advice on policy for the development and management of schemes, the Governor in Council who set the terms and conditions under which water was supplied to irrigators, and the Board of Land and Works which carried out the construction work.

The Act provided no yardstick against which to measure performance. In addition, it provided no guidance or advice to the Commission on how it should allocate priorities or decide on features or characteristics of the system to concentrate upon or emphasise: nor did it explain or define terms like "best possible advantage" used by Swinburne in his speech.

The Act introduced a charge for irrigation based on the rateable value of irrigated land exclusive of capital improvements. Such a charging principle quite explicitly and intentionally was intended to return to the State a share of the increase in the value of privately owned lands generated by the State's investments in irrigation systems. This provision was a clear operational expression of Swinburne's policy that an adequate return on the State's investment be made, although the Act contained no directive to or requirement upon the Commission to earn sufficient revenue to return any sum to the State.

### 4.3 The Objectives of Irrigation Management 1908-1984

#### 4.3.1 Changes in 1908

In 1908 the Government announced comprehensive changes in its strategies for the management of irrigation in Victoria, and consequent changes to the Water Act. Neither the Government's objectives for irrigation nor its commitment to irrigation development within the State were altered by this change in strategy. On the contrary, the new strategies were designed to bring about a more rapid and satisfactory development of the State's irrigation systems and to create broader opportunities for settlement on irrigated land.

In essence, the new strategy halted further expansion, and sought consolidation of development until such time as the available water resources were fully utilised by landholders. At this time, only about 20 per cent of potentially irrigated land capable of being supplied from existing channels was in fact utilised for this purpose, despite an over-capacity in distributary works. The resulting Water Act 1909 was of great importance, because it played a large part in setting the philosophy of the Commission for most of the following 25 or 30 years. But like its predecessor and like most legislation, this Act specified functions for the State Rivers and Water Supply Commission, not objectives and explicit goals.

In the absence of a clear statement in the legislation of why the Commission exists and of what its fundamental objectives should be, guidance must be sought from Government policy statements and by inference from the legislation, from publications of the Commission, and from the Commission's actions.

In a major policy statement in 1908, which provided the basis for the 1909 Act, the Government re-affirmed its objective of a financial return, and adopted as its principle strategy for the achievement of its objectives subdivision and "thorough cultivation of soil and economical use of water supported by compulsory payment for water rights" (Swinburne in VPD 1908, p 1094).

The ideas in this statement and the changes introduced by the 1909 Act were to a large degree at the instigation of Elwood Mead, the first permanent chairman of the Commission, whose ideas closely matched the concerns that the Government had at

the time. Mead considered that "small holdings and closer settlement were the surest method of assuring the success of irrigation development" (East, p 38).

The Act introduced fixed water rights and compulsory payment for full water right in order to encourage or if necessary force landholders in irrigation areas to make use of the irrigation system. The earlier irrigation trusts had failed, in part because many of the landholders in their areas did not want to be irrigators. The trusts often developed water supply channels over large areas in order to supply small volumes of water for irrigating limited portions of large landholdings. In dry years insufficient water was available, and in wet years landholders would not need to use any irrigation water.

Mead - and the Government - were convinced that irrigation as a sideline on larger properties could not succeed, and so the water right and the compulsory payment for it were introduced. The 1909 Act put this strategy into effect by repealing the 1905 system of payments based on rates, and replacing it with essentially the present system of fixed water rights and compulsory payment for that right, whether the full water right was used or not.

The compulsory charge for the water right was intended to have the effect of compelling "those owning land in irrigation areas to make use of the water provided, or to sell their lands to those who would develop them, and thus put an end to leaving vast tracts undeveloped while being held for speculative purposes" (East, p 38). These new charging principles were thus intended to encourage - or force - closer settlement and more intensive use of land and water.

The Government clearly recognised that "water for irrigation was worth more than the cost of supplying it" (Minister's Policy Statement 1909, p 2). It was still required in the new Act that the charges levied cover all costs (with certain specified exceptions), including operating expenses, capital redemption at two per cent, interest at four per cent, and replacement, and the earlier intentions of achieving a direct financial return to the State were repeated in the 1908 policy statement. However, the change in the charging basis and the rhetoric that accompanied it indicates that the new strategy placed less immediate emphasis on the financial return objective, although this was still seen by the Government and by Mead as appropriate in the longer term.

These provisions clarified and formalised the financial obligations of the irrigation system, beyond those set out in the original 1905 legislation. In practice, they were not to operate in the way in which the Government envisaged. In order to achieve some acceptance of these new policies, the Government allowed a period over which they would be phased in: however the carefully planned procedures planned were not followed through, and charges were not adjusted in line with the Act.

The State from then on went considerably further in using irrigation as the basis for closer rural settlement and regional economic development, and it took a strong positive role. Extensive schemes of acquisition of pastoral land in irrigation areas, and its subdivision into small irrigation blocks to create whole new irrigation communities, commenced soon after the Commission was established. Soldier settlement schemes after both World Wars, and closer settlement schemes developed by the Rural Finance and Settlement Commission, are further indicators of the importance attached to the Government's intention to promote the more intensive use of land and water resources. Between 1909 and 1928, the State Rivers and Water Supply Commission acquired about 85 000 hectares which had supported only 232 families, and subdivided it into 3900 irrigation blocks, each supporting at least one holding.

Despite the specification in the Act of the basis on which charges were to be levied, despite the role of the State Rivers and Water Supply Commission in being responsible for determining these changes, and despite the Government's intention of placing this Commission beyond the influence of politics, final approval of charges lay with the government of the day (East, p 40).

Economic difficulties associated with the First World War and then with the Depression, coupled with very strong political pressures, meant that governments consistently kept increases in water charges well below increases in costs. For example, wages in Victoria almost doubled between 1909 and 1921, but governments allowed irrigation charges to increase by only 20 per cent. This again amounted to placing less emphasis on the second of Swinburne's objectives than on the first. The resulting low revenue, and the high costs of the capital-intensive system that developed, led to the second great financial crisis of the irrigation system, in the mid-thirties, and to the appointment of a "Royal Commission on the Expediency of Amending the Water Act 1928 and Other Matters" in 1936, chaired by Mr David McClelland and known as the Royal Commission on Water Supply.

#### 4.3.2 The Royal Commission on Water Supply

While the Government clearly had twin objectives for the provision of water services to the irrigation sector in both 1905 and 1909, it was increasingly apparent that the objective of a direct financial return was not being realised in the manner that had then been envisaged. The Royal Commission on Water Supply was appointed to investigate (amongst other things) the finances of the system. The Royal Commission was rather direct in its assessment of the manner in which these original objectives had been achieved. In its report the Commission concluded that:

"The State ... has suffered enormous direct financial losses as a result of the operations of the rural water supply system.

"Considered from the angle of financial results, the water supply systems have been most unsatisfactory to the State, and at least two-thirds of the annual cost has been borne by the general taxpayer or defrayed out of loans, the burden of which, in the long run, must of course also be carried by the general taxpayer" (Royal Commission, Final Report, p 10).

The Government responded to this criticism by asserting that the indirect benefits of the system - which had been mentioned but considered to be of very much lesser significance in 1905 or 1909 - justified its expense. In stating this it went even further towards favouring the first of Swinburne's objectives, and went close to abandoning the second objective - a direct financial return - entirely. The Royal Commission itself considered that the question of whether the indirect benefit offset fully the monetary losses as being "...to a great extent, still a matter for conjecture" (p 10).

The Royal Commission also found fault with the financial accounting and reporting systems in use, and concluded that reform of these "would provide for the information of the Government and the Parliament a means of measurement of the efficiency of the administrative and financial control by the State Rivers and Water Supply Commission" (p 51).

After the Royal Commission, and in line with the Government's change of emphasis referred to above, financial responsibility for all headworks and for some distribution works existing at 31 December 1937 was transferred to the State, although provision for eventually transferring this back to the Districts - and thus

the irrigators - was included. This relieved irrigators of the charges and greatly reduced any possibility of a direct return on the State's capital investment in these works being made. Irrigators were left liable for interest and redemption on only a portion of distribution works in their districts, but all future capital liability was to be borne by the Districts (unless Parliament resolved otherwise).

However, both the Government and the Royal Commission believed that the changes implemented in 1937 would prove successful:

"The capital accounts having been reduced to reasonable figures, the State Rivers and Water Supply Commission should thereafter be expected to conduct the irrigation and water supply districts, waterworks districts, and flood protection districts without further loss, rates and charges being fixed on the basis of cost of service - including interest on the adjusted capital" (Royal Commission, Final Report, p 52, and VPD 1937, p 838).

#### 4.3.3 Changes in 1944

During the years of the Second World War - many of which were drought years - irrigation charges again increased by much less than did costs, and the irrigation districts again fell heavily into arrears. In 1944 the entire capital liability for existing and new irrigation, drainage, flood protection and rural water supply works was passed to the State. Since then irrigators have been liable for only the operating and maintenance costs of distribution works.

In addition, in 1944 a substantial programme of expansion of major storages was announced by the Government, with the objective of "bringing about a balanced economy so far as primary production is concerned, by reducing to a minimum the disastrous effects of continually recurring droughts" (VPD 1944, p 519). Expansion of irrigation areas and the creation of new districts continued. Direct financial return to the State from these works did not feature prominently in the discussions. In fact, as with the 1937 changes, by relieving irrigation districts of liability for interest charges on all existing headworks, main channels and distributary works, the possibility of achieving such a return was again decreased.

Despite these further changes, the difficulties of keeping the income above costs remained: "The Commission has again and again been prevented from observing the requirements of the Water Acts which would have necessitated increasing irrigation rates and charges to meet rising costs" (East, p 40). By 1957, the accumulated deficiencies of the districts totalled \$4.2 million in 1957 values, or about two years' rates and charges.

Another important change introduced in 1944 was the explicit recognition that every water conservation project should be multi-purpose wherever possible. Thus projects were expected to serve at least two of purposes such as irrigation, town water supply, hydro-electricity generation, flood control, and so on. This policy has continued since then.

#### 4.3.4 Objectives in Practice

Despite insistence in the early rhetoric that irrigation should make a "handsome return" to the State, and repeated insistence in the legislation that irrigation should be economically directly self-supporting, it is clear that the system has not been allowed or encouraged to operate that way. A very strong desire to obtain closer settlement of rural areas and more intensive use of land and water - in both irrigation and non-irrigation areas - has consistently led to the relaxation of measures initially introduced with the aim of obtaining direct economic efficiency and a direct financial return to the State. A clear pattern of government decisions over almost 70 years has consistently favoured the objective of closer settlement and increased production ahead of the other objective of direct financial return and economic efficiency. Specific closer settlement and soldier settlement schemes provide more evidence for the same choice of basic objective. The consistent dominant objective of the Government - as distinct from those initially proclaimed - for the irrigation system fairly clearly has been to maximise the use of water and land for the purpose of increasing total agricultural production from irrigated areas.

#### 4.3.5 Changes 1970-1984

The 1970s brought a number of further changes, which included examination at the national level of some issues and the production of the first National Water Resource Policy. An increasing level of concern over problems in the Murray Darling

Basin has led to a number of inquiries, and quite recently to a major rewriting of the River Murray Waters Agreement.

There have also been increasing concerns about the economic bases and the environmental effects of water use. At the same time, the long period of physical development of the water resource infrastructure was coming to an end. There were several reasons for this, of which one of the more important was that all of the most economical water resource development projects had been completed. Thus most of the remaining possibilities for major storages and the like were in difficult or expensive sites, or in areas with less reliable water sources, and so on.

The 1970s also brought economic difficulties to many irrigators, and a questioning by some of the level of efficiency of the State Rivers and Water Supply Commission. This questioning led to the establishment in November 1976 of an Inquiry into the Goulburn Murray Irrigation District, conducted by Mr A G Robertson. This Inquiry reported to the Premier in June 1977, and made a number of important recommendations. According to the 1984 report by Mr G A Birch (see Chapter Five), "these recommendations were largely unheeded" (p 109).

The cumulative nature of change, and the necessity for a planned response to its emerging new environment, led the Commission in 1980 to review some of its policies, objectives and internal structures, in a major symposium on "Resource Management for the Eighties". A major review of operational management by the Public Service Board in June 1980, and the initiation by the Commission of a corporate planning system in 1980 are further examples of the steps taken to respond to the changing environment.

The 1970s and early 1980s have also been a period of increasing scrutiny of all aspects of public administration, throughout Australia. One manifestation of this was the establishment of the Public Bodies Review Committee in March 1980, and the April 1980 reference to the Committee for review of "the State Rivers and Water Supply Commission and each constituted water, sewerage, drainage and river improvement trust or authority, with the exception of the Melbourne and Metropolitan Board of Works".

Since 1982, many of the recommendations of the Public Bodies Review Committee have been implemented, often in somewhat modified form. The most recent component of this process has been the implementation of some of the recommendations contained in the Committee's Eighth Report. This has resulted in the abolition of the State Rivers and Water Supply Commission and the Ministry of Water Resources and Water Supply, from 1 July 1984, and their replacement by the Rural Water Commission and the Department of Water Resources.

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#### 4.4 The Performance of Irrigation Management 1904-1984

##### 4.4.1 Fundamental Objective

In the previous Sections, the Committee reached the conclusion that for 70 or more years, irrigation in Victoria has been operated in practice with the development and maintenance of closer rural settlement as the dominant fundamental objective, although governments until the late 1930s regarded a direct economic return as a fundamental objective to be pursued at the same time. In the first instance, it is against this objective that the management performance of the Commission in irrigation should be assessed.

It is not appropriate to assess the 1904-1984 performance against objectives that the Committee might consider to be appropriate for 1984 and beyond. Nor is it appropriate to assess performance against objectives professed at various stages by the Government if the Government did not allow or direct the Commission to make serious attempts to meet those objectives.

It is, however, entirely appropriate to assess whether or not the operational or the theoretical objectives that were set as much as 80 years ago or have evolved over that period of time are still relevant. Such an assessment lies at the very heart of the Committee's task.

It would be quite possible and quite proper for the Committee to find that the Commission had been effective and efficient in pursuing its objectives - but that those objectives were now inadequate or inappropriate. It would, in this case, then be up to the Committee to recommend new objectives that were "relevant to contemporary society" and that could be expected to continue to be relevant for many years.

On the basis of considerable quantities of evidence, the Committee has concluded that the Commission has been effective in its pursuit of the fundamental objective that has in practice been its dominant goal: the use of irrigation to promote and sustain closer rural settlement. It has been effective in pursuing the first of Swinburne's two fundamental objectives. Much of the evidence for this achievement

has been summarised in Chapter Three. It is equally clear that the second of Swinburne's two fundamental objectives, that of the system paying its own way and providing a direct financial return to the State, has never been achieved and has in effect been abandoned as an objective.

It is by no means as clear whether or not the Commission has also been efficient in achieving the objective of development of the water and land resources. Indeed, the basic notion of efficiency for such a broad and complex activity as an entire irrigation system, with all its arguments over direct and indirect beneficiaries, social benefits and so on, is open to considerable confusion.

The Committee does, however, consider it to be highly probable that the Commission could have been substantially more effective and more efficient in its pursuit of this basic objective, if it had operated with different management principles and practices. This conclusion is based on the outline discussions of the wide range of problems and issues concerning the management of field operations, of engineering activities, and of the system as a whole that follow. These discussions are amplified substantially in Chapter Five.

The management functions by which the Commission pursues its objectives can be grouped into three: management of day-by-day or season-by-season field operations, management of large engineering construction works (new or large re-building), and management in the broadest sense of the system and of its long-term development.

#### 4.4.2 Field Operations Management

At the day-by-day or season-by-season level, there seems to be a widespread (but not universal) consensus in the evidence that the irrigation system is reasonably well managed. Irrigators within the Commission's districts appear to be generally satisfied with the operational performance of the Commission. For example, in its submission the Macalister District Water Users' League said: "In general terms irrigators are satisfied with the present operation and management of irrigation in this district" (Macalister District Water Users' League, Submission, March 1982).

The Goulburn Murray Irrigation District Advisory Council also commented favourably on the operations of the State Rivers and Water Supply Commission when

presenting evidence before the Committee. The Council believed "that most irrigators would agree that water is delivered to their properties effectively and efficiently". The Council also drew attention to the large increase in the operational efficiency of the State Rivers and Water Supply Commission as a result of the extensive remodelling which has taken place during the period 1950-1970 (evidence, p 2117).

In reviewing the operational performance of the State Rivers and Water Supply Commission, Neilson Associates concluded that the irrigation districts and the public stock and domestic systems have been operated "efficiently and effectively insofar as we can judge from available operational performance measures". They identified the following as significant operational achievements of the Commission:

- . increased water deliveries for irrigation, notably in the largest and most complex district, the Goulburn Murray Irrigation District;
- . increased efficiency of water deliveries for irrigation and other uses, in terms of the quantities of water delivered to farms relative to the quantities released from storage;
- . satisfied its obligation to supply water to the limit of water rights, despite recent dry years, and has in fact regularly delivered more than 100 per cent of allocated water rights in irrigation districts;
- . generally managed its storages and its water releases throughout irrigation seasons to balance the need for maximum supplies against supply security and use of storages for flood mitigation;
- . kept operating costs per megalitre at relatively constant levels in real terms; and
- . avoided major system failures (Neilson, p 9).

Neilson did, however, note that there were difficulties in obtaining consistent and systematic statistics on many aspects of the Commission's irrigation activities. While much information on the physical capacities of the system was collected, there was little that was or could be described as performance oriented; "The system of reporting is backward looking or historical, rather than forward looking, identifying future problems" (p 200).

In the absence of such information it is very difficult to determine just how efficient the Commission has been or now is in the execution of its field operations.

Several submissions have commented along similar lines. For example, the Tongala Advisory Board noted: "The Commission may be efficient and effective in its operations, but we have little criteria on which to form an opinion" (evidence, p 2209).

There have been substantial changes in the Commission's management information systems since the preparation of Neilson's report as part of the Commission's attempts to respond to the changes in its operating environment. The Committee, however, is not aware that these changes have yet adequately changed the emphasis from reporting on the physical performance of plant, equipment and storage and delivery systems, to reporting on the performance of the organisation itself and of its operational systems in output-oriented and economically-oriented terms. The State River and Water Supply Commission's Response to Neilson makes no claim that such measures have been introduced, its annual reports contain no such data, and no other information provided to the Committee suggests that such data is yet being compiled.

Overall, there has been little criticism of the field operations aspect of the State Rivers and Water Supply Commission's work, considerable praise, and some national and international recognition of the Commission's expertise. One of the few areas to have been queried is the alleged "conservatism" of the annual allocations of water. In general the Committee agrees with the conclusion of Neilson (p 9):

"The water storage and distribution systems are complex in character and in operation, and achievement of efficient operation of those systems is an achievement which should not be underestimated".

#### 4.4.3 Engineering Management

Although little direct information has been provided to the Committee on this, there is at present little reason for doubting that the management of large engineering works is effective. The Commission does not have a public history of engineering failures, and very little evidence has been presented to the Committee claiming any problems in this area.

The last forty years have seen a very intense period of capital investment in large engineering works by the Commission. This commenced in 1944, when the Government announced a programme of water conservation works aimed at doubling the then water storage capacity. In 1963 the Government announced a further large scale capital works programme to enlarge the available storage capacity. That programme has only recently come to its conclusion with the completion and commissioning of the Dartmouth Reservoir, the largest man-made storage in Australia, and perhaps the largest in the southern hemisphere.

Throughout this period organisational objectives and structures of the Commission were geared towards the management of this large and complex process of construction. In considering this period of water supply development, Neilson made the following comments (p 210):

"Our investigations indicate that the Commission is efficient in the management of major construction projects related to irrigation within the constraints imposed by funding limitations..."

"The project reporting system provided an effective control mechanism and head office receives early warning of problems and their causes."

The Committee has no reason for disagreeing with these conclusions.

#### 4.4.4 System Management

This term refers to management and development of the irrigation system as a whole, and it covers several main themes including water resource management, financial management, system planning, and allocation principles. Amongst the more specific tasks that come under this heading are:

- planning, allocation and management of water resources between irrigation and other uses;
- long-term planning of extensions to the irrigation system;
- long-term planning of enhancements to the existing system;
- development of strategies for setting priorities for proposed works;
- assessing the direct economic influences of proposed extensions or enhancements;

- . assessing relevant social, environmental and other influences that are not immediately economic of proposed extensions and enhancements;
- . investigating the possible consequences of alternative pricing and allocation strategies; and
- . corporate planning in the widest sense.

It is not the purpose of this section to analyse these matters in detail: this is done in Chapter Five. In that Chapter, the very large numbers of issues and problems that have developed within the industry over the years are described. Many of these matters have developed into problems because of some quite fundamental changes that have occurred in the economic and social environment of irrigation, and the most important of these changes are briefly discussed in the next Section of this Chapter.

These changes have caused some problems in the industry and have exacerbated others. The Committee is of the view, however, that the Commission's concentration on the fundamental objective of water and land development has encouraged it to concentrate on field operations and engineering works. The comparatively lesser emphasis on the second fundamental objective, that of direct financial return, has produced a corresponding lesser emphasis on the broader aspects of system management as a whole. The Committee believes that, in consequence, the irrigation industry has not responded adequately to the very great pressures placed upon it.

To a very large extent these weaknesses appear to have developed as a result of the concentration, for over 70 years, on the basic operational objective of developing and maintaining closer settlement and the lesser emphasis placed on the economic consequences of the manner of pursuing this objective and on the possibility of achieving a direct economic return to the State. The Committee therefore concludes that a number of fundamental weaknesses have developed in the ways in which the management of the irrigation system as a whole has been carried out, as a result of many changes. The major change is perhaps that the irrigation system itself has changed from being a pioneering system to being a mature system.

The Committee wishes to emphasise once again that the bulk of these comments refer to the position prior to about 1980. Since then, there has been a growing

awareness in the irrigation industry and within most Government agencies of the magnitude of the problems and of the significance of the changes in the environment within which the industry operates.

This growing awareness has produced very many changes within the industry, many of them produced directly or indirectly by the work of this Committee. The Committee recognises that substantial steps have been taken already to commence overcoming many of the problems that have been identified, although few of the problems have been entirely solved as yet.

The Committee does not wish to discuss in detail the changes that have occurred since 1980, and that are continuing as this Report is being prepared. Nor does it wish to analyse the extent to which these changes can be expected to cope with the problems.

What it does wish to do is to describe problems that face the industry and the community as a whole, to identify the most significant changes that affect the industry, and to indicate the general - and in some cases some fairly specific - directions that the industry, led by the new Department of Water Resources and the new Rural Water Commission, should take to respond to these problems and changes.

The Committee believes that many people in the industry will find it difficult to agree with its conclusions about the relative emphasis on the fundamental objectives, and with its conclusions on what has become inadequate system management for present and future conditions. The Committee considers it to be important in this context to point out that users of the systems are directly and immediately affected by the operations and engineering management activities of the Commission. Thus if there is ineffective performance on these activities, substantial adverse comment is rapidly generated. Conversely, if performance on these activities is operationally effective, then users are likely to be impressed and enthusiastic, and are likely to oppose any major changes to the status quo.

The present information and financial systems obscure any financial inefficiencies that might be present in these aspects of management, and so users - and indeed the rest of the community - are not generally aware of whether or not the Commission is financially efficient. Further, ineffectiveness in system management is unlikely to

produce specific day by day problems that immediately affect users and that are clearly the responsibility of the Commission: such ineffectiveness is more likely to produce inefficiencies or ineffectiveness in the system as a whole, without producing specific, clearly defined effects.

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## 4.5 Changes in the Environment of Water Resource Development

In assessing the continuing relevance of the basic objectives of the irrigation systems, it is necessary to note carefully a number of highly significant changes that have occurred in the economic, social and technical environment of the industry. While the total number of factors influencing irrigation that have changed is very large indeed, the Committee considers that five in particular are of profound significance. These are:

### Change 1

There is now very much less emphasis on the need to generate closer rural settlement, as very large areas of rural Victoria are much more closely settled now than they were in 1905. Indeed, the emphasis now is on consolidation and rationalisation of farms in order to produce economically more viable enterprises. To a very large extent this change is a direct reflection of the success of the irrigation systems in achieving the first of the fundamental objectives, as has been described above. Section 3.3 of this Report has described in some detail the conspicuous success of the irrigation systems in generating this closer settlement.

### Change 2

There is now far more competition for the use of all of the community's resources, including water, land, capital and the skills of individuals. Over the last three to five years, in all areas of government activity, economic efficiency has been given much greater importance, as the increasing demands of the community have brought more and more pressure onto all available resources. Almost all sectors of private and government activity are being forced by this increased competition for resources to apply far more stringent criteria to their use of the resources.

### Change 3

Over the last 10 to 20 years, the rate of growth of Australia's gross domestic product has been quite low in comparison with those of the other advanced nations that are members of the the Organisation for Economic Co-operation and

Development. There is a growing belief that one of the major reasons for this is the fact that many of Australia's major industries are not organised in such a manner as to require or encourage their enterprises to operate in the most efficient fashion. As a result, there is increasing pressure to adjust or restructure industries, to make them more market oriented and more outward looking. This pressure is shown in many areas, State and Federal, and it is responsible for many actual or proposed changes to some of Australia's most protected industries. The massive restructuring of the clothing and textiles industry that has occurred in recent years, and the restructuring of the steel industry announced in January 1984 and of the motor industry announced in May 1984 - including reductions in real levels of protection - are examples. While there are undoubtedly other significant factors contributing to Australia's comparatively poor economic record, these structural problems are of great importance. The structural adjustments now occurring in a number of industries are intended to assist those industries in coping with further changes.

#### Change 4

Related to the increased competition for the community's resources, described above as Change 2, are some important changes in public administration. These have taken the form of steady increases in the demands for greater accountability for the use of the community's resources, be they of money, people, skills, or natural resources. No arm or agency of Government is immune to these demands, and the attempt to provide the required level of accountability has generated considerable work in many government agencies. Once again, the establishment of this Committee is one manifestation of this quest for greater accountability. Another is the passage of the Annual Reporting Act 1983, which requires agencies covered by it to produce quite specific information about their operational and financial performance.

#### Change 5

The long-term world demand for what have been and still are the major products of Victoria's irrigation farming (dairy produce, fruit) is probably not very large. The long-term demand for some potential major irrigation products (grains, vegetable protein) is probably very much larger, and some recent technological developments in irrigation have made the large-scale production of these in Victoria rather more promising.

All of the changes listed above are of fundamental significance to the irrigation industry. It is clear that many individuals and some components of the industry have recognised these changes - at least in part - and have responded appropriately. But it appears to the Committee that the fundamental objective and the basic operational strategies of the system have not yet changed in the way they should. That is, organisationally and operationally, the Commission has not responded adequately to these major changes in its environment and it has not previously been expected to do so.

The question arises of why the performance of the Commission in this regard has become inadequate, and several observations can be made on this. First, until very recently governments generally have not asked or expected the Commission to engage in broad system management: indeed, as has been detailed earlier in this Chapter, pressures from government have usually been in the contrary direction. Second, as has been noted above, economic conditions, the demands on State funds, and public attitudes have all changed rapidly over the past few years, and such management is now much more needed than it was in the past. Third, few other government agencies in Victoria carry out such management and so there have been no good organisational models for the Commission to follow. And lastly, the very heavy concentration on engineering skills within the Commission may have limited its ability to develop and apply this aspect of management and the related analyses in the absence of external pressures.

The result of these changes in the environment of irrigated agriculture is that, in the Committee's view, what has traditionally been the dominant fundamental objective pursued by the Commission is no longer fully relevant to contemporary society. As it is most unlikely that any of the major changes listed above are likely to be reversed, the inappropriateness of the current emphasis in the fundamental objectives is likely to continue to grow throughout the foreseeable future: a broadening of the objectives in some form is needed.

The Water (Central Management Restructuring) Act 1984 contains statements of objectives for both the new Rural Water Commission (which replaced the State Rivers and Water Supply Commission) and the Department of Water Resources (which replaced the Ministry of Water Resources and Water Supply). Those two sets of objectives are both new, and are as follows:

"Section 3A. The objective of the Department of Water Resources is to provide advice to the Minister on all matters relevant to the activities or functions of the Department to ensure -

- (a) that the water resources of the State are managed in ways which are most beneficial to the people of Victoria;
- (b) that water services are provided to local communities to the extent and to standards appropriate to the needs of those communities;
- (c) that water services and associated management, economic and financial practices and policies are provided and administered efficiently, economically and in a manner fully accountable to the Government and the people of Victoria;
- (d) that there is secured in the water sector a working environment which is safe and satisfying; and
- (e) that the management of water resources and the provision of water services are undertaken in a socially and environmentally responsible manner and in consultation with the appropriate authorities.

"Section 19A. In the exercise of its functions the Rural Water Commission shall pursue the following objectives:

- (a) To manage the water resources and water-related land resources entrusted to the Rural Water Commission in ways which are most beneficial to the people of Victoria;
- (b) To provide water services for irrigation, stock, domestic, industrial, commercial, recreational, environmental and other beneficial uses to the extent and to standards determined by the Government after consultation by the Rural Water Commission with the recipients of those services;
- (c) To provide its services efficiently and economically;
- (d) To provide a working environment which is safe and satisfying;
- (e) To operate and charge for its services in accordance with the economic and financial policies of the Government; and
- (f) To provide its services in a socially and environmentally responsible manner and in consultation with the appropriate authorities."

These objectives are substantial improvements over those previously specified, although they do not give any indication of how conflicts between the separate objectives are to be resolved and there are some important terms used in them that are not defined.

The manner in which these objectives are implemented, and the interpretations to be placed on some of the terms used, are crucial to the future patterns of water resource management and to the future development of irrigated agriculture in Victoria. It is the Committee's intention in the remainder of this Report to analyse some of the major shortcomings that have developed in these matters, and to use this analysis as the basis for recommendations on how the objectives now specified in the Water Act 1958 can best be interpreted and applied.

The application of these objectives and of the principles of management recommended by the Committee will of course generate further changes in the industry. It is most important that these changes be introduced carefully, and with extensive consultation with interested groups and individuals who will be affected by the changes. Where appropriate, the changes should be introduced gradually so as to avoid excessive social disruption, and if necessary, some specific measures to compensate for excessive disruption should also be introduced.

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## CHAPTER FIVE: ISSUES IN WATER RESOURCES DEVELOPMENT

From the submissions, evidence and consultants' reports the Committee has received, and from its own observations and discussions, it is clear that many important issues and problems have developed in the management of water resources generally, and in the irrigation industry specifically. It seems likely that many of these can be expected to become worse in the immediate future, unless strong and urgent measures are taken to resolve them.

The Committee considers it to be important to note that since about 1980, there has been a growing recognition, within Government and within the irrigation industry, of the existence and importance of many of these issues. To varying extents, actions carried out since then have started to tackle some of these issues, although few can yet be regarded as having been satisfactorily resolved.

In keeping with its operating principle of concentrating on constructive, future-oriented policy advice, the Committee does not intend to spend a great deal of time on discussing the causes of these problems. It may be that some of the problems have arisen because the irrigation system has in some respects failed to meet the objectives set for it, others may have developed because the objectives have themselves been or have become inadequate or incomplete, while yet others have their origins in matters far removed from irrigated agriculture itself. It is probable that in many cases all factors are involved, but there is little point in attempting to allocate causes between these possibilities.

The Committee notes that there has been no comprehensive analysis of what alternative uses might exist for most of the water used for irrigation. It should also be noted that the capital that has been committed to water resource development has been expended and cannot be recovered, although the State continues to bear the interest cost of that capital. In this Chapter, the Committee seeks to identify issues in order to assist in devising ways of better utilising the resources that Victoria now has available.

In the Sections that follow, the major issues as the Committee sees them are described and commented upon. Complete description of all of the issues and their consequence would be a very lengthy task, and it is not attempted here. The Committee's recommendations on tackling these problems are in Chapters Six and Seven. The issues are discussed in the following Sections:

- . structural issues, covering relations with other agencies involved in the management of water resources (Section 5.1);
- . resource management issues, covering matters such as the effects of the present methods of allocating water, and the contribution of water resource management to the social and economic development of the State (Section 5.2);
- . financial issues, including the nature and distribution of the costs of operations, maintenance, depreciation and capital (Section 5.3);
- . issues in agriculture and in technology, including the prospects for change in the production of various commodities, technological changes on farms and within the irrigation system, and the speed of change (Section 5.4);
- . environmental issues (Section 5.5);
- . administrative and management issues (Section 5.6); and
- . a short summary of the findings of the Chapter (Section 5.7).

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## 5.1 Structural Issues

### 5.1.1 Structural Changes Since 1980

When the non-metropolitan water industry of Victoria was first referred to the Committee, it was a very complex system of some 375 public bodies. These ranged from the State Rivers and Water Supply Commission, which in 1980 employed a permanent workforce of 1860 in addition to up to 1000 day labour employees and had a total budget of \$96 million, to water and sewerage trusts or authorities with budgets of \$2000 and less than one full-time employee. These bodies provided a variety of water supply services to just over one million people. Despite the size and importance of the industry, the Committee, in its First Report, noted that: "Consolidated information as to the aggregate size of the industry, in either financial or manpower terms, has not been available in the past..." (p 10).

Since 1980, the structure of Victoria's water industry has changed substantially, in large part due to the recommendations made by this Committee in its Sixth, Seventh and Eighth Reports. The most significant structural changes have been:

- . a reduction in the number of separate water and sewerage authorities by well over 200, largely through amalgamations and through absorption into local government; and
- . the abolition on 1 July 1984 of the State Rivers and Water Supply Commission and the Ministry of Water Resources and Water Supply, and their replacement by the Rural Water Commission and the Department of Water Resources.

Although not all the changes follow the Committee's recommendations, the Committee is in no doubt that the present arrangements are a major improvement on those that prevailed prior to 1980. The Committee also notes the improvements in information now available, in particular in the recent annual reports of the State Rivers and Water Supply Commission, and it looks forward to continuing improvement in this crucial matter.

The Committee recognises that further changes in the organisational arrangements of the Rural Water Commission and the Department of Water Resources are taking place, as they each adjust to their new roles. The Committee regards such structural change as desirable, as ongoing responses to developing organisational roles and to changing social, economic and marketing environments.

The Committee is, however concerned about the arrangements for interactions between the Commission and other agencies of Government that have roles with significant inter-relations with the management of water as a resource. Although few submissions to the Committee have commented on these matters, the Committee considers them to be of great importance. The Committee notes that, despite the improvements that have occurred, there is still no coherent set of firm policies, or even of general guidelines, to which agencies might refer in attempting to resolve overlaps, conflicts or duplication of activities.

### 5.1.2 Relations with Other Major Resource Management Agencies

The Water Act as amended states one of the objectives of the Department of Water Resources as being the provision of advice to ensure that the "water resources of the State are managed in ways which are most beneficial to the people of Victoria". The Committee considers that the proper pursuit of this aim is a task that necessarily involves a large number of agencies of Government. While it may, in the past, have been appropriate for these agencies to approach their part of the task in a comparatively independent manner, the Committee does not consider such an approach to be appropriate now. Indeed, the Committee is convinced that the major changes in the social and economic environments that were outlined in Section 4.5 above make stronger and more formal links between these agencies far more necessary than they have previously been. The Committee considers that a full and adequate response to these changes calls for substantial changes to the services provided to irrigated agriculture, changes that require equally substantial alterations to the relationships between all of the Government agencies concerned with the use of water resources. More details of the inadequacies of the present arrangements are given in the next section of this chapter.

With the exception of the Department of Agriculture and the Environment Protection Authority, which are discussed in more detail below, the formal relations of the Commission with other agencies are not well-developed at present. It is not easy to detail or document specific operational difficulties that have arisen in consequence of this, because the resulting inadequacies are more at the system level than operational. The examples of the Dartmouth Dam, salinity in northern Victoria, and proper management of the Murray Darling Basin, do however provide some insights into the problems.

The complex problems of managing the Murray Darling Basin have produced perhaps more research and analysis than have most other matters related to water resource management. The multiplicity of government agencies involved in this has attracted considerable comment from a variety of sources. For example:

"Under present administrative arrangements, the destiny of the Murray is very much in the hands of the central planning authorities, the various Local Government authorities, the River Murray Commission, and the various State water, sewerage and drainage authorities. Other important decisions are the province of environmental, forestry, tourist, road making, mining and Crown land authorities, to mention just a few. It is this proliferation of Federal, State and Local Government interests, that has led in the past to a lack of effective co-ordinated action" (Dunk, p 9).

In similar fashion, a major study by the Division of Water and Land Resources of the Commonwealth Scientific and Industrial Research Organisation on the research needs of the Murray Darling Basin, summarised its analysis of the relevant administrative structures with the words:

"Administration of land and water resources within the Murray Darling Basin is extremely fragmented, not only between States but also within States. Difficulties will be encountered in attempts to achieve co-ordinated implementation of Basin-wide research findings..." (CSIRO Stage 1 Summary Report, p 41, emphasis added).

While these views refer to the Murray Darling Basin, and thus only to northern Victoria, the Committee is not aware of any established and effective structural or operational mechanisms that operate elsewhere in the State to minimise the problems of resource management.

The Committee is not aware of any structural or procedural mechanisms for ongoing regular consultation and discussion aimed at integrating policies and co-ordinating operations between agencies such as the Rural Water Commission, agencies within the Department of Conservation, Forests and Lands or the Department of Planning and Environment, and the Department of Agriculture. There are frequent informal contacts, particularly at field officer level, and joint membership of working parties, steering committees, and the like is not uncommon. But at the more senior, policy-oriented level, formal mechanisms are few and important resource management decisions appear to be made very frequently with limited levels of co-

ordination. At least partly because of fragmented organisational responsibilities, the range and level of certain research and investigation services is quite inadequate. At the operational levels also, activities are often not well co-ordinated, and there are clearly areas in which adequate levels of advice are not getting through to irrigators.

The Committee accepts that the difficulties of obtaining adequate levels of co-ordination between agencies are very great, but considers it highly desirable that attempts be made. The recent re-arrangements of agencies to form the new Department of Planning and Environment and the new Department of Conservation, Forests and Lands, recognise the interactions between resource management functions, although more is needed in the way of ongoing and effective consultation and co-ordination. Little direct comment on this question was provided to the Committee in submissions or evidence, although the Catchment Education Trust has strongly advocated integrated catchment-wide management approaches to the Committee. The Committee considers this approach to be desirable in most areas.

### 5.1.3 Department of Agriculture

The Committee has received evidence on the overall relationship between irrigation, irrigated agriculture, and agriculture more generally, and on the corresponding relationship between the State Rivers and Water Supply Commission and the Department of Agriculture.

In their evidence to the Committee both the Department and the Commission attempted to define their existing relationship and to put forward suggestions for the development of that relationship. In evidence to the Committee in 1982, the then Chairman of the Commission defined this relationship in the following terms:

"Irrigation must be seen in the context of agriculture as a whole....the Water Commission believed it was appropriate that the Department of Agriculture be the agency through which the Government receives its primary advice on agricultural management. The Commission indicated that it had established an arrangement with that Department... the Commission would be looking to the Department to provide the macro-economic advice to the Government on agriculture generally. The Commission also seeks to develop its management policies within that framework" (pp 2835-6).

The Department of Agriculture has pointed to the necessity for better co-ordination between the Commission and the Department on policy advice and on the provision of a range of research, advisory and extension services to the irrigation sector. It presented a formal submission on this issue, in which it pointed out already well-developed interactions under the following headings:

- . interaction at the commissioners and directorate level, which has been formalised in one aspect of irrigation policy through the Victorian Irrigation Research and Advisory Committee;
- . interaction at the district and regional level; and
- . interaction at community committees, seminars and field days.

In evidence before the Committee the Assistant Director-General for Corporate Services of the Department of Agriculture, Mr R Taylor, outlined pressures for greater interaction between the two agencies, commented on some deficiencies in the approach adopted until now, and suggested mechanisms to improve co-ordination. He referred to the intensification of the interaction between the Commission and the Department as "State Rivers has gone from the development of water supplies as a major phase of its work to the maintenance of an irrigation system", and as "many pressures such as the emergence of salinity as a problem in the Goulburn Murray Irrigation District, and environmental (quality) and economic pressures have increased" (evidence, p 3184).

Mr Taylor went on to speak of the effects of changing approaches to public sector management, and of the consequent levels of co-ordination needed. He said:

"We are now in a climate where for the first time in Victoria a proper approach to programme management is being undertaken... There is a hierarchy of programmes developed from the Government level down which accepts that the first level of the hierarchy should be natural resources. If we are going to plan adequately in Victoria we have to start at that level...

"It is easy for a department such as the Department of Agriculture, or an organisation such as the Commission, to set its own objectives, its own priorities and have its own corporate plan without reference to the State as a whole" (p 3221).

Mr Taylor commented that the existing level of interaction between the Department and the Commission could be improved. He noted:

"...the interaction over the years has been ad hoc and has not been formalised from the top level down. It is time for more formality in interaction between bodies such as the Department of Agriculture and the Commission" (p 3221).

The need for better liaison between the Department and the Rural Water Commission has been highlighted in a recent report prepared for the Department of Agriculture by Mr G A Birch. He found defects in existing organisational arrangements, under which irrigation issues have little or no focus within the Department of Agriculture. His recommended solution was to appoint to the Department people responsible for water resource and irrigation issues, who would be required to liaise closely with a proposed Export Market and Product Development Group within the Department. Such proposals would create within Government two strong areas of advice on policy for irrigation matters - one within the agriculture portfolio, the other within water resources.

It is of interest to note that Birch's report was prepared for the Department of Agriculture alone, rather than - for example - for a joint steering committee or some such arrangement, and its chapter discussing "Proposed Victorian Government Objectives for Victorian Irrigated Agriculture" (pp 1-5) contains no direct mention of the State Rivers and Water Supply Commission.

The Committee has seen very little evidence to suggest that co-ordination between the Commission and the Department of Agriculture is at an adequate level.

#### 5.1.4 Environment Protection Authority

The Environment Protection Authority (EPA) in its 1984 submission to the Committee laid considerable emphasis on the need for avoiding fragmentation in pollution control. It noted that its own origins in 1970 lay in the "fragmentation of controls that then existed", with some 26 pieces of legislation being related to water pollution (1984 submission, p 2). The Authority went on to say that:

"The challenge facing water resource administration in Victoria is to ensure that both quantity and quality aspects are considered in a way which facilitates the efficient and equitable use of water resources, including the protection of aquatic ecosystems. To meet this challenge effectively the responsibility of the various agencies concerned must be clearly understood and well co-ordinated" (pp 2-3).

The Authority itself exercises its powers through the issue of licences for the control of wastes, and through State Environment Protection Policies.

These activities of the Authority are clearly of very great relevance to the Commission, and the need for co-ordination between the two bodies is heightened by the Commission's status as a delegated agency of the Authority for certain water related licensing and enforcement functions.

Protection of the quality of water resources is of extreme importance for all residents of Victoria. Sound, protective measures now are essential in order to maintain into the indefinite future the present quality and quantity of usable water. Already degraded water quality has led to a reduction in the irrigation value of some waters (such as Burrumbeet Creek), and the mechanism of a State Environment Protection Policy has been used to try to redress the problem (EPA submission, p 4).

The relationship between the EPA and such a large water management body as the Commission is clearly important. The EPA considers that the Commission, like other agencies interested in water management, should have a major role in the formulation of State Environment Protection Policies that relate to water: "It is important therefore that the (water industry) accepts its role as one of advocacy, but not the final determinant, with respect to water quality protection" (1984 submission, p 8).

The Authority considers that acceptance of this role has not always been forthcoming. On occasion, it states, some water agencies have shown:

"... a reluctance to accept some of the final requirements of State Environment Protection Policies ...without the State Environment Protection Policy process many ... issues would be internalised within the water agencies and resolved without the benefit of review and evaluation by an 'independent' body of all the factors involved" (p 8).

The Committee notes these views, although it does not intend to investigate the EPA's assertions in detail. However it does note that, in preparation of many water-related State Environment Protection Policies, the EPA must consult with the Forests Commission, the Soil Conservation Authority, the Fisheries and Wildlife Division, the Department of Minerals and Energy, Crown Lands Management, the Department of Agriculture, and on occasions other agencies, as well as water resource agencies, of which the Commission is the most significant.

The many agencies on this list all have major and legitimate interests in the use of water as a resource. It seems that at present the only aspect of water resource management in which formal consultation and negotiation between them is required is in the preparation of State Environment Protection Policies. The Committee does not consider this to be adequate.

#### 5.1.5 Department of Minerals and Energy

As noted in Chapter Two, most of the water supplied for irrigation in Victoria is derived from large-scale water storages generally at elevated locations, and is distributed by means of an extensive system of gravity-fed channels. In other states within Australia, and in many irrigation schemes overseas, groundwater is a major source of water. Under present trends groundwater is becoming an increasingly attractive option and in many cases represents a more cost-effective method of water supply.

Unfortunately, present organisational arrangements do not encourage the best use being made of groundwater resources. The Department of Minerals and Energy has the major responsibility for the development of groundwater resources, whereas the Rural Water Commission has responsibility for all surface waters. While there are several mechanisms for co-ordinating activities between the two bodies, it is clear that these have not produced the optimal level of development of both resources. This suggests a need for change to the existing arrangements in order to ensure that groundwater resources are more effectively managed in conjunction with surface waters.

### 5.1.6 Land Protection Division

The Land Protection Division of the Department of Conservation, Forest and Lands was formed from the Soil Conservation Authority in 1984. It performs several functions which are essential to sound water resource management within the State. These functions include catchment management and planning, river and stream management, salinity control and water resource assessment. The Committee in its Eighth Report made recommendations concerning the structural and organisational arrangements for catchment and river management at the regional level, and it adheres to the opinions expressed in that Report.

The Land Protection Division also provides more direct advice to landholders on the provision of farm water supply systems, some of which are used for irrigation purposes. The Authority, in its submission to the Committee of February 1981, noted that it had become involved in farm water supplies as an offshoot of its more fundamental objectives related to "development of environmentally sound land management practices" and "an increased need for integrated soil and water conservation schemes to overcome soil erosion" (Soil Conservation Authority submission, p 31). The principal service provided by the Land Protection Division is described in the following terms in the Authority's submission:

"The survey, design and construction of;

- (a) dams for stock and domestic water supply;
- (b) piped water systems for stock and domestic water supply;
- (c) irrigation dams;
- (d) irrigation systems".

Between 1972 and 1981 the Soil Conservation Authority designed approximately 400 individual farm pipeline schemes, 3500 farm stock dams and 150 irrigation dams (submission, p 34). These services are provided to landholders outside irrigation districts. Where the construction of such systems affects the flow of water within rivers or streams, under existing arrangements the Service must seek approval from the Rural Water Commission during the design phase of each project.

The Rural Water Commission provides farm water supply advisory services to promote the construction of on-farm storages to conserve winter run-off and stream flows. This service is provided to both irrigators and domestic and stock users. Advice relates to general layout, cost, construction, operation and maintenance of farm storages and water quality.

Given the apparent duplication between the Rural Water Commission and the Land Protection Division in the provision of these services outside irrigation districts, the Committee believes that it is desirable that these arrangements be reviewed and rationalised if necessary.

#### 5.1.7 First Mildura Irrigation Trust

The First Mildura Irrigation Trust was constituted in 1895 to operate and maintain the irrigation works of the Mildura Irrigation District. The District was not brought under the jurisdiction of the State Rivers and Water Supply Commission by the Water Act 1905, but continued as a separate entity. The Trust operates under its own Act of Parliament, the Mildura Irrigation Trusts and Sunraysia Water Board Act 1958. The Rural Water Commission performs a number of roles for the Trust, including:

- . administration of the private diversion licence under which the Trust receives its allocation of water from the River Murray system both on a seasonal basis and in the longer term;
- . responsibility for providing advice to the Minister for Water Resources on the overall works programme and funding arrangements for the Trust (analogous to the role historically performed for all local and regional water bodies by the Commission); and
- . provision of a range of technical and support services.

This range of functions suggests that although the Trust is technically autonomous, in practice its overall level of autonomy is not high. No serious problems over the relationship between the Trust and the Commission have been reported to the Committee.

## 5.2 Resource Management Issues

As has been discussed in Chapter Two, water is one of Victoria's most valuable natural resources, and like any such resource it is subject to a number of competing demands. Traditionally, and for the foreseeable future, irrigation is by a large margin the largest use of water, not only in Victoria but also in Australia as a whole. A number of fundamental questions can be asked about the way in which any major resource is used, and the Committee has considered it to be of primary importance for its review to examine these questions as they apply to water resource management. These fundamental questions, and the parts of this Section in which each is separately discussed in detail, are as follows:

- the allocation of water between alternative uses - the extent to which water use in irrigated agriculture and elsewhere has been integrated with other industries and with the use of other resources (Section 5.2.1);
- the allocation of water between users within irrigated agriculture -the processes and principles used to allocate water between differing users within the irrigation sector (Section 5.2.2);
- the effects which policies for the allocation and management of water resources have on the operations of individual irrigators (Section 5.2.3);
- the extent to which the policies for the allocation and management of water resources have effects which are consistent with regional and state-wide social and economic development (Section 5.2.4); and
- the nature of the irrigation systems that have developed in Victoria, in particular the comparative extents of private and public irrigation and the comparative roles of groundwater and surface water (section 5.2.5).

### 5.2.1 The Allocation of Water Between Alternative Uses

The relative scarcity of Victoria's water resources has been impressed upon the Committee in a number of submissions. Yet in the national context, Victoria has considerable water resources available, and has very large volumes of water in storages. This, combined with the compactness of the State, offers a substantial

comparative advantage to the State. To utilise this resource to the best advantage of the people of Victoria, in terms of both their social and their economic well-being, this comparative advantage should be managed with considerable care.

Many activities and many agencies of Government are involved in the use of this resource, and their needs and interests often overlap and may conflict to some extent. As has been noted in Section 5.1, no coherent set of policies has been developed and promulgated to ensure that these overlaps and conflicts are resolved in a satisfactory, equitable and efficient manner, and no adequate mechanisms exist to ensure that either the policies of different agencies concerned with water resource management are properly integrated or the operations of these agencies are adequately co-ordinated. Even in the document The Economic Strategy for Victoria, published by the Government of Victoria in April 1984, and which focuses on the economic development of Victoria over the next decade or so, there is no attempt to define the broad context within which the State's water resources and water services should be managed in order to achieve broader community objectives.

The Committee recognises that defining such a context and developing a coherent set of policies is not an easy task. It also recognises that attempts to define this context could easily become too rigid and too inflexible to cope with changing conditions. However, the Committee considers that some attempts should be made to establish a broad context: or at least to define a set of basic strategies that should be used to guide decision-making on the allocation and management of these resources.

The processes that are used to decide what water resources will be harnessed, and for what purposes they will be used, are central to the problems of the management of water resources. It is not proposed to repeat here the discussion of Section 5.1, but in view of the significance of irrigation within the total water sector, a brief examination follows of the processes that have to date been used to allocate water to that particular use. These processes are of considerable current importance, because there are at present volumes of uncommitted water resources in the Thomson, Dartmouth and Blue Rock Reservoirs, and there is a continuing debate on the principles and procedures that should be used to allocate these resources. The Committee feels that it is thus appropriate to refer to some of the issues involved within this Report. It is not the Committee's intention to pre-empt the inquiry by

the Salinity Committee of Parliament but the Committee does wish to identify some of the major issues related to the development of appropriate decision making procedures.

To illustrate the methods of decision making on major resource allocation matters, Neilson Associates examined the process whereby the decision was made to proceed with the Dartmouth Dam, as part of their 1981 study commissioned by the Committee. Their examination drew only on published material from the State Rivers and Water Supply Commission, and it made the following points:

"The principal criterion for allocation of water from Victoria's share of Dartmouth (500,000 megalitres) which the Commission advanced, was the need to 'rectify the overcommitment on existing headworks resources which resulted from allocations made under the 1964 Water Rights formula'...The overcommitment amounted to an estimated 310,000 megalitres. In evidence to the (Parliamentary Public Works) Committee, the Commission stated that:

'The primary purpose of constructing Dartmouth Reservoir, as far as Victoria is concerned, was to provide acceptable levels of security for irrigation development, predominantly in the Goulburn Murray Irrigation District, established under Water Right allocations up to 1964.'

"The Commission estimated in 1975 that after this security of supply was provided, then with utilization of uncommitted resources and the provision of minor works in the Goulburn system a volume of the order of 300,000 megalitres would be available for allocation for other uses" (pp 101-102).

After examining the evidence presented to the Parliamentary Public Works Committee by the Commission, the report concluded:

"The Commission did not indicate what additional level of drought protection was considered desirable, nor did it present an evaluation of the costs and benefits of obtaining that additional protection.

"...the basis for allocation recommendations by the Commission was a series of administrative judgements drawing largely on the Commission's experience with operating the water supply system. There was no formal economic analysis of the options available to the State; nor any economic comparison of the options presented in evidence. Nor was there any estimate of the return on the State's investment from the allocations recommended. The central criteria were those of disposing of the water to:

- meet administrative requirements
- remain within the operating characteristics of the supply system
- satisfy any other evident demands which could be met without public capital expenditure" (pp 104-105).

In their submission to the Committee of July 1983, Neilson Associates noted (p 8) that in their original report:

"...it is demonstrated quite clearly on the basis of the Commission's own documents that the Commission in fact has no formal procedures for making decisions about allocation of water among competing uses. By formal procedures we mean procedures which expose the value of the water to each potential user and the consequent returns to the State in providing more water to one type of use than to another. The Commission's procedures are essentially non-analytical, subjective and pragmatic, and they provide no information to decision-makers on the costs or benefits of alternative 'mixes' of water allocations between users (e.g.: the Commission could not, under its present procedures, provide the (Parliamentary) Public Works Committee with any evidence on the merits of allocating water from the Dartmouth Dam for private diversion rather than for use in the GMID)."

In its Response to Neilson's report, the Commission disagreed with many of the conclusions of that report. The Commission stated (p 17):

"The following paragraph (in Neilson's report) appears to be the Consultants key statement:

'In principle it can be expected that the basis for allocation of water resources among competing users would be to ensure the maximum benefit from use of the State's resources, and to direct resources first to those users most able to pay for their use, or those willing to pay the highest prices' (Neilson, p 100).

"This asserts that maximum benefit from the use of the State's resources will be associated with the process of directing those resources to those most able to pay or those willing to pay the highest prices.

"There is no justification made for this assertion and at face value it must be rejected."

The Commission went on to say (p 18):

"For the most part decisions on irrigation development in Victoria has not been associated with the principle stated. Rather such development has been a key component of closer settlement strategies including two significant phases of post war settlement of returned soldiers. Who is to say that these strategies have not resulted in the maximum benefit to the State, given options available to Government at the time those decisions were made."

The different viewpoints expressed in the above quotations are quite fundamental to the procedures used to allocate water to irrigation. To a very large extent, the viewpoint being expressed by the Commission is consistent with the fundamental objective for irrigation identified in Chapter 4 as dominant in the operations of the Commission over most of the last eighty years. The Commission's statement in effect confirms the conclusion of Section 4.3 above, whereas the viewpoint of Neilson Associates leans rather more towards the second fundamental objective, that of direct economic return.

The difference between the two viewpoints is however, not as clear-cut as this might suggest, because it appears that a large component of the comments made by Neilson Associates could be appropriate even when closer settlement and development of land and water resources are regarded as the dominant objectives.

For example, the quotation above from Neilson's submission does not depend, for its relevance, on which of Swinburne's fundamental objectives is dominant. That quotation suggests that the Commission does not - or at least did not in the mid-1970s - use procedures that would allow adequate comparative assessment of the effects on the development of irrigation of alternative proposals: that is, the procedures used would not have allowed a comparison of the nature and extent of the development of irrigated agriculture that would have resulted from directing water from Dartmouth to private diversion rather than to districts, or to quite different kinds or areas of irrigation, or from spending the same resources on other measures to benefit irrigated agriculture.

The Commission, in its Response to Neilson, argued (p 18) that Neilson's approach "demonstrates a pre-occupation with economic theory", and that this was "...to the detriment of technical, social and regional development considerations, which have been, and will remain, essential features of irrigation management" (p 1). The Committee cannot accept this assessment of Neilson's approach. Neilson's report

certainly demonstrates an awareness of economic theory, and an appreciation of its place in resource allocation. But Neilson's study explicitly recognises that the other factors listed by the Commission are of importance as well. The report recognises that factors other than economic principles have influenced the allocation of water, and goes on to state (p 100):

"This is reasonable enough, provided those making allocation decisions are fully informed as to the real distribution of economic costs and benefits from different allocation possibilities. Alternatively they should be aware of that course of action, or that allocational option, which earns the greatest return on the State's resources. If such information is available, the cost of moving to some less than optimal allocation is explicit.

"In addition, as water resources become more scarce, and the cost of their development increases, the economic importance of allocating each marginal quantity efficiently, increases."

The Committee agrees with this viewpoint.

Amongst the many changes in the State Rivers and Water Supply Commission and its successor, the Rural Water Commission, over the last two or three years is the development of a much greater appreciation of the importance of economic arguments and analyses within the water industry in general, and in irrigated agriculture specifically. The Rural Water Commission's submission to the Parliamentary Salinity Committee of 25 July 1984 noted that (p 3):

"Water allocation policy in a mature water industry needs to take into account different criteria from those used in the establishment phase of irrigation enterprises. These original principles, whilst they have served the irrigation community well through the establishment and development phases, should not be considered beyond review."

The Commission went on to suggest (pp 4-5) that:

"future decisions regarding water allocations and Water Right administration should be tested against the following criteria (amongst others):

- . economic efficiency of water use 'on-farm' and at State level;
- . application efficiency of water;
- . adaptability of the system to meet changed circumstances in the future if required..."

The Committee notes this changed outlook on the part of the Commission, and welcomes it very strongly. It considers such a change to be quite critical to the successful future development of irrigated agriculture: indeed, it is to a very large extent on these criteria that the recommendations appearing later in this Report are based.

The Commission's approach to consideration of new mechanisms to allocate available resources is shared by at least some of the irrigator groups. Thus in their response to the report prepared by the Centre of Policy Studies, the Kerang Advisory Board stated:

"...to improve productivity and water use efficiency, the (Kerang Advisory) Board would be prepared to consider alternative proposals to provide a more flexible water allocation arrangement, subject to a full consultation process taking place to enable evaluation to be made".

### 5.2.2 Allocation of Water Between Irrigators

A complex administrative system has developed to allocate the available water resources between different users within the irrigation sector. The system has been outlined briefly in Chapter 2.

The present system is, in its fundamentals, little changed since its introduction in the Water Act 1909. As has been described earlier in this Report, the system of fixed water right and compulsory payment for that right was introduced in order to encourage - and if necessary force - closer settlement of land commanded by irrigation supply channels.

The Commission considers the system of water rights to have several current purposes:

"Firstly, they (water rights) establish the relative rights of the respective holdings to which they are attached, in the event of a shortage of supply. Secondly, they are a means towards stabilizing district revenues insofar as each landholder pays an annual irrigation charge per unit volume of water right whether or not he uses it all in a year when full supply is available. Thirdly, water rights are a convenient and equitable index for expressing seasonal allocations of supply for irrigation.

"Because not all the water physically available to the irrigation districts has been committed for domestic and stock supply and by the allocation of water rights, the Commission each year makes an allocation of water available to landholders as 'sales' water. This allocation is expressed as a percentage of water right, applied uniformly throughout the district" (MISV, p 31).

The Victorian Farmers and Graziers Association in their response to the Centre of Policy Studies report pointed to the advantages offered by the current approach to water rights and allocation policies. The Association stated:

"The allocation of water according to water rights has....provided a basis for planning and developing the distribution network and provided data on at least the minimum capacity which must be built into elements of the system....capacity planning becomes a much more straight forward matter than it would be if water were allocated under market mechanisms.

"Apart from administrative benefits there is also a revenue benefit to the Commission in that the portion of water rights paid for, but not used by irrigators, is available for re-sale by the Commission as sales water with a subsidy from farmers not using their water rights to those purchasing in excess of water rights".

Neilson Associates carried out a detailed review of the allocation procedures. Their report noted (p 106):

"Present systems of water allocation are based on the assumption that water is a public resource, provided as a publicly operated service in irrigation districts and to be allocated on as equitable basis as possible with all landholders...entitled to a share of that resource".

Later, in their review of water allocation, Neilson comments that (p 110):

"The principle of allocating water equally (or almost equally) to commanded and suitable lands, with an allocation for each holding derives from a fundamental need to allocate a community-owned resource in an equitable manner. The concept of community ownership of water resource was a radical notion at the time of its introduction in the Water Act 1906, and equity in allocation of community owned resources was a major concern" (p 110).

The notion of equity in the distribution of irrigation water is a very strong influence on the attitudes of many people in the industry to the question of water rights.

### Water Rights and Subdivision of Land

Since the mid-1950s there have been several occasions on which the Commission, in consultation with irrigator groups, has allocated extra resources made available in the Goulburn Murray Irrigation District by the expansion of the water storage system. In essence, these attempts have produced a "formula-type" allocation mechanism which is based on defining a relationship between water rights available and the area of "suitable and commanded" land. These formulas are non-linear, in that higher volumes per hectare are allocated to the smaller holdings. When introducing the current formula for the Goulburn Murray Irrigation District, the Commission based it on landholdings as on 1 July 1959. A fixed date was considered to be necessary, because the non-linear formula created the possibility of farmers obtaining extra water rights simply through subdividing their property into smaller holdings, regardless of the type of production.

Inevitably, property subdivision has continued since 1959, and the Commission has indicated that there is continuing pressure to provide water allocations to properties subdivided since 1959.

Subdivision of lands could indefinitely increase the number of small holdings, thereby creating an almost unlimited demand for additional water rights. The present water rights formula, whereby proportionally more water is allocated to smaller holdings, is therefore an inbuilt destabilising device. It could overtax the available resources if it were to become necessary to change the date upon which assessment of areas and the allocation of extra water rights is based from 1 July 1959. On the other hand, if neither the date nor the formula are changed, the anomalies and inequities in the system will continue and in fact will grow as subdivisions continue and as farmers buy extra land.

While there may have been good reason for the non-linear water rights formula at an early stage in the development of irrigation, the anomalies and rigidities that have now developed make its continued use of doubtful value. In 1983, the then Chairman of the State Rivers and Water Supply Commission, Mr David Constable, said in a paper presented to the Combined Advisory Board's Conference:

"Overall within the GMID there are currently some 10 600 holdings, of which 2800 have water rights in excess of the standard formula..."

"...a property of 40 hectares can have a water right ranging between 190 megalitres and 40 megalitres depending on whether it is an amalgamation of two original 20 hectare properties, or subdivided from an original 80 hectare property" (Constable, p 9).

More recently, the Rural Water Commission has pointed out that:

"Approximately 2800 holdings currently have water rights in excess of that calculated under the formula for their eligible areas while another 1600 holdings have water rights below such calculated figures" (Submission to Salinity Committee, p 16).

### Inappropriateness of Formula

The Commission has also recognised that the formula does not directly take into account factors such as soil and crop types, climate, and intensity of development. One of the original purposes of the non-linear formula in the Goulburn Murray Irrigation District was to recognise such differences, and a second was to encourage more intensive development on small holdings. When the system was established, the formula:

"did at the time allocate the available water resources so as to meet the water requirements of the most probable development pattern on the majority of holdings" (Rural Water Commission Submission to Salinity Committee, pp 15-16).

After many years of change, it no longer achieves the first of these two purposes. The second purpose is now of lesser significance because, as has been noted earlier in this Report, changed economic conditions put the emphasis now on somewhat larger properties. The present formula also provides little encouragement to the more effective and dynamic farmer.

In all districts except Goulburn Murray and Campaspe (which is physically adjacent to the Goulburn Murray) the total water allocation is by a linear relation with area of holding. Thus the kinds of arguments advanced for the non-linear formula in the Goulburn Murray Irrigation District are not advanced for the other districts, and there is no evident pressure for this kind of formula to be more widely applied.

### Lack of Encouragement to Conserve Water

The practice of charging landholders for their full water right, irrespective of whether or not it is all used, is not one that encourages efficient and effective use of this valuable resource. Because it makes no financial difference to a landholder whether he or she uses 70 or 90 per cent of the water right, all water up to the full water right is in effect "free": there is thus no direct encouragement to conserve water or reward for doing so.

It is important to note that this does not mean that farmers necessarily waste water, and the substantial under-utilisation of water rights is clear demonstration that they do not. Neilson Associates considered the extent of under-utilisation, basing their analysis on information provided by the Commission. The analysis showed that up to 190 000 megalitres of allotted water rights had not been used in recent years in the Goulburn Murray Irrigation District. Over the years 1976-77 to 1980-81, the proportion of total water rights in that District that was not used ranged from 6.1 per cent in 1977-78 to 12.7 per cent in 1978-79, and in 1978-79 just over 1300 irrigators used less than half of their water right. Many who do not use their full water right have comparatively small allocations: of those with allocations of less than 124 megalitres in the years 1976-77 to 1980-81 from 40 to 55 per cent did not use their full allocation (Neilson, p 113).

It is, however, not only the small users who do not use their full allocation, for even in the driest of these years, as many as 13 per cent of those with allocations of over 174 megalitres used less than their full allocation.

Neilson Associates concluded (p 114):

"The effect of this is twofold. First, it suggests that the guaranteed supply of water for drier years is higher than many properties need - i.e. water rights on smaller properties are too large. This reduces the water available for allocation elsewhere as water rights.

"Second, that portion of water rights paid for but not used by irrigators, is available for re-sale by the Commission as sales water -it can be sold twice as it were. This has the effect of boosting the level of Commission revenues, and making water cheaper than it would otherwise be. It amounts to a subsidy from farmers not using their water rights to those purchasing water in excess of their water rights".

No major disagreement with this analysis has been put to the Committee, although some submissions to the Committee have disagreed with the conclusions, claiming that these arrangements work well. The Commission, in its response to Neilson noted that many of the under-users are "properties utilised as hobby farms", and that "the predominant under-utilisation group, i.e. small water right holders, would not provide any significant quantity of water for re-allocation" (p 22). The Commission also described Neilson's conclusions here as "an oversimplification", but gave no elaboration as to why it was such, nor did it detail any alternative comment or explain why from 6.1 to 12.7 per cent of allotted water rights was not a "significant quantity of water available for redistribution".

### 5.2.3 Effects Upon Irrigators

#### Lack of Flexibility

It is a truism that water is one of the most important inputs into the activities of irrigation farmers. But it is worth stating it here, in order to emphasise that it is the input over which the farmer has perhaps the least control. Farmers have large measures of control over their inputs of labour, fertiliser, pesticide, herbicide, types and quantities of seed, cultivation methods, type of equipment used, and so on. In addition, they can and do seek to change their own skill levels by consulting advisers, hiring consultants, and attending field days or more formal programmes.

Farmers can and do manipulate all of these inputs in their endeavours to operate at maximum efficiency as economic, market and climatic conditions change. The Committee has been very impressed with the initiative, ability and energy of many of the irrigators it has met during this review. But irrigators' control over one of their most important inputs, water, is greatly limited, because - unlike all of the other inputs - its allocation is largely controlled administratively rather than by the needs of the irrigator.

Some of the economic consequences of this restriction on the operations of irrigators have been discussed in Neilson's report and in the Centre's report. The Committee does not wish to repeat here details of the more technical aspects of the discussion of these reports, but it notes that no subsequent submissions to it have questioned the accuracy of these reports on this matter.

Lastly, as different types of irrigated production require different quantities of water for optimal growth - and thus optimal return to the irrigator - the essentially arbitrary nature of water rights means that the opportunities for an irrigator to grow or experiment with different products are arbitrarily limited. Thus an irrigator owning a 40 hectare property with a water right of 190 megalitres has far more flexibility in what he or she can grow than has an adjacent irrigator with only 40 megalitres for 40 hectares (the possible ranges as given by Mr Constable and quoted earlier in this Section).

The present system is often defended on the grounds of "equity". That is, the system is based on the notion enshrined in water legislation since Deakin's time that water is a public resource and should be allocated equitably between users. In view of the restrictions, limitations and anomalies outlined above, the Committee finds it very difficult to see how the system as it now operates can be described as equitable, efficient or effective.

The present system is also defended on the grounds that, in most years, extra water (including that not used by those who use less than their full water right) is available as "sales water". A number of objections to this practice have been put to the Committee. One is that it provides little assistance to farmers in planning their seasons' activities because, although allocations of sales water are made progressively from early in the season, the final allocations are - necessarily - announced only late:

"Increases in allocation after the first of February are of no value to the grower of summer crops who had to decide the area to be sown as early as October the year before" (Department of Agriculture 1981 submission, p 4).

The curious arrangement by which the Commission in effect sells the unused part of water rights twice has already been noted.

In addition, the system provides only limited opportunity for irrigators with low water rights to make up for their lower allocation.

### Economic Effects

The economic consequences of these limitations are not easy to assess, in part because of the large numbers of variables involved, many of them rather unpredictable. The Centre of Policy Studies at Monash University considered some of these economic consequences. In its report to the Committee, the Centre observed that (p 79, emphases in original):

"if a given quantity of water is to be allocated efficiently in agriculture (i.e. in such a way that the gross revenue derived from it is maximised), then it should be allocated

- (i) to any crop on a given farm,
- (ii) between different crops and pastures on a given farm,
- (iii) amongst farms,

in such a way that the addition to gross revenue attributable to the last megalitre applied to any particular hectare of any crop or pasture on any farm is the same for all land irrigated".

This recognises that there is a large variation in the overall productivity of different farms, for a wide variety of reasons. There is also, of course, a large variation in the productivity of any single property from one year to the next, again for many reasons. In the very best case, on some farms and in some seasons, the last megalitre of water used might increase the gross return to the farmer by as much as \$60. More frequently, the last megalitre of water used might increase the gross return to the farmer by say \$20, whereas on some other properties the last megalitre might add little if any extra value (for example, on many of the properties using less than their full water right allocation). As a result, said the Centre (p 79):

"it would be possible to increase overall gross value of output by approximately \$20.00 simply by reallocating one megalitre from the second farm to the first. In other words, the value of output could be increased with no increase in the total quantity of water used."

Thus by transferring water between properties in this way, the ability of the first farmer to produce more would be increased at little or no cost to the second.

The Irrigation Association of Australia, in a submission to the Committee of March 1984, agreed with this aspect of the report, noting that such:

"changes to the system of allocating water...would result in greater prosperity in irrigation areas. Current water rights are based on historic entitlements which have little relevance to modern irrigation methods...By making rights transferable, those units of water not being productively employed would be reallocated to higher valued uses...significant economic benefits may be achieved without massive disruption to the operations of irrigation systems...

"The study puts up a strong case for a scheme long argued by economists, the transferability of water rights. Little damage and much good may result from such a scheme."

The Department of Agriculture also agreed with this conclusion of the Centre:

"Despite differences of opinion on certain aspects contained in Chapters 12-15 of the Report, the Department of Agriculture agrees that significant improvement in the overall productive efficiency of irrigated agriculture could potentially be achieved by an appropriate system of transferable water entitlements" ( 1984 submission, p 2).

The only submissions received by the Committee that have opposed this notion have been a small number that have appeared to reject any changes of any sort to the management of irrigation. Most submissions to the Committee that considered this idea either gave qualified support to it, or at least suggested that it be carefully examined. These submissions suggested that there was now an opportunity for change to improve both the position of irrigators and the effectiveness of the system. Thus the Macalister District Water Users League stated in its submission of April 1984:

"We agree that the system for allocating water to irrigators should be more closely examined, provided that the very real constraints...are taken into consideration".

The Boort Advisory Board went further in its submission in March 1984, when it said:

"We agree that 'All of the potential efficiency gains in agriculture would be achieved by permitting water rights to be freely transferred between farms.' No-one would be disadvantaged, the only constraint being the capacity of channels to cope with extra water".

Several submissions pointed out that the scope for transferability may be limited because of restricted channel capacity, that transferability may lead to increased

difficulties with salinity in some areas, and that permanent transfer of rights may lead to loss of irrigated agriculture in some areas.

The present management system provides considerable levels of Government support to irrigated agriculture, as is generally recognised. Questions of the economic or social appropriateness of this support are exceedingly complex, and are discussed in the next Section. It is however appropriate here to point out that the present methods make this assistance or subsidy available in a non-selective fashion to all irrigators. That is, the support goes to all irrigators, without regard to individual economic or social needs. It is quite clearly not the case that all irrigators have equal need for equal levels of support.

The Committee notes in the 1982-83 Annual Report of the Commission that, in 1982-83, one of Victoria's worst droughts, "the gravity irrigated districts all experienced (financial) losses, predominantly due to restricted water availability and the consequent reduced delivery volumes as a result of the drought" (vol 1, p 32). This resulted from the 1981-82 allocations being based on expectations of a low inflow into storages during the winter of 1982: in fact the actual inflows from May to August were substantially below the lowest previously recorded, leaving less available in 1982-83 than had been planned.

The Committee is aware that this raises major questions such as security of supply, the supposed "conservatism" of the Commission's allocation policies, and indeed the question of the basic purpose of irrigation water: is it to ensure more or less normal production in drought years, is it to increase water availability in most years, or what? The Committee does not intend to attempt to answer these questions itself, but it does believe that they should be discussed rather more within the irrigation community than they are at present.

#### 5.2.4 Water Resource Use and State-Wide Development

The extent to which the use of water as a major resource contributes to the social and economic development of the State is one of very great importance. It is the purpose of this Section to investigate this question, and in particular to consider the effects on this contribution of the management principles employed in water resource management and in irrigated agriculture in particular.

As a preliminary, it should be repeated that there is no doubt that irrigation has contributed substantially to the social and economic development of Victoria. In Chapter 3 this question was considered in some detail: the data and discussion there presented show clearly some key elements of this contribution. But that Chapter did not consider the cost at which that development had been obtained, and it did no more than raise a query as to whether or not the development might have been carried out more effectively and more efficiently if differently managed.

More important from the Committee's point of view is the question of how irrigated agriculture might best contribute to the State's economic and social development in the future. Governments have traditionally pursued policies which have enabled the rural sector to continue to grow, and thus generate increased income and employment on farms. These policies have also led to sustained employment growth in processing and service industries in rural towns and cities across Victoria. The following strategies have recently been advanced by the Victorian Government for pursuing these general goals (The Economic Strategy for Victoria, p 139):

- accelerating the promotion of specialist rural products and new export opportunities by taking full advantage of the State's diversity of climates, soils and terrain;
- continuing to pursue increased efficiency and productivity of established rural industries; and
- exploiting the competitive advantage of Victoria arising from its possession of infrastructure assets, both physical and organisational, and the level of farmer experience and expertise.

Water is one of the most important of Victoria's resources, and as has been pointed out earlier in this Report, it has been regarded as a resource owned by the community as a whole since the Irrigation Act of 1886. As with other scarce resources, the use made of water should be such as to contribute to the social and economic well-being of that community.

The ways in which this might be done are many and varied, but the economic efficiency of the uses made of the water is of considerable importance. The reason for this was outlined by the Centre of Policy Studies in its report, when it noted that (p 76):

"If there were to be an improvement in the efficiency of water use, per capita income in Victoria would increase, and this would tend to raise the base for a wide range of taxes, both State and Federal. This in turn would mean that either more revenue would be available to the Victorian Government for its spending programs, or tax rates could be reduced. An increase in the State's income raises the quantity of goods and services the population can consume, either directly or indirectly (through provision of more government services). Alternatively, the higher the State's income the easier (in some sense) it is for the government to finance and implement its programs in other fields".

The Committee accepts this rationale for seeking high efficiency in the use of water - or, indeed, of any other resource - although it wishes to emphasise that seeking higher efficiency does not necessarily mean making economic efficiency the sole -or even the major - determinant of how any resource should be used. As noted earlier in this Section, the Rural Water Commission now lists "economic efficiency of water use 'on-farm' and at the State level" as one of the main criteria against which future decisions concerning the allocation of water should be tested. In recognition of the profound change in the nature of Victoria's irrigation systems, from a developing to a mature system, the Committee considers that the view expressed by the Commission is now of very great importance. The Committee believes that the application of this criterion to most aspects of water resource management is necessary as an important strategy in responding to the major changes outlined in Section 4.5 above. As an additional part of the response, the Committee believes it to be appropriate to consider ways in which irrigators may contribute rather more to the costs of provision of water services to them, thus reducing the net direct costs of services to the State.

The extent of total Government support and assistance to irrigated agriculture is in essence a political decision. This decision is made from year to year on the basis of budgetary constraints, competition from other calls on Government expenditure including reduced taxation, and the perceived comparative benefits of differing levels of support for different causes. The Committee considers it to be of the greatest importance that strenuous efforts be made to ensure that the resources allocated to irrigated agriculture are used to the greatest advantage of those engaged in this industry and to the greatest advantage of the State as a whole.

There is considerable evidence now available to suggest that the present system of allocating water between farms has resulted in use of the water resource that is,

from the economic point of view, somewhat less efficient than it could be. The Committee strongly agrees with the Centre of Policy Studies that this is not because irrigation farmers are careless or negligent: indeed, it has been made abundantly clear to the Committee during its inspection visits to irrigation areas in all parts of the State that most irrigation farmers are both extremely careful and highly skilled. The problem, as the Centre pointed out, is "the conditions under which water is supplied which account for inefficiencies in its use, and this in turn reflects the policies for the distribution of water as determined by governments in the past" (p 80). In Chapter Four of this Report, the Committee has noted that these policies have been successfully followed for many decades, but that substantial change is needed now that the industry has moved from the pioneering phase to a mature phase.

The previous sub-section has considered the negative effects of the present system on individual farmers. It is less easy to demonstrate clearly how the present system leads to negative effects on irrigated agriculture generally.

Some submissions to the Committee have argued that, while the theory behind some proposals for change is acknowledged, the practical benefits have not been clearly demonstrated. For instance, the Victorian Farmers and Graziers Association argued in this fashion in a submission commenting upon some of the proposals in Neilson's report (p 18):

"the complexities associated with changing the existent pattern of water allocation...have not been evaluated to a degree which clearly indicates the overall benefit in the long term to irrigators and the State as a whole".

The Committee recognises this difficulty. There are, however, always difficulties in forecasting accurately the likely effects of any change, or indeed in forecasting the effects of making no change and continuing the status quo. The Committee believes that the three practical matters discussed below confirm the conclusions derived from theory: namely, that there is scope for irrigated agriculture to contribute substantially more to Victoria's social and economic development than it does at present.

### Prospects for Development

The first matter is based on the evidence that the Committee has received on the degree to which technological change may influence future irrigated production at the farm level. Results from research conducted by the Department of Agriculture demonstrate that considerable productivity gains are possible. The Department has provided the following information on the potential for some crops (Department of Agriculture 1981 submission, pp 6-10):

"Horticultural crops: Under manageable conditions, 50 tonnes of canning size fruit per hectare under trellis methods of production is a possible yield when combined with improved soil and water management. Current commercial yields average 25-30 tonnes per hectare.

"Grain and Forage Crops: Although the yields in tonnes per hectare of crops such as wheat, sunflowers and maize vary substantially, for all three the average commercial yields at present are little over one-half of the best commercial yields. The theoretical maximum yields are considerably greater again, so that there is much scope for future gains in productivity. The following table illustrates these points.

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Yields (tonnes per hectare)			
Crop Type	Average Commercial	Top Commercial	Theoretical Maximum
Wheat	4-4.5	7-7.5	22
Sunflower	1.6-2	3.5-3.8	15
Maize	6-8	10-11	27

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"Pastures: Yields average about 12 tonnes per hectare of dry matter for perennial pastures and 7 tonnes per hectare for annual pastures. Top commercial yields are around 20 tonnes per hectare, while research has shown that yields of 30 tonnes per hectare are possible with soil amelioration and adequate water and fertilizer. The theoretical maximum yield of pasture species is around 60 tonnes dry matter per hectare.

"Animal production: At present the maximum production from cows grazing high quality pastures is in the range of 700-800 kilograms of

butterfat per hectare per year. A doubling of dairy productivity to 1400 kilograms of butterfat per hectare per year is conceivable over a thirty year period."

Thus there appears to be considerable scope for gains in productivity in many existing products of irrigated agriculture, and the Director of the Animal and Irrigated Pastures Research Institute at Kyabram, Dr Bruce Cockroft, summarised this point in evidence to the Committee:

"Considerable scope exists for significantly increasing output from irrigation agriculture by techniques designed to increase crop yields. Such techniques must be encouraged by appropriate research, extension, and administrative arrangements. Incentives are needed to reward farmers who make efficient use of water and to encourage the reallocation of water from areas of lower productivity to those of higher productivity. The present system of water rights prevents this necessary process of reallocation" (evidence, p 3271).

#### Experience Elsewhere

The second item of practical evidence for the possibility of irrigated agriculture contributing more to Victoria's development is provided by overseas examples of substantial improvements in efficiency. In Israel and in the USA, as just two examples, there have been very great increases in the output of irrigated agriculture over the last 30 or so years.

Over the period 1959 to 1975 the amount of agricultural production per unit of irrigation water used has increased by 222 per cent in Israel. At the same time, the area of land irrigated has more than doubled and the application rate of water has declined from 8.0 megalitres per hectare to 5.5 megalitres per hectare (Smith, p 175). Information presented to the Committee by Dr Cockroft shows that most irrigated enterprises in the western USA doubled their yield per hectare over the period 1950-80. Many recorded increases greater than this. By contrast, the Department of Agriculture pointed out that pasture yields in northern Victoria now "are only marginally better than those reported in Victoria for the 1930s" (1981 submission, p 9). Dr Cockroft also pointed out the very large increases in the area irrigated in the US in the last several decades, for example from 30 000 hectares in Nebraska in 1950 to four million now (evidence, pp 3243).

### Difficulties at Present

The third line of practical evidence supporting the more theoretical arguments of the economists is the fact that so much of irrigated agriculture is at present experiencing serious difficulties. For a variety of reasons, many beyond the control of irrigators themselves, there are considerable difficulties in many areas. The difficulties of the dairy industry are particularly well-known.

In addition to the changes discussed in Chapter 4 above, a most important characteristic of irrigated agriculture is that it is characterised by commodity types which are highly protected and which are undergoing long term structural adjustment. This matter is discussed at some length in the report of a Working Group set up in 1982 to advise the Federal Minister for Primary Industry on issues and options for agricultural policy, chaired by Mr J S (now Sir James) Balderstone. The degree of change and the pressures to adjust to new economic conditions are creating well-known difficulties for individual landholders.

In recognition of these difficulties, for some years Government policies have facilitated change through programmes such as Rural Adjustment Schemes, price stabilisation and equalisation schemes, and specific programmes such as canning fruit industry "tree pull" schemes. More recently, serious problems have become more evident for the Sunraysia dried fruit industry.

Despite the hard work and good intentions of many irrigators, the industry is at present finding it extremely difficult to cope with the changes it is experiencing.

### The Scope for Improvement

Several attempts have been made to quantify the possible gains from changes to the method by which water resources are allocated. The Committee notes, however, that further work is needed in this area before definite answers can be given. Some examination can be made now of the combined effects of productivity changes through technological change and of a change in allocation methods.

Dr Cockroft in his evidence before the Committee demonstrated the potential that exists to increase the value of irrigation water in dairying. His figures show that gross income per megalitre could increase from \$156 to \$296 under "improved pastures", and finally to \$500 under "zero grazing" systems (evidence, p 3259).

The Centre of Policy Studies calculated a preliminary estimate of the increase in gross value of production from public irrigation areas that may be attainable if available supplies were to be allocated amongst farms in an economically efficient manner. Their conclusions were (emphasis in original):

"a gain in production of something like 5 per cent to 15 per cent might be achieved in the short term..." (Centre's report, p 92).

Based on estimates of the gross value of irrigation production within irrigation districts for 1982-83, such an increase would add production between \$24 million and \$70 million. These calculations were based on re-allocation and transfers only within irrigated agriculture (thus excluding the effect of transfers out of irrigated agriculture into other potential uses), and only on transfers within existing irrigation districts. The Centre suggested that these estimates were conjecture "based on very little more than intuition" and that they were "extremely unwilling to assign odds to the range of numbers between 5 and 15 per cent inclusive, or to numbers outside that range" (p 92).

In the longer term, the Centre believed that the efficiency gains could be expected to be higher in the long-term, as farmers adopted new techniques to use water more efficiently. The longer term increases are those discussed elsewhere by the Department of Agriculture, and are analogous to those experienced by irrigated agriculture in some other parts of the world and noted above.

The magnitude of the possible gains is virtually impossible to estimate, depending as it does on so many factors: but that very large increases in the output of irrigated agriculture in Victoria are possible is not doubted by many. This has been well-stated by many of the people who have the appropriate specialist knowledge:

"Victoria has the potential to substantially increase the money that it generates from irrigation water" (Cockroft, evidence, p 3272).

"Irrigated agriculture in Victoria has almost unlimited potential for expanding production without increasing either land or water used" (Birch, p x).

Realisation of this potential will require continuing structural adjustment within the agricultural sector and the development of a more responsive and flexible framework within which irrigation is managed. If these are achieved, it would be possible for irrigated agriculture to contribute more - and perhaps substantially more - to Victoria's social and economic development than it does at present. The greater opportunities available could be expected to lead to greater prosperity for the towns and cities of irrigation districts, and to increased revenue for the Government thus allowing some of the benefits to be distributed more widely across the community.

#### The Reports of Neilson Associates and of the Centre of Policy Studies

The question of the influence on state-wide social and economic development of the present mechanisms for pricing and allocating irrigation water is highly contentious, and it is one on which passions run high. The Committee has commissioned two reports from different consultants to assist discussion of this question. The first of these was by Neilson Associates, published in October 1981 and entitled Report on Irrigation Management in Victoria, and the second was that produced by the Centre of Policy Studies at Monash University in December 1983, entitled Study of the Distribution of Costs and Benefits of Victoria's Irrigation System.

Both of these reports have generated considerable interest, and the reactions to them have been varied. While many people have disagreed, often with great vigour, with what they have understood to be the findings of the reports, others have agreed with many or all of these findings.

The Committee notes, with regret, that a substantial proportion of the public reaction to the Centre's report has been based upon one major misinterpretation of the purpose of the report, and upon one major misinterpretation of its content. First, it was never part of the purpose of that report to contain recommendations. The Centre of Policy Studies was specifically requested by the Committee not to make any formal recommendations: the report clearly states this and it equally clearly contains none. The widely-expressed view that it contains recommendations

for, amongst other things, substantial increases in water charges has no basis in fact.

Second, the Centre's report concludes - amongst other things - that (pp xv-xvi):

"at best, the irrigation system could have generated a 4 to 5 per cent return on the community's investment, and at worst, a return of minus 4 to 5 per cent. Our best guess is that... it is highly probable that the return on the public's investment in the irrigation system has proved to be low and perhaps negative."

Many readers of the Centre's report have concluded that this means that the Centre of Policy Studies is thereby concluding that the irrigation system should not have been constructed. Many people have pointed to a wide variety of reasons for which the system, or large parts of it, were constructed, and have argued - again, often with very great conviction - that these other reasons fully justified the construction of the system.

The report, however, does not conclude that the irrigation system in its present form should not have been built, and nor does the report suggest that the system should be closed. The report recognises that other considerations, largely political, can and do influence decision making. The various factors advanced as justifying the irrigation system may well be of sufficient importance to have justified it totally in the wider social or political context, whatever the purely economic return may have been. But there was concern felt by many readers of the report that the entire justification of the irrigation system was challenged.

These two misinterpretations have generated considerable unease in the irrigation community. As a result, many of the responses the Committee has received to the Centre's report have concentrated on these two issues, to the comparative neglect of other parts of the report. Thus the general thrust of Part III of the report, in searching for ways of defending irrigator's present incomes in the name of equity and of strengthening irrigated agriculture generally through greater efficiency, has gone largely unrecognised (emphasis in original):

"Since more efficient use of water in agriculture would result in greater value of production of agricultural products with the existing supplies of water, changes in management which improve the efficiency of use of available water supplies could be expected to

generate growth in other sectors of the economy in irrigation areas, including businesses supplying farm inputs and processing farm products, the transport sector, and flow-on growth in the retail and service sectors" (p, xix and see ch 16).

"In isolation from other changes, an increase in water charges now would almost certainly reduce most irrigation landowners' incomes in future below those that they would have expected in the past, so that they would suffer losses of net worth, through decreases in the value of irrigated land" (p xix-xx).

The Committee has neither accepted nor rejected the arguments contained in the Centre's report, or the conclusions reached in it. It does consider a great deal of the analysis contained in that report to be of value to its own and to future discussions of irrigation, and it has used many aspects of that analysis in this Report.

#### 5.2.5 Use and Development of Resources

Compared with other states in Australia, Victoria's irrigation systems have a very large degree of public investment. As has been outlined in Chapter Three, other states have developed along other patterns (for example, Queensland) or are moving away from such close public sector involvement (for example, New South Wales). As part of its large-scale and continuing public involvement, Victorian irrigation systems exhibit several different characteristics from those of other states, in terms of the systems of water supply, the types of production techniques used and the particular commodities produced. The relative importance of groundwater as a source of supply, the degree of private sector capital used, and the level of pasture-based industries, are all indicators of the degree of divergence between Victoria and other states. The relative levels of productivity of private and publicly operated schemes are also of importance.

Given the diversity and complexity of the irrigation industry within Victoria, there seems to be a need for a review of the comparative involvement of public and private sector management of the resource, and of the possibility of greater use of private sector capital. The possibility of greater use of groundwater as a major contributor to irrigation should also be investigated with far more vigour than previously.

### Public and Private Diverters

Under the reforms of 1905, the Government "abolish(ed) the Trusts and put the whole of irrigation under one management, with one system and one policy throughout" (VPD 1904, p 1423). The Government believed that such a radical restructuring was required in order to achieve the objectives which it had defined for irrigation. Thus it believed it was necessary "in order to make our business a success, to have one mind, one policy and one business like aim through the whole scheme" (VPD 1904, p 1421).

Under the 1905 Act the State Rivers and Water Supply Commission also became responsible for the issue of private diversion licences and for the administration of the system of private diversions across the State as a whole (see Section 2.3.3).

These changes affected all Trusts, except for the First Mildura Irrigation Trust. Until recently no further schemes for irrigation have been established outside the jurisdiction and control of the Commission, although there has been an increase in the area of irrigation under private diversion licence. Thus the State, and the Commission in particular, assumed the role of entrepreneur in establishing most of the additional irrigation districts since 1905.

Today, Victoria has reached the position where about 500 000 hectares of land have been developed for irrigation within districts operated and managed by the Commission, while outside these districts there are approximately 85 000 hectares irrigated by private diversions.

Recent developments such as the Nangiloc - Colignan scheme have added a new element to the overall pattern of irrigation within Victoria. In this scheme, private sector capital has been used to develop extensive irrigation holdings.

In New South Wales most of the recent development within irrigated agriculture has occurred through the expansion of areas developed and managed by private entrepreneurs. Notable examples of this include the extensive development of the cotton and coarse grains industries in northern New South Wales, based on the Namoi and Gwyder Rivers. Here the role of the Water Resources Commission has

been to provide essential infrastructure such as storages and major distributing works, and the administration and regulation of resources to meet demands. Reticulation has been left entirely in the hands of private entrepreneurs. Similar developments also exist in both South Australia and Queensland.

Private diversions at present account for only 13 per cent of Victoria's total irrigated area and 15 per cent of total use of irrigation water, but are responsible for 33 per cent of the value of irrigated production for the entire State. This difference is due largely to the proportion of land irrigated by private diversion devoted to intensive, higher valued crops: 63 per cent of the State's area of irrigated market gardens is irrigated by private diversion (Neilson, p 85).

The area irrigated by means of private diversions can be expected to grow. In recent years there has been an expansion of the area of permanent plantings of avocados, vines, almonds and citrus, which will require additional quantities of water as crops mature. Developments of this kind will enhance the viability of irrigated agriculture across the State.

In the area downstream of Swan Hill applications for a further 77 000 megalitres have been received by the Rural Water Commission. The Committee believes that every step should be taken to ensure that this development and others like it are encouraged. If this is not done then the industry as a whole will have great difficulty in achieving the anticipated productivity gains. Encouragement of private diversions will be an important strategy to promote economic activity and employment growth in irrigated agriculture.

### Use of Groundwater

Large interstate contrasts also exist when examining the utilisation of groundwater. The total groundwater usage for irrigation in Australia is about 2.3 million megalitres per year, about ten per cent of which is in Victoria. Most Australian groundwater usage for irrigation is in Queensland (see Table 5.1), whereas in southern irrigation schemes it provides only supplementary supplies. In examining this issue Smith et al noted (p 113):

"In southern Australia... extensive areas of high quality groundwater exist where rivers emerge onto the riverine plain. Current usage is minor compared with the reserves which are estimated to exceed current water storages by up to 80 times."

The number of groundwater licences for irrigation purposes in Victoria at June 1983 was 2780. These licences permitted the irrigation of some 55 000 hectares and the extraction of up to 281 000 megalitres of groundwater for this purpose. There is no readily available information on the significance of groundwater in contributing to the economic value of irrigated agriculture.

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**TABLE 5.1**

**AREAS OF CONCENTRATED GROUNDWATER USAGE  
FOR IRRIGATION IN AUSTRALIA**

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Region	Megalitres per year	Use
Burdekin Delta (QLD)	320 000	Sugarcane
Namoi Valley (NSW)	108 000	Cotton, soybeans, maize
Condamine Valley (QLD)	100 000	Cotton, soybeans
Southeastern (SA)	98 000	Vines, vegetables, seed crops
Bundaberg (QLD)	94 000	Sugarcane
Lockyer Valley (QLD)	70 000	Small crops and fodder
Perth (WA)	66 000	Market gardens, urban industrial
Hunter Valley (NSW)	53 000	Small crops
Callide Valley (QLD)	35 000	Fodder and grain crops
Pioneer Valley (QLD)	31 000	Sugarcane and domestic
North Adelaide Plains (SA)	21 000	Market gardens
Total	<u>996 000</u>	
Approx Total Victorian Usage	<u>200 000</u>	

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Sources: Smith et al, p 113; Atlas of Victoria, p 38.

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### 5.3 Financial Issues

There are substantial costs in running the State's irrigation systems, some of which are recouped from the direct users of the system through various charges. This Section considers the levels of costs involved, and the extent to which these costs are directly recovered.

The total cost can be subdivided into direct operating costs, short-term maintenance costs, long-term maintenance costs or depreciation - normally referred to as renewal or replacement costs in irrigated agriculture, new capital works, and the servicing of the capital that has been invested in the systems over the years. An extra cost that is sometimes included in comprehensive estimates is the cost of generating any nominated rate of direct return on the capital invested, as was envisaged by Swinburne, Mead and others at the time the State Rivers and Water Supply Commission was established. The following sub-sections cover each of these costs briefly under the following headings:

- . operational and maintenance costs (5.3.1);
- . renewal, enhancement and depreciation costs (5.3.2);
- . capital works and debt servicing (5.3.3); and
- . total cost and Government support (5.3.4).

## 5.3.1 Operational and Maintenance Costs

Expenditure

Expenditure by the State Rivers and Water Supply Commission on operations and maintenance in all irrigation districts in 1981-82 and 1982-83, the latest years for which figures are at present available, were as shown in Table 5.2.

**TABLE 5.2**  
STATE RIVERS AND WATER SUPPLY COMMISSION  
EXPENDITURE AND WATER VOLUMES DELIVERED

	1981-82	1982-83	Change
All Irrigation Districts	\$	\$	%
Pumping	1 333 895	1 465 547	9.9
Water Distribution	5 727 868	7 016 261	22.5
Maintenance	8 634 006	9 250 722	7.1
Main Channels and Headworks	1 280 879	1 746 086	36.3
Administration	3 692 578	4 303 514	16.5
<b>TOTAL</b>	<u>20 669 226</u>	<u>23 782 130</u>	<u>+15.0</u>
Volume of water delivered to Districts, megalitres	2 679 138	2 301 847	-14.0%

Source: Annual Report 1982-83, vol 2, p 33.

The Commission's expenditure increased substantially between the two years, although the volume of water delivered fell by 14 per cent because of the severe 1982-83 drought. The average cost of water distribution alone in all districts thus rose from \$2.14 per megalitre in 1981-82 to \$3.05 in 1982-83, an increase of 43 per

cent, while the total operating cost rose by 34 per cent, from \$7.72 per megalitre to \$10.33 per megalitre.

The expenditure associated with the administration and regulation of private diversion licences in 1982-83 as \$1 405 640 (Annual Report 1982-83, vol 2, p 173), so that the total expenditure of the Commission on routine operations and on maintenance in irrigation for the year 1982-83 was \$25 187 770. In addition, operational and maintenance costs of supplying water to irrigators are also incurred in the Coliban District and in the irrigation areas between Horsham and Murtoa, but as the irrigation components of these areas are not separated in the accounts from the urban and stock and domestic components, details are not readily available.

To some extent, these figures understate the real level of routine operational and maintenance costs actually incurred in providing irrigation water. For example, in papers presented by Commission officers to the Combined Advisory Boards Conference in July 1983, several items of expenditure were identified as incurred in providing water services to irrigated agriculture, but which are not generally charged as operational and maintenance costs (D Anderson, Welsh). The items, and their values in 1981-82, are given in Table 5.3.

In 1981-82 these costs amounted to 12 per cent of routine operational and

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**TABLE 5.3**  
COSTS INCURRED BY IRRIGATION BUT NOT DEBITED, 1981-82

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	\$
State Government contributions to the permanent public servants superannuation scheme	900 000
Head office overheads	1 300 000
River Murray Commission maintenance	200 000
<b>TOTAL</b>	<u>2 400 000</u>

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Source: Welsh, p 6 and D Anderson, p 8.

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maintenance costs. If it is assumed that these costs have remained as a constant proportion of the routine costs, they add about \$3 million to the recorded operational and maintenance costs for 1982-83.

The total expenditure on operations and maintenance of irrigation in 1982-83 thus was approximately \$28 million.

### Irrigation Charges and the Water Act

Section 67 of the Water Act 1958 (as amended) provides the statutory basis for the irrigation charges levied in each of the irrigation districts, and specifies the basis for their calculation. The charges are fixed by the Commission "subject to the approval of the Governor in Council" and they are required by the Act to cover:

- . the liquidation of the loss (if any) incurred in the district in the previous year;
- . management and maintenance of works serving the district;
- . accruing maintenance and future renewals of works and equipment serving the district;
- . the payment of interest on the cost of works in the district; and
- . the redemption of capital in respect of the district as provided in the Act.

A change to the legislation has altered the sections of the Act dealing with those interest and redemption charges that are levied against districts. The Water Act 1944 specified the interest and redemption rates that were to apply, but a 1982 amendment allows both rates to be determined from time to time by the Governor in Council.

The State Rivers and Water Supply Commission has stated its objectives on pricing and charging levels for irrigation services as follows:

"In accordance with Government policy, the Commission's objective in regard to irrigation pricing is that irrigation districts should meet operating and maintenance costs in perpetuity (that is, including renewal costs) and, where appropriate, a proportion of capital costs. Generally, however, interest and redemption on capital is not charged against water users associated with irrigation districts" (Annual Report 1982-83, vol 1, p 32).

Revenue

The Commission's revenue from irrigation in 1981-82 and in 1982-83 is shown in Table 5.4.

**TABLE 5.4**  
**REVENUE FROM IRRIGATION**

	1981-82	1982-83
	\$	\$
Irrigation charge (water rights)	14 150 500	16 697 576
Sales of water	5 763 065	3 280 903
Other sources	2 454 727	2 682 004
Sub-Total	<u>22 368 292</u>	<u>22 660 483</u>
Private diversions	1 289 467	1 524 544
Total	<u>23 657 759</u>	<u>24 185 027</u>

Source: Annual Report 1982-83, vol 2, p 33.

Sixty per cent of the revenue from "other sources" comes from the provision of drainage services, and most of the remainder is from miscellaneous items not defined in the annual reports. The annual reports of the Commission do not separate the cost of provision of drainage services within total expenditure. The revenue from private diversions includes revenue from diversion permits, licences and from sales.

The level of charges and the revenue and expenditure for each district is shown in Table 5.5. This shows very marked variations in the performances of the separate districts, with the greatest proportional loss being in the Bacchus Marsh District, where revenue was only 63 per cent of operating expenditure - the target required.

TABLE 5.5

## FINANCIAL OPERATIONS OF IRRIGATION DISTRICTS, 1982-83

District	Charge per ML 1982-83 \$	% Increase Since 1981-82	Operating Expenditure \$ 000	Assessed Revenue \$ 000	Result of Operations \$ 000	Revenue as Fraction of Expenditure %
GMID	7.50	17%	18 219	17 315	-904	95
Campaspe	7.50	17%	269	209	-60	78
Macalister	10.80	15%	1 702	1176	-526	69
Bacchus Marsh	19.20	23%	246	156	-90	63
Werribee	19.60	43%	442	393	-49	89
Merbein	21.85	21%	834	896	+62	107
Red Cliffs	24.00	20%	1 208	1 359	+151	113
Robinvale	26.40	20%	597	628	+31	105
Nyah	24.00	12%	220	277	+57	126
Tresco	25.30	12%	180	251	+71	139
TOTALS			23 917	22 650	-1 257	95

Source: Annual Report 1982-83, Vol 1, p 32

On the other hand, Nyah and Tresco performed very well on this measure, with revenue exceeding the requirements by almost 26 per cent and just over 39 per cent respectively. Overall, the total revenue of the districts in 1982-83 failed to cover the routine and maintenance costs charged to them by \$1.26 million, which amount becomes a direct charge on the Government and thus a direct subsidy on operating expenditure.

The year 1982-83 did, of course, include one of Victoria's worst recorded droughts. The Commission has noted that in that year: "the gravity irrigation districts all experienced operating losses, predominantly due to restricted water availability and the consequent reduced delivery volumes as a result of the drought" (Annual Report 1982-83, vol 1, p 32). In 1981-82, the system-wide result was an operating surplus of \$1.58 million, or 7.6 per cent of expenditure, and the only districts to record losses were Werribee (\$31 000), Red Cliffs (\$2000) and Bacchus Marsh (\$1000).

Since 1979-80, the overall levels of the charges levied have increased, so that the level of subsidy on operating costs has declined substantially. The Commission has stated that:

"For 1981-82 the subsidy for irrigation districts is \$59 000, of total annual operating cost of \$20.3 million...In the case of the GMID...there has never been a subsidy to annual operating costs since the District's constitution as a single financial entity in 1959" (Response to Neilson, p 12).

It is not clear from the information provided within the Commission's annual reports which specific items of operational and maintenance expenditure are incorporated into the figures published for individual districts. In sub-section 5.3.2 below, there is a discussion of the degree of understatement of such expenditure across the system as a whole.

#### Changes during Recent Years

Across the system as a whole, Neilson Associates found the following trends in operational and maintenance expenditure over the decade of the 1970s:

- total operating costs in real terms remained relatively constant over the decade 1970 to 1980, although they increased during the period immediately after 1973-74 following changes to

water bailiffs' work schedules and decreased again after 1977-78;

- . the decline in real terms in operating costs since 1977-78 had been achieved by reductions in costs in each of operations and maintenance, local administration, and Head Office administration;
- . expenditure on maintenance in each district has not varied greatly over recent years, and for each district has settled down after 1974-75 to a relatively constant share of the total district outlays; and
- . on a per megalitre basis, operating costs measured in June 1980 values remained relatively constant (Neilson, pp 133-139).

The study concluded that "there is little evidence in these trends of increases in productivity arising from either increased efficiency in operations through innovations of a capital nature...or other capital investment or procedural improvement" (p 139). Of concern to the Committee is the possible implication of this finding that the Commission is not investigating the options available to it sufficiently, or investing adequately in technological developments which might enable costs to be reduced.

In this context it is, however, important to acknowledge some recent Commission activities. The Annual Report for 1982-83 (vol 1, p 30) refers to several trials which have been carried out to improve water distribution procedures, including:

- . telephone ordering;
- . central planning of water distribution;
- . monthly meter reading and recording of deliveries;
- . bailiff roster arrangements; and
- . re-organisation of bailiff sections.

Over a number of years the Commission has progressively converted open channels in the Mallee pumped districts to pipelines, in order to improve delivery efficiency by reducing evaporation and seepage losses, and to reduce operations and maintenance costs. Works have been carried out in the Nyah, Merbein, and Red Cliffs districts, and for the southern district of Bacchus Marsh. These programs have been a significant factor in improving the financial positions of most of these districts in operational terms, as is shown in Table 5.5 above.

### 5.3.2 Renewals, Enhancement and Depreciation

Short-term maintenance is included by the Commission with immediate operational costs, and these were considered in the previous sub-section. Long-term maintenance and provision for replacement, or what is usually called depreciation, is normally referred to as system renewal or replacement by the Commission. It is not clear why the usual term is not generally used in irrigated agriculture, and it would seem appropriate that it should be. Using the usual terminology would assist in allowing adequately for it in the financial management of the Commission, and help to relieve the confusion that at present exists.

#### Present Spending and Source of Funds

During 1982-83 an amount of \$2.4 million was spent on the replacement of channel structures in the Goulburn Murray Irrigation District, \$1 million of which came from the District's revenue from irrigators (Annual Report 1982-83, vol 1, p 28). The Commission acknowledges that this level of funding is "not adequate to ensure the long-term viability of the irrigation system" (Response to Centre, p 14).

The greater part of the depreciation cost is provided by the State, although there is a substantial contribution from irrigators to replacements within districts. When works within a district are replaced or rebuilt to a higher level of performance, the part of the works that provides the increased performance is referred to as "enhancement", and is fully financed by State Government grants. If a district does not have the funds available for replacement works from its own revenue, loan funds may be provided by the Government at 3 per cent interest and at a redemption rate of one quarter per cent per annum (Welsh, p 6).

Items of a capital nature, that are new works rather than replacement, or are enhancement of existing works, are considered in the next sub-section.

#### Estimates of Depreciation Needs

The provision for depreciation and the levels of capital funds needed for system renewal have received considerable attention during the course of this Committee's

inquiry. There is widespread concern within the irrigation community at the current status of capital assets, at the current level of funds available to maintain and renew assets properly, and finally, over the issue of who will provide the funds for any increased programme of renewals. In the words of the Goulburn Murray Irrigation District Advisory Council in its response to Neilson (p 3) "the Goulburn Murray Irrigation District system generally is far below...a fully modernised District". The Council went on to say that: "this situation has been created largely by the quality of works inherited from the original Trusts (pre-1900 works) and also in periods, mainly in the mid-1970s, where a downturn in the rural economy led to a Government decision to hold down charges".

A number of irrigators have pointed out to the Committee that as the poor state of repair of many works is the result of many years of under-provision for depreciation, present-day irrigators should not be expected to pay all of the extra costs required to bring the works up to an acceptable standard.

Any discussion of renewals, enhancements and depreciation rapidly comes up against a major difficulty, that has been identified by several consultants who have examined aspects of the irrigation industry. This is the quality of the information that is available, particularly on the subject of depreciation.

During the course of this inquiry it has become apparent that insufficient information is available to determine the adequacy of existing provisions for the replacement of structures. Consultants employed both by this Committee and by the Commission itself have suggested that, on the available evidence the true magnitude of capital renewals required has been understated and that as a consequence depreciation provisions have not been adequate. The Committee agrees with the comment provided by the Commission, when responding to the Centre's report, that "wide discrepancies over the assessment of funding requirements for capital replacements exist" (p 14). Table 5.6 shows these discrepancies. Given the point of development reached in the Victorian irrigation system, and the increasing magnitude of the problems created by the ageing of the irrigation infrastructure, there appears to be an urgent need to resolve this issue.

**TABLE 5.6**  
ESTIMATES OF ANNUAL DEPRECIATION ALLOWANCES REQUIRED

	\$ Million
D Anderson, 1983, GMID only	20
Arthur Andersen and Co, 1983, GMID only	
Historical Cost	2-5
Replacement Cost	13-26
Centre for Policy Studies, 1983, all	2-35
Commission response to Centre, 1984, all	6-8

Sources: see text

In the last year or two, there have been no less than four published estimates of the appropriate levels of funding for replacements within the irrigation system. The first of these was contained in a paper prepared for the 1983 Combined Advisory Boards Conference by Commission officers. In this, the appropriate level of depreciation charges for the Goulburn Murray Irrigation District were discussed. The analysis of that paper suggests that, based on a present-day written-down replacement value of assets of \$700 million, an annual depreciation charge of about \$20 million would have been appropriate for 1981-82 (D Anderson).

At about the same time, the chartered accountants Arthur Andersen and Co, acting as consultants to the Commission, derived estimates of the depreciation charges applicable to the Goulburn Murray Irrigation District on the basis of both historical (that is, original) costs and replacement (that is, current) costs. Arthur Andersen and Co noted that calculations of depreciation levels are very sensitive to estimates of the useful life of the assets concerned. They estimated that the annual depreciation charge for the GMID based on historical costs falls from about \$4.6 million to \$2.2 million if the expected lives of headworks and of distributary works is increased from 50 years and 25 years to 120 years and 60 years respectively. The figures show a similar pattern for the corresponding replacement-cost based depreciation

charges, but the amounts involved are very much larger at \$25.9 million to \$13.4 million.

The calculations made by Arthur Andersen and Co omitted some important items (such as River Murray Commission works), which means that the overall level of depreciation charges determined is lower than it perhaps should be.

The third estimate was carried out by the Centre of Policy Studies at Monash University, which made some preliminary calculations concerning the levels of funds required for depreciation in order to keep the irrigation system in operation indefinitely. Their analysis extended and broadened the calculations of Arthur Andersen and Co but did not seek to alter the basic assumptions. The Centre's report concluded that (p 60):

"All we can do is assign broad ranges to the likely magnitude of a (depreciation) charge... For the purpose of this exercise, all we can say is that a charge of up to \$35 million per year for capital renewals may be required to keep the system maintained indefinitely".

The Commission, in its response to the Centre discounted the validity of the figures on depreciation provisions produced by the Centre (p 15):

"The Monash Policy Centre Study indicates that a cost of up to \$35 million per annum may be required... Arthur Andersen and Company... indicated that the requirement may be in the order of \$20 million per annum, whereas the Commission's estimate in 1981-82 was some \$5 million per annum. In the Commission's view, it is not reasonable to assign any real substance to the higher figure."

The Commission estimates the funds required each year for asset replacement as \$6-8 million, depending upon how much of works on large storages is regarded as enhancement rather than maintenance. This total is made up of \$4 million for enhancement and replacement works on large storages and \$3-4 million for replacements of channel structures. The Commission noted also the additional need to spend on continuing maintenance of all channels and on major remodelling of some, but it provided no estimates of costs (Response to Centre, p 19).

In 1959, as part of a major overall of the administrative and financial structure of the Commissions' irrigation services, an "Irrigation Districts Maintenance

Equalisation and Renewal Account", or IDMER, was established. Any surpluses generated within each district were to be deposited into this account, and then used in subsequent years for maintenance, rates equalisation or renewals of works. Funds were deposited in and withdrawn from this account for each district for some years. However, in the mid 1970s poor years resulted in pressure on the Government to keep charges down, no surpluses were generated, and funds for maintenance from IDMER were quickly exhausted. The IDMER account was abolished in 1982.

In view of the lack of adequate information on depreciation and maintenance needs, the discrepancies between the estimates prepared by the Commission and by the two groups of consultants on the basis and value of depreciation, and in view of the potential impact on the management of the irrigation systems, the Committee believes that this matter should be resolved as a matter of urgency. A start could be made by compiling a comprehensive register of the assets of the Commission, and by making rather more systematic estimates of both expected lifetimes and replacement costs of these assets.

The Committee supports the conclusions of the Centre of Policy Studies when it stated in its report (p 60, emphasis in original):

"It is essential that those who are responsible for managing Victoria's water resources make accurate determinations of future requirements for capital renewals. Without such information, the extent to which irrigators pay the costs of maintaining the system indefinitely cannot be known".

The Centre also suggested that insufficient funds were being set aside for capital renewals. It noted in its report that there is a need to have an estimate of capital renewals:

"which represents the annual charge which would cover the costs of financing all future replacements...

"We cannot determine accurately, the level of such a charge for depreciation, because we have little information about the life of assets, the replacement values of assets, or the appropriate real rate of return which should be required on such a sinking fund" (p 60).

The Committee endorses these findings and considers that the preparation of such estimates should be considered as an urgent task in reviewing in detail future

management strategies for the development of existing irrigation systems. At this stage there is not sufficient information on this vital issue to make precise policy recommendations.

### 5.3.3 Capital Works and Debt Servicing

#### Capital Works

The proportion of the State Works Programme (Works and Services Vote) allocated to the Commission for all its activities declined from 4.5 per cent in 1964-65 to 2.3 per cent in 1980-81 (Neilson, p 151). More recently, this trend has reversed. In 1982-83, the Commission accounted for 6.2 per cent of the total Works Programme, and estimates for 1983-84 suggest that the proportion will then be 4.1 per cent (1983-84 Budget Paper No 3, p 5).

The 1981-82 and 1982-83 capital works programme funded from the State Budget and estimates for 1983-84 are listed in Table 5.7. The Table also includes additional items of capital expenditure which directly benefit the irrigation sector, but which are not explicitly referred to as irrigation works.

At 30 June 1983 the total capital assets of the Commission in rural water supply works attributed to irrigation districts, waterworks districts and rural districts exceeded \$340 million at historic cost (Annual Report 1982-83, vol 2, p 29). Some preliminary estimates have been prepared to calculate the replacement values, but the inadequacy of these estimates has been noted in sub-section 5.3.2.

The great bulk of the capital funds and of the interest payable on them has been provided by the Government, rather than by irrigators.

An increasingly significant item of capital expenditure is the amount needed for drainage and salinity control, especially in northern Victoria. As Table 5.7 shows, \$3.96 million was spent in 1982-83 on drainage and salinity control works and an increase of 29 per cent for 1983-84 was expected. The amounts spent on salinity and drainage can be expected to increase further in real terms in future years.

TABLE 5.7

## IRRIGATION CAPITAL WORKS FUNDED BY THE STATE BUDGET

	Payments 1981-82 \$	Payments 1982-83 \$	Estimate 1983-84 \$
Other Storages and Headworks	1 581 259	1 481 129	2 941 000
Drainage and Salinity Control	1 488 000	3 959 260	5 100 000
Irrigation and Water Supply Districts	2 913 000	2 458 575	3 350 000
River Murray Commission	2 266 000	2 756 512	2 885 000
IDMER	-	221 586	abolished
Total	8 248 259	10 877 063	14 476 000

## WORKS HAVING AN IRRIGATION COMPONENT

Coliban System	1 472 199	2 235 000	3 350 000
Water Resource Assessment	0	239 999	510 000
Surveys, Investigations Designs and Research	2 635 128	2 326 177	3 229 000
Blue Rock Dam	2 825 000	11 813 743	9 370 000
Thomson Dam (Govt. share)	16 833 445	21 936 481	0

Source: 1981-82 from Budget Papers No 2 and No 3, 1982-83;  
Victorian Budget Paper No. 3, 1983-84.

The future needs for capital expenditure are difficult to determine, in large part because of uncertainties over the amounts needed for both system renewals (because, as already noted there is no proper depreciation fund established) and salinity control. The inadequacies of present estimates of these needs has already been discussed.

### Debt Servicing

The Government has in effect borne almost the full responsibility for interest payments on items of capital expenditure since the beginning of the century. In 1979-80 the average rate of interest of 7.991 per cent created a total interest bill for that year estimated at \$17.7 million (Neilson, p 151). By 1982-83 the total interest debited to the Commission had increased to \$76 million per annum, but this covers all Commission works, not solely those used for irrigation (Annual Report 1982-83, vol 1, pp 74-75). No break-up of this sum into its components is provided to the Commission by the Department of Management and Budget, and the Commission does not have the information available to calculate the details itself. As a result the Committee cannot ascertain how this overall level of interest on capital assets has been calculated. It is, therefore, difficult to make accurate forecasts of what the interest payments can be expected to be in future. Information presented by the Commission in informal discussions with the Committee has further emphasised the inadequacies of current accounting procedures involving the calculation and determination of these amounts.

In view of the significance of this matter to the future management of irrigated agriculture, the Committee is very concerned over the approach taken by the Department of Management and Budget and by the Rural Water Commission. The Committee believes that it is a matter of urgency that more complete and reliable estimates be prepared, showing both the existing debt position and how this can be expected to change in the medium to long-term.

In a recent paper by the Commission's Director of Financial Management, it is noted that 98 per cent of all capital servicing costs are charged to the State rather than to irrigators (Welsh, p 6). Yet neither this paper nor other Commission documents make clear just what is that cost. The 1982-83 Annual Report of the Commission indicates that irrigators in each district paid interest as shown in Table 5.8.

**TABLE 5.8**  
IRRIGATION DISTRICTS INTEREST AND CAPITAL LIABILITY, 1982-83

District	Value of Capital Assets at Cost \$	Interest Paid by District \$
Bacchus Marsh	2 618 925	12 902
Campaspe	5 402 392	62 370
GMID	194 335 629	42 371
Macalister	17 275 967	3 961
Merbein	3 228 802	261
Nyah	3 956 676	4
Red Cliffs	4 573 033	1 287
Robinvale	3 347 508	99
Tresco	1 558 820	0
Werribee	2 339 304	1 630
<b>Total</b>	<u>238 637 056</u>	<u>124 885</u>

Source: Annual Report 1982-83, vol 2, pp 34-43.

This table understates the actual value of capital assets created to provide water to irrigators, first because the assets are valued in historical cost terms, and second because much of the system has not been included in these figures.

The Commission's Annual Report for 1982-83 provides information on the amount of interest paid by all consumers of Commission services, and this information is shown in Table 5.9.

Of the total interest bill paid by consumers of the Commission's services for the capital expended, approximately 90 per cent is recovered from consumers of urban services (Urban Districts and the Coliban System), with 80 per cent being paid by consumers within the Coliban and Mornington Peninsula Urban Districts.

**TABLE 5.9**  
**INTEREST PAID BY ALL COMMISSION DISTRICTS, 1982-83**

District	Interest Paid 1982-83 \$	Proportion of Total Interest %
Coliban	840 665	8.8
Irrigation	124 885	1.3
Rural	103 513	1.0
Piped	751 636	7.8
Waterworks	0	0
Urban	7 755 187	81
Flood Protection	0	0
<b>Total</b>	<b>9 575 886</b>	<b>100.0</b>

Source: Annual Report 1982-83, vol 2, pp 32-127

#### 5.3.4 Total Cost and Government Support

##### Total Cost

Earlier in this Section, the costs of providing services to irrigated agriculture by the Commission have been identified as including operational and maintenance costs, depreciation costs, and the costs of the funds used to develop and operate the system. The full cost of providing services to irrigated agriculture includes also the costs of research, advisory and extension services, as well as some of the costs of operating the Land Protection Division (Soil Conservation Authority), the Department of Minerals and Energy, and the Department of Agriculture. Assessing these costs is beyond the Committee's terms of reference.

An additional element of costing that is included in some comprehensive analysis of the total cost of providing irrigation water is the cost of providing any nominated rate of return on the capital invested in the system, although it should be noted that there is no requirement on the irrigation system to provide any rate of return. The only information available on this is in the form of several preliminary estimates each based on the application of a target rate of return of 4 per cent except for that from Arthur Andersen and Co, based on 5 per cent (see Table 5.10).

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**TABLE 5.10**  
COST ESTIMATES OF TARGET RATE OF RETURN

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	\$ each year
D Anderson 1983 estimate (GMID only)	28 000 000
Arthur Andersen 1983 estimate (GMID only)	4-47 000 000
Centre for Policy Studies 1984 estimate (all)	40-80 000 000
Commission 1984 estimate (all) (Response to COPS, p 22)	60 000 000

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Source: See Table 5.6.

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The Committee has made no attempt of its own to estimate this item, but it does note the importance of these estimates in understanding the current approach to managing the system.

Various attempts have been made to bring together all the various revenue and expenditure items to enable an overall assessment to be gained of the Commission's financial position. One approach is to express all items on a per megalitre basis, as was done in a paper presented to the Combined Advisory Boards Conference in 1983 (D Anderson, p 11):

"The total cost of water supply (including operation and maintenance costs, capital depreciation, a minimum return on investment) in the GMID in 1981-82 was in the order of \$28 - \$30 per megalitre comprising:

Operations and Maintenance Costs	\$ 7.50
Capital Depreciation	8.00
Return on Assets	12.50
	<u>\$28.00 "</u>

In 1981-82, the charge per megalitre for water delivered to irrigators in the Goulburn Murray Irrigation District was \$6.40.

### Government Support

Governments provide a range of programmes and services to assist irrigated agriculture. Some services are the same as those provided to other forms of agriculture, while others reflect the particular characteristics of irrigation schemes. Examples of the former assistance include research, advisory and extension services, market development and promotion, price support schemes and programmes of structural adjustment.

Some forms of assistance apply differently to the public and the private components of the irrigation industry, and some forms of assistance are direct while others are indirect. As has been noted earlier in this Report, of increasing concern is the extent to which the community's resources, including water, are valued: to the extent that the true cost of such a resource is not reflected in the charges levied for the use of that resource, there is an indirect form of assistance to the users.

The forms and levels of assistance to industry generally - both primary and secondary - have come under critical scrutiny in recent years. This scrutiny has extended to all types of Government involvement, and has led to a critical review of Government programmes of industry regulation and control. The most recent example of this scrutiny in primary industry has been the egg industry, where policies are being developed to de-regulate the industry and to develop a more market oriented approach.

The Committee notes that there is insufficient information available on the degree to which programmes of support and assistance for irrigated agriculture have been developed. There is also insufficient data on the extent to which policies and, more particularly practices, may have inhibited or impeded the growth and development of the sector. Inadequate data and insufficient analysis have prevented any discussion of the effectiveness of existing forms of assistance, the equity implications of this assistance, or the overall impact on the industry to which this assistance is directed.

The Commission's annual reports indicate that Government subsidies are paid to support the operations of the Commission, but they do not contain enough detailed information to indicate the extent of this support, to identify the groups that receive it, or to indicate the prime purpose of the support. It is, however, clear that "the most significant subsidy towards Commission operations is in the nature of interest expense met by the State for capital provided to the Commission by the Government" (Annual Report 1982-83, vol 1, p 74).

The Committee expects that recent initiatives taken in reporting and budgeting practices, such as the Annual Reporting Act 1983, section 43 of the Water Act 1958, and the introduction of Program Budgeting in Victoria, may create a framework within which programmes of assistance will be more readily identified, and their costs and effectiveness assessed.

As noted above, the main form of assistance to irrigated agriculture has been the payment of interest on capital, which has reduced the cost of water supplied by the Rural Water Commission. This type of assistance is common in agricultural policies in Australia, with other examples including assistance to reduce the costs of nitrogenous and phosphatic fertilisers, fuel prices, credit and capital resources, and a range of taxation concessions. Many of these assistance schemes are funded by the Commonwealth Government.

Some of the other forms of assistance can be of substantial value to irrigated agriculture. For example, landforming expenses can be claimed as a 100 per cent deduction for taxation purposes in the year that the expenses are incurred. This policy has been cited as an important factor in encouraging landforming in recent years (Birch, p 37).

Changes in Financing Policies

Most irrigation districts operated at a loss over the greater part of the 1970s, in large part due to limitations consciously imposed by the Government on annual increases in charges, as has been noted above. After the Robertson Inquiry into the Goulburn Murray Irrigation District in 1977, the Government altered the arrangements for the districts' liabilities for capital sums. Since that alteration, the replacement component of renewal works has been funded twenty per cent from district revenues and 80 per cent from Government funds with the districts paying three and one quarter per cent interest and redemption (Neilson, p 128). These arrangements do not cover any enhancement component of renewals.

Since the late 1970s, irrigation charges have begun to reflect the rising cost of providing the services. This has led to the improved financial position for the Commission outlined above, at least with respect to the recovery of routine operational and maintenance costs.

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## 5.4 Issues in Agriculture and in Technology

Irrigated agriculture will continue to remain the largest single consumer of water resources within the State for the foreseeable future. As such it will remain, in terms of total volumes of water, the largest client group of the Rural Water Commission. The future role, functions and structure of the Commission will therefore need to be closely related to the anticipated and unanticipated changes in irrigated agriculture, although this does not suggest that the existing pattern must remain indefinitely into the future, or that other social and economic objectives may not necessitate a re-evaluation of current allocation priorities. The Committee believes that the environment of irrigated agriculture is now much more dynamic than at any time in the recent past, and that changes in the operations of the Commission will need to occur in the medium to longer term in order to accommodate its new surroundings.

Technological changes are expected to have a major impact on the management and practice of irrigated agriculture. Adoption of new technology can be expected to be an important strategy in developing a more consumer oriented outlook for the Commission, and in enhancing its capacity to scrutinise internally its own performance. The effects of technological changes at the farm level can be expected to be quite substantial, leading to changes in production and in the demand for services from the Commission.

In this Section, the overall future of irrigated agriculture is briefly discussed, from a market perspective. The Section also discusses the adoption of new technology and how this might affect the total and regional levels of demand, as well as critical issues such as quantity, quality, and timing of the services provided to irrigators.

### 5.4.1 Trends in Irrigated Agriculture

Much of the information on trends in irrigated agriculture in Victoria used in this Section is drawn from in Birch's report on Development Options for Irrigated Agriculture in Victoria. Over the period 1977-78 to 1982-83, the relative importance of fruit declined, whereas milk and milk products grew in importance so that they constitute 40 per cent by value of all irrigated production. The two less

important groups of products, "other livestock products" and vegetables, expanded, while tobacco fluctuated within a non-growth trend (Birch, p 26).

A second element of analysis considered by Birch was the changes in land use during the past decade. He concluded (p 24) that several trends were evident, such as:

- "a. Pastures, though still by far the most dominant land use, are declining in relative importance. (This trend is expected to continue, as irrigators move to higher value crops.)
- b. There has been a recent dramatic growth in the area of irrigated cereal crops.
- c. Market gardens and sorghum have grown significantly.
- d. Lucerne, orchards and 'other' crops have declined.
- e. Land irrigated by private diversion is still expanding with interest centred on annual pastures, cereals and market gardens.
- f. Land use has been relatively static in the Southern Irrigation Districts."

Forecasting trends in irrigated agriculture, even with an appreciation of recent historical changes, is difficult. Several forecasts have been prepared during the period during which this Committee has been reviewing the irrigation sector. While there are differences between these forecasts, there are some underlying themes which need to be considered in developing recommendations for future management of irrigation systems.

Many commentators have expressed confidence in the future of irrigated agriculture as a whole, while suggesting at the same time that the industry will undergo considerable structural change. Mr E Turnbull, an economist with the Animal and Irrigated Pastures Research Institute at Kyabram, expressed this belief as follows:

"...water used for a wide range of agricultural enterprises generates a substantial revenue for farmers and the community....there is considerable potential with the adoption of technology to increase the amount of income generated from water...." (evidence, p 3263).

The future prospects of irrigated agriculture have also been discussed by the Department of Agriculture in its evidence before the Committee, by officers of the

State Rivers and Water Supply Commission (D Anderson), by Neilson Associates, and in other studies (for example, Balderstone). The Committee has also received several comments from individual irrigators and their representatives on the future prospects of specific commodities.

Forecasters have often attempted to specify the factors which may influence demand for and supply of a range of commodities, rather than the more difficult task of making specific projections of how the demand and supply themselves may change. This approach was taken by Neilson Associates, who summarised their findings in the following terms:

"...irrigation industries...have significant capacity to increase output and profitability through innovations in farming practices and technology; that they can do so more readily than can dry-land farmers; that there are expanding market opportunities for most products, but especially for cereals and oil seeds; and that consequently we will see a progressive reduction in the dominance of pasture in irrigation districts, supplanted by a rise in cash cropping, fodder cropping and possibly some specialised fruit or vegetable production" (Neilson, p 90).

The State Rivers and Water Supply Commission has accepted as "reasonable" these conclusions concerning the future of irrigation industries in Victoria (Response to Neilson, p 7), and Birch's more recent data is not inconsistent with the overview developed by Neilson Associates three years earlier.

#### 5.4.2 The Outlook for Demand and Supply

##### The Outlook for Prices

All aspects of demand, supply and price forecasts are extremely complex, and the Committee has not investigated them in detail. A number of submissions have referred to them, and the following is a very brief comment on these important matters. A critical variable in determining future prospects is the ratio of prices received to prices paid by producers. A large number of variables can influence these prices, only some of which are amenable to manipulation through the policies of either the State or Federal Government. The prices paid by farmers for inputs to their activities can be influenced by productivity changes, changes in cost of production, technological advances, and so on, as well as by direct support policies of governments.

Birch's analysis suggests that the future outlook for the ratio of prices received by irrigators to prices paid by irrigators is likely to remain adverse (in historical terms) for the main agricultural export commodities, such as wool, wheat and meat. A decline in the ratio was also noted in the report by Balderstone.

No specific information has been presented to this Committee analysing the terms of trade for irrigated agriculture. Given the higher cost structure for irrigated agriculture (due to its more intensive use of resources and inputs, including capital) and the fact that it has a commodity profile broadly similar to non-irrigated agriculture, the terms of trade will be an important influence on the future viability of irrigated agriculture in comparison with dry land agriculture.

Several forecasts, both qualitative and quantitative have been prepared to describe the future outlook for both existing and prospective irrigation commodities.

### Dairying

The future of the irrigated dairy industry has been the subject of considerable debate within and outside the industry. A number of critical issues arise when considering its future, relating both to the development of markets and to production economies, so that its future direction is difficult to determine. As Birch notes (pp 68-69):

"A big question for irrigation is whether the dairy industry, which now occupies approximately 65 per cent of all Victoria's irrigated agricultural lands ultimately concentrates onto natural areas, or on irrigated pastures. It is no easily answered question."

Birch shows that there are several reasons for believing that demand for dairy products will continue to grow by between 2 and 4 per cent annually (p 67). This forecast is, however, dependent upon the outcome of first, international practices particularly by the European Economic Community, and second, the result of discussions currently underway by the Australian Agricultural Council following the recent dairy industry inquiry conducted by the Industries Assistance Commission.

Much of the change expected within the dairying industry is expected to occur on the production side, rather than in the development or expansion of markets. These changes, described by the Department of Agriculture as being "radical", are discussed in the next sub-section.

### Sheep and Beef Production

Overall the proportion of land devoted to beef production can be expected to contract through the influence of an expanded cropping industry and restructured dairy industry. The total size of the sheep industry based on irrigated pastures is likely to decline (Neilson, p 89).

### Cropping Industries

While there has been steady growth in the area of irrigated crops (cereals, oilseeds and forage crops) over the past 10 years (Birch, p 22), there still exist major constraints on the degree to which this industry can develop. Despite the prediction by the Department of Agriculture "that 30 per cent of current pasture land will be used for cropping in 30 years time" (1981 submission, p 22) it is by no means clear that the production technology will be "economically attractive" (Birch, p 71).

### Horticulture

The horticultural industry has undergone a long period of adjustment during the past decade, largely brought about by changing market conditions. Accompanying this adjustment has been a restructuring of farms and the adoption of new production technology. While the industry has not been expanding significantly (Neilson, p 90), Birch has suggested that its overall future is sound. He believes there is a "chance to create a new large scale, efficient, highly export oriented horticultural area for the production of a wide range of fruits, vegetables, cut flowers and other crops" (Birch, p 74). His report gives some details for the prospects for table grapes, citrus fruits, edible nuts, stone fruits, tropical fruits, cut flowers, temperate fruits, vegetables for export, and Asian fruit and vegetables (pp 74-81).

#### 5.4.3 Farm-Based Technological Change

There has been much discussion of the present levels of farm productivity within irrigation systems. The evidence available to the Committee suggest that the overall productivity and efficiency of irrigated agriculture in Victoria at present is not as high as in some other areas. Evidence presented by several witnesses has suggested to the Committee that considerable scope exists to improve the levels of

farm productivity. The questions of how likely such changes are, and the likely rates of adoption of the necessary changes, need however to be given separate and more detailed discussion.

Perhaps the most widely recognised changes now occurring are those concerning the manner in which water is applied to land. Some of these changes affect non-pressurised surface methods such as flood and furrow techniques, and others affect pressurised surface methods such as spray and drip irrigation. The most often quoted example is that of landforming by laser grading. Landforming allows more effective control over the application of water to land and has been widely adopted in northern Victoria. The introduction of "laser controlled landforming equipment" has been described as "revolutionizing" irrigation practice (Department of Agriculture 1981 submission, p 5), and the benefits of laser grading have been set out by Birch in his report (p 33). The Committee has inspected this process.

The widespread adoption of irrigation practices using landformed layouts is seen as influencing the quality of service demanded by irrigators from the Rural Water Commission: "laser formed layouts tend to require less water per hectare per watering, but more frequent waterings, resulting in greater overall use of water" (Birch, p 37).

Similar general observations apply to the adoption of other more sophisticated types of irrigation technique, such as trickle, micro-jet, and even some furrow methods. In its submission to the Committee, the Northern Victorian Fruitgrowers Association drew attention to some changes in fruitgrowing over the past decade that have been brought about by a change from flood irrigation to micro-drip to micro-sprinkler systems (submission, p 2).

There are also some prospects for greater use of improved and salt-tolerant pasture species.

Reports available to the Committee suggest that the widespread adoption of these new methods for water application could lead to significant but as yet largely unrecognised changes in the operations of the Commission's distribution system. Thus Birch notes (p 37):

"What appears to be not yet fully appreciated by State Rivers is that the introduction of laser land forming technology on the farm requires a much more sensitive and sophisticated water supply capability, and if this cannot be made available where needed, some at least, of the large investment in laser landforming will be wasted. It also requires more total water for irrigation which, also, is not always available."

The Committee is not able to assess the influence of this conclusion, but believes that given the amount of landforming now taking place and the suggestion of its potential impact, its possible overall effects should be studied in detail by the Commission and the Department of Agriculture as a matter of urgency. The Committee is mindful of the considerable private investment entailed by the landforming process. It is also concerned that the potential gains of this investment may not be maximised, because it may not be possible for the distribution system to supply water at the levels of service required.

The Commission has recognised some of these developments, and it has given some thought to the problems likely to result. The Committee is not, however, convinced that the Commission's conclusions are adequate:

"The emergence of more sophisticated irrigation practices geared to crop requirements may result in pressure on the Commission to increase investment in upgrading its distribution system. However, the flexibility and precision sought by farmers can be markedly influenced by their own management decisions and solutions found without increasing State investment" (Response to Neilson, p 7).

#### 5.4.4 Farm Productivity Increases

Research carried out by agencies such as the Department of Agriculture and the Commonwealth Scientific and Industrial Research Organisation has identified new management techniques for a range of commodities produced under irrigated conditions. These techniques are best used in combination, and they affect all aspects of farm production. Thus, for example, the Department of Agriculture has identified the elements of a strategy to improve the productivity of horticulture as including (1981 submission, pp 6-7):

- control of plant growth through precise watering using low flow irrigation;

- . improvements in propagation techniques and in pesticide application;
- . the use of regulatory chemicals;
- . better varieties; and
- . better storage and handling methods.

The success of such a strategy would depend in part upon the quality of service provided by the irrigation system. The Department went on to note (p 7):

"Precision irrigation techniques based on frequent irrigation will be an integral part of the new production technology. The SRWSC will be faced with the necessity to adjust current methods of operation to meet the demand from horticulturalists for more flexible and more frequent supplies of water."

Of equal significance to the Commission as a provider of water is the impact of technological change, and in particular of the resulting greater productivity levels, on the overall level of demand for irrigation water. Birch dramatically illustrated this point by reference to the irrigation of pastures. He noted that the present irrigated area under dairying is 364 000 hectares, on which the average current total dry matter production per hectare is 10 tonnes. Birch assumed a potential or target yield of dry matter per hectare of 30 tonnes, and an increase expected in milk production in the period 1983-90 of 20 per cent. At 30 tonnes per hectare, Birch calculated the land needed to produce the required dry matter as 145 700 hectares, a decrease from the present land area of 218 600 hectares (Birch, p 69).

Assuming that perennial pastures utilise five megalitres of water per hectare per annum, Birch's finding suggests that the total demand for irrigation water could decrease by as much as 1.1 million megalitres. The accompanying fall in the annual revenue of the Commission would amount to perhaps \$7.5 or \$8 million. Birch suggested that these changes were conceivable within a ten year period.

#### 5.4.5 Systemwide Technological Change

Considerable improvements in the efficiency of the delivery system have been evident over the past 30 years, in terms of the proportion of the water released from storages and actually delivered to landholders' boundaries. An extensive

programme of channel enlargement and remodelling that commenced in 1950 has improved delivery efficiency from around 50 per cent to 70 per cent. Up to June 1980, some \$50 million at historical cost has been spent on this remodelling programme, funded entirely from the State budget (MISV, p 6).

Changes in farm operations are creating and can be expected to continue to create needs for improvements to the methods of operation of the distribution and reticulation systems. The need to contain, and where possible, reduce operating and maintenance costs will also create pressure to adopt new technology and new operating practices, to improve the efficiency of the system as a whole.

In examining trends in operating costs during the 1970s, Neilson Associates found that improvements were the result of innovations in work schedules rather than of capital investment or procedural improvement (Neilson, p 139). It may be that further improvements will arise from injection of capital funds to improve the infrastructure. In Section 5.3.1 some trials now being conducted by the Commission to improve water distribution procedures have been noted.

One major area of technological change which could be important is the adoption of telemetry systems and remote control of supply systems. The Commission is currently evaluating a proposal for a field trial of a prototype system applicable to the gravity irrigation districts. This includes remote surveillance capacity and computerisation aimed at more efficient regulation of flows and reduction of water loss from the system (Response to Neilson, p 7).

#### 5.4.6 Rates of Change

The Committee has seen very little material which attempts to forecast the rates at which the changes outlined above may occur: such changes are naturally difficult to predict. Nonetheless, the Committee believes that the difficulties of such predictions do not in themselves warrant no attempt being made. It is apparent that the possible implications are so significant that urgent attention is required as part of the overall corporate development of the Rural Water Commission and of the Department of Agriculture.

Forecasting is necessary as part of overall planning of irrigation systems, especially at the regional - rather than purely local - level. Such widespread change could have very important implications for priority setting within the Commission, particularly for the expenditure of capital funds for system renewals or enhancements. Planning will also need to be done to set priorities for installation of expensive drainage and salinity control programmes. The Committee believes it is vital to avoid a situation in which capital assets are maintained or replaced in a region whose future could best be described as problematic, or in which assets are maintained or replaced in a manner which fails to take account of the expected changes in demand.

As a summary of the forecasting work that has been done to date, it appears that there is little or no scope for expansion of irrigated agriculture at a scale that would justify the creation of large new irrigation schemes. There may be occasional exceptional demands for large new areas of irrigation for specialised monoculture, but these would be exceptions to the general trend. No dramatic shifts in the organisation of the industry are expected, but a continuation is expected of the present trends for farms to become larger and more cost effective with the continued introduction of new technologies and with the adoption of greater professionalism in their management (Neilson, p 93).

In the longer term, the pattern of land use in irrigated agriculture in Victoria is expected to change significantly over the next three decades, in response to changes in the productivity of particular enterprises and in response to changing prices for agricultural products (Department of Agriculture, 1981 submission, p 21). Irrigated agriculture has very substantial potential for expanding production without increasing its use of either water or land (Birch, p x).

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## 5.5 Environmental Issues

The long term effects of large-scale irrigated agriculture upon the environment of irrigated regions has received increasing attention in recent years. The effects include a change in status of the wider natural environment involving changes to the biological, ecological, and physical processes, and a change in the capability of the region to sustain agricultural production itself. Such effects have been brought about first by the significant changes to the water balance which have accompanied development of irrigated agricultural systems, and second, by particular on-farm management practices associated with intensive agriculture.

These effects vary from one region to another following differences in the natural environment, the management practices adopted and in the types of irrigated agriculture.

The problem which has received most public recognition is that of salinity. Yet there are several other issues which influence the degree to which both environmental and agricultural objectives can be achieved. These include soil structure, surface and sub-surface drainage, sedimentation and run-off within river systems, wetland maintenance, wildlife habitat, forest regeneration, and the longer term effects of the widespread use of agricultural chemicals such as pesticides, fertilisers and herbicides. There exist potential and actual conflicts between short and long term development and the maintenance of irrigated agriculture, and between either of these and the maintenance of ecological and biological processes.

### 5.5.1 Salinity and Groundwater Management

Salinity in Victoria is currently being investigated by the Parliamentary Committee on Salinity. Its terms of reference require that Committee to inquire into the salinity of land and water within Victoria as a whole, including the effects of salinity associated with irrigation. It is, therefore, neither necessary nor appropriate for the Public Bodies Review Committee to discuss matters concerned with salinity in any detail. In view of the significance of salinity to discussions on the future of irrigated agriculture, the Committee believes that it is necessary for it to comment briefly on the possible effects of salinity on future management strategies for irrigated agriculture.

The effective management of groundwater and of associated salinity problems in irrigated areas is generally regarded as being critical in determining the long term future of irrigated agriculture. Without effective control of these problems, many of the changes in technology needed to develop the productivity of irrigated agriculture may not be possible. In its original submission to the Committee, the Department of Agriculture highlighted the significance of effective salinity and groundwater control as part of the overall strategy needed to improve productivity levels within irrigation systems (1981 submission, p 3).

Salinity is already having a marked effect on existing productivity levels, and has had a significant and obvious effect on the wider environment of irrigated regions. The Committee has witnessed the widespread and fundamental nature of such effects on its visits to northern Victoria. These effects, their causes and the available methods of combatting the problems, have been discussed in detail by the Salinity Committee and by consultants employed by that Committee.

It is not within this Committee's terms of reference to consider the details of how effective salinity and groundwater management can be achieved. The Committee does, however, wish to point out that it considers the following matters to be crucial to the resolution of salinity problems and thus to the future management of irrigated agriculture:

- determination of appropriate levels of funding for research activities and definition of research priorities consistent with the objective of establishing forms of agricultural activity that are sustainable over long periods of time;
- the dissemination of the results of such research, and the adoption of new practices by relevant decision makers which emphasise the crucial role of extension and advisory services; and
- the development of appropriate organisational arrangements to ensure that salinity mitigation programmes are developed and implemented.

### 5.5.2 Soil Quality

In its 1981 submission to the Committee, the Department of Agriculture highlighted the difficulties created by the quality of soils, especially in northern Victoria, for the development of irrigated agriculture. The Department noted (p 2):

"The most important single factor inhibiting productivity increases under flood irrigation in the northern Victorian irrigation districts is the nature of the predominant soil group - the red-brown earths",

and it pointed out that problems with these soils are one of the "main reasons why most irrigated agricultural land in Victoria is used for pasture production".

In presenting evidence before the Committee, the Director of the Animal and Irrigated Pastures Research Institute at Kyabram, Dr Bruce Cockcroft, explained soil problems in the following terms:

"(Plant) roots do not grow well in the soils of northern Victoria because the surface soil is shallow and compacted and the subsoil hard and impermeable. The surface soil under cropping collapses when irrigated and sets hard on drying...The subsoil has virtually no pores through which water needs to penetrate, air diffuse or roots grow" (evidence, pp 3266-7).

The Department and Dr Cockcroft both expressed confidence that field research conducted at various Institutes has demonstrated the possibility of increasing the productivity of irrigated agriculture. The degree to which such changes will be adopted within irrigated agriculture is a most important issue that has been briefly discussed in Section 5.4 above.

### 5.5.3 The Wider Environment

The environmental resources of the Murray Darling Basin have come under a great deal of scrutiny in recent years, and increasing attention has been focussed upon the effects of irrigation systems upon the achievement and maintenance of environmental objectives. Several issues related to resource use and management in the Murray Darling Basin have emerged, especially following the construction of the Dartmouth Dam.

In a paper which attempted to bring together the findings of several areas of expertise, Dunk identified the value of natural resources within the Murray Basin in the following terms (pp 4-5):

"(The River Murray) has a magnificent landscape, its vegetation is outstanding and much of it quite ancient, moreover its fish, birds and wildlife are fascinating. The archaeological resources are also very substantial...Based on these environmental values, a great tourist industry is developing. Moreover this is an industry expanding at 10 per cent per year, and it is by no means unreasonable to predict that the recreational value of the Murray might even exceed the value of irrigation in years to come."

These values, Dunk noted, were in addition to those related to the direct economic use of water resources within irrigated agriculture.

Yet there are now severe problems in maintaining a range of options for the use of all natural resources and in maintaining the diversity of environmental conditions. The Committee believes that irrigators and the agricultural industry in general have much to gain from an improvement in the quality of their environment, and from a lessening of the impacts of such things as widespread chemical use. There are readily apparent difficulties in many places where waste products from one area drain into other areas, and the decrease in the value for irrigation of the waters of Burrumbeet Creek has already been referred to (Section 5.1). Several irrigator groups have stressed the difficulties that have arisen from the operation of saline drainage schemes which are based upon disposal to river systems. Amongst the other difficulties that have developed are:

"The deterioration of water quality...The urban and agricultural development of our catchments have contributed to (nutrient enrichment or eutrophication). The main factors...have been the cleaning of and draining of land in association with pasture improvement, increased use of fertilizers and increased numbers of livestock..."

"Loss of fish species. River regulation and consequent temperature changes, together with flood control, pollution and siltation, have threatened the extinction of three species of fish."

"Destruction of River Red Gums...The 60 000 hectare forest (between Tocumwal and Echuca) is now (1981) under stress due to the effects of river regulation and drainage" (Dunk, pp 5-8).

The state of the wider environment, and the influence upon it of past and present irrigation practices, is of great importance to irrigated agriculture and to communities in irrigation areas. Salinity is well-recognised as a major environmental problem. Increasingly, the effects on other irrigators and on other users of water -in particular urban users - of the continuing use of substantial quantities of fertilisers, pesticides, herbicides and agricultural chemicals generally, are being recognised as of major concern.

Problems of soil structure and their effects upon agricultural practices and productivity, and of soil erosion and stream siltation, are also now widely recognised throughout the State. Some environmental matters, such as the regeneration and maintenance of good forest cover along rivers and streams, are not as obviously important to irrigators as are some other issues. But good forest growth and many other environmental values are of very great significance to the long term future of irrigated agriculture: stable river banks, low levels of erosion in rivers, and low levels of turbidity and of chemical pollutants are in the long term perhaps as important as is controlling salinity.

The maintenance of environmental values is also of very great importance for the maintenance and development of the tourist industry, which in some irrigation areas - particularly in Gippsland and in major centres such as Echuca, Swan Hill and Mildura along the River Murray - contributes as much to the regional economy as does irrigated agriculture (see Chapter 3).

These issues pose difficult problems for the community in trying to reconcile or balance objectives that at times may appear to conflict. Attempts are now being made to identify and focus attention on the environmental values of resources whose significance up until now has been defined largely in terms of economics and development. It has been suggested that the time has come to develop new approaches and attitudes to the manner in which resources are allocated between alternative uses, that take account of the many different needs, including the environmental ones. Dunk notes (p 9):

"The problem we face is how to keep...man-made changes at a reasonable level and in some sort of balance with the changes which naturally occur in a natural river system. The question is what kind and what degree of change from one point of view or another meets the needs and standards of present and future generations."

## 5.6 Administrative and Management Issues

### 5.6.1 Organisational Structure

The Rural Water Commission has sole responsibility for the operation and management of public irrigation districts except for the area managed by the First Mildura Irrigation Trust. Commission districts are spread across the State and exist in a variety of different environments. In addition, the Commission continues to retail services to urban consumers, in the Mornington Peninsula area and including a portion of the south-eastern suburbs of metropolitan Melbourne, and in large provincial cities such as Bendigo. As the Committee noted in its Eighth Report (p 57), the Commission has a confusion of roles where it is "part retailer of water services, part wholesaler, part constructing authority, part irrigation commission and part policy and priority adviser to government".

The State Rivers and Water Supply Commission was established in 1905 to give effect to the Government's policies of developing and promoting irrigated agriculture. In view of the disastrous losses which had previously been incurred by the State in its attempts to develop irrigation schemes, and the indifferent results which had been produced by the existing organisational structure, the Government had concluded that one powerful authority was needed to undertake this development role. To effect this objective, the newly created Commission was given responsibility for the operation and management of all districts (with the exception of the First Mildura Irrigation Trust) and was given the necessary powers to develop and promote irrigated agriculture. The Commission has succeeded in developing a large scale industry of irrigated agriculture, supported by the necessary infrastructure and management services.

As has been discussed in Chapter 4, the environment of the Commission has changed substantially since that time. The task of the Commission has also changed, as the scale of its construction activities has decreased and attention has increasingly been placed upon its role as a manager. The Commission is now responsible for a highly complex water management and distribution operation. This complexity is shown by the range of environments in which irrigation is conducted, the variety of commodities produced, the sophistication of the techniques employed and the levels of skills and experience of the individual irrigators.

The task that is now required of the Commission is the management and consolidation of this system. The major components of this task are:

- . high levels of co-ordination and co-operation with other resource management agencies (Section 5.1);
- . a concentration on effectiveness and efficiency in the allocation of resources and in field operations, and on the preparation and publication of objective measures of these (Section 5.2);
- . the maintenance and improvement of the physical state of the assets under its control (Section 5.3);
- . the preparation of more carefully argued cases for all forms of Government support in view of the increased competition for access to the community's resources (Section 5.3); and
- . the modernisation of the techniques and methods used to provide higher standards of service (Section 5.4);
- . a greater emphasis on the quality with which services are delivered (Section 5.5).

Such a set of tasks will require a diverse set of high level and highly skilled personnel within the Commission. The skills available within the Commission are discussed later in this Section.

It is a generally accepted principle that the structure of an organisation should in most respects be designed to optimise the performance of the tasks of that organisation. That is, the structure should be largely determined by the objectives and outputs of the organisation, rather than the tasks that are carried out being set by the momentum and dynamics of the structure of the organisation. When the tasks of an organisation change over a period of a few years, there is then a reasonable presumption that the structure of the organisation also needs to change.

Some of the submissions the Committee has received have addressed this question, and several options have been put to the Committee, including delegation of retailing functions to elected district management boards, or the establishment of autonomous local retailing bodies, such as the First Mildura Irrigation Trust.

Neilson Associates examined the question of the internal organisation of the Commission as part of their review of the management of irrigation systems. They found that, while the organisational structure of the Commission is "geographically decentralised" (p 176), its actual management arrangements result in little management responsibility taking place outside the Head Office. Their general conclusion on the spread of responsibility for decision-making within the Commission was (p 177):

"...District Engineers and district centres have significant operational responsibilities but relatively little executive authority in many areas affecting their operations. Head office, through Divisional Engineers and other senior staff, exercises tight supervisory control over district activities, and reserves all policy decisions, virtually all financing decisions, most staffing decisions and many other aspects of district management, as head office responsibilities."

After further examining the roles of the central and local offices for a number of areas of management such as water supply operations, construction work, plant and equipment, compensation claims, water rights, land subdivision and staffing, Neilson Associates concluded (p 182):

"Decision-making authority in relation to the management of rural water supplies is strongly centralised in the Commission's head office and in the management group of the Rural Water Supplies Branch."

The Commission agreed that while the view expressed of the respective roles of the central and local offices "might be partly true in a general sense, in practice the distinctions are not so clear" (Response to Neilson, p 12). The Commission also expressed the view that Neilson Associates had under-rated both the role of the District Engineers as local district managers and their considerable inputs to the decision-making process, and it gave some evidence to support this contention.

As part of the provision of services to the irrigation sector and management of water resources generally, the Commission maintains a large field presence in various locations across the State. The staff at these locations represent a valuable resource which establish and maintain contact with the customers of the Commission, facilitates information transfer between the Commission and its customers, and enables local and regional assessments to be made of issues affecting customers and the public.

### 5.6.2 Customer Oriented Approach to Provision of Irrigation Services

Each year the Rural Water Commission provides water services to around 17 000 holdings within publicly operated irrigation districts, and administers some 10 600 licences, permits and agreements for private diversion of water from streams and for groundwater extraction for irrigation. These irrigators constitute a large proportion of the Commission's customers. There is considerable diversity within this group as irrigators are widely distributed across the State and are found in most of the major physical and climatic zones. Irrigators are also engaged in the production of a large variety of commodities each of which have specific needs. The levels of experience and expertise differ widely within the irrigation community.

The diversity of the irrigation sector, its widespread distribution and the different requirements across the State provide a complex environment within which levels of service are to be determined by the Commission. It is apparent that, in view of the issues discussed elsewhere in this Report, the task of adequately serving the irrigators is likely to become more difficult in the future.

A major theme pursued by this Committee since its inception has been that of the accountability of public bodies to those people for whom services are provided and to the community at large. For example, in its Seventh Report the Committee recommended that the majority of members on water boards should be "directly elected by the users and potential users of the service".

This principle has played a part in the Government's decision to establish the Rural Water Commission. The Commission's Board of Management contains strong representation of the Commission's customers, at what is the highest level of executive decision-making. In the words of the Government this decision "will appreciably improve the industry's capacity for further innovation and responsiveness...(and) will enable promotion of the industry's needs and interests...." (VPD 1984, Assembly, p 3180-3181).

In recent years there has been a great deal of discussion of the relationships between government agencies and their customers, much of which has focussed on issues such as payment systems, handling of overdue accounts, complaints procedures, and customer rights. The Committee believes that the Commission,

through its system of advisory boards, has sought input on a broader range of issues, including managerial and policy matters related to irrigated agriculture. This practice is rare in Victorian public sector administration, and it has established patterns for similar authorities in other States.

The Committee believes that the increasing complexity of resource allocation and priority setting processes within the public sector, the increasing scrutiny of servicing agencies by consumer groups, and the increased sophistication of the management skills of individual landholders, create a need for review of the existing relationships with customers, as well as within the organisation of the Commission.

### 5.6.3 Personnel and Professional Skills

The State Rivers and Water Supply Commission built up a skills base within its organisation able to develop a complex system for the supply and distribution of water. Most of these professional skills are engineering based, and were developed in response to the needs of the large capital works programme undertaken by the Commission in the years following the end of the Second World War. These skills have earned world-wide recognition and national prominence. As the role of the Commission evolved, especially during the period of the 1970s, some new skills to complement the existing professional base were added.

In the light of the substantial changes needed in the tasks of the Commission, summarised in Section 5.6.1, it is appropriate to examine the relevance now of the skills base of the Commission. It has been suggested that the Commission is too heavily oriented towards engineering for its present tasks, and lacks adequate numbers of people with other relevant skills. In particular, at senior levels, where policy and planning decisions are made and general directions are set, the great majority of positions are held by engineers.

One measure of the diversity of the professional basis of the Commission can be obtained by examining the qualifications of senior staff as listed in the "Public Service List of Officers" for 31 December 1982. While this list has some shortcomings for such an analysis, it does give a general indication of the variety and level of skills available. Table 5.11 lists the numbers of senior staff at that date with various qualifications.

**TABLE 5.11**  
**QUALIFICATIONS OF SENIOR COMMISSION OFFICERS, 31 DECEMBER 1982**

FIRST DIVISION (1)

No tertiary qualification	1
Accounting only	1
Engineering only	10

12

SENIOR SECOND DIVISION (2)

No tertiary qualification	4
Accounting only	6
Accounting and Administration (MBA)	1
Agriculture only	3
Arts (unspecified major) only	2
Auditing only	1
Engineering only	100
Engineering and Chemistry	1
Engineering and Agriculture	1
Engineering and Economics	1
Engineering and Town Planning	1
Geology only	2
Public Administration (undergraduate diploma) only	1
Science (unspecified major) only	2
Surveying only	8
Surveying and Administration (MBA)	2
Valuation only	2

138

ALL SENIOR OFFICERS

No tertiary qualifications	5
Engineering only	110
Engineering and another discipline	4
Accounting only	7
Accounting and Administration (MBA)	1
Surveying only	8
Surveying and Administration (MBA)	2
Arts (unspecified major) only	2
Public Administration (undergraduate diploma) only	1
Audit only	1
Agriculture only	3
Geology only	2
Science (unspecified major) only	2
Valuation only	2

**TOTAL** 150

There was one woman in this total of 150 senior officers

**Notes to Table 5.11**

- (1) The most senior officers, then with salaries over \$42 000.
  - (2) Middle level engineering, managerial, and technical support staff, then with salaries generally in the range of \$30-42 000.
- 

The Table shows the strong emphasis on engineering in the professional base of the Commission. The great majority of the engineers have no formal training in any other discipline. Disciplines other than engineering are almost entirely in advanced technical support functions, such as geology, surveying, valuation, accounting, science and agriculture. The Committee does not wish to suggest that engineering is an inappropriate background for such positions, or that engineers do not make good managers. The question raised concerns the dominance of engineering and the absence of other skills.

Skills in economics, planning, geography, computing, social sciences, environmental sciences or other disciplines appear to be lacking, at least at these senior levels within the Commission. This lack is particularly notable in view of the Commission's own comments about the importance of "social and regional development considerations which have been, and will remain, essential features of irrigation management" and its observation that "there are areas where a more rigorous economic analysis of the costs and benefits will lead to improved decision-making" (Response to Neilson, pp 1 and 9).

It is not obvious how the Commission has been able to use such skills adequately when they appear to have so few senior staff with basic training in these fields. The Commission has begun to recognise the need for a broadening of its skills base, and since the date on which Table 5.11 is based, some additional resources have been added in the areas of accounting, information and computing, and financial management as part of a major upgrading of the Financial Management Division of the Commission. The Rural Water Commission has of course taken over most of the staff of the State Rivers and Water Supply Commission.

#### 5.6.4 Information, Reporting and Accountability

The Rural Water Commission has extensive procedures for gathering information on its activities, and the State Rivers and Water Supply Commission has for some years published a volume of statistics as part of its annual report. The appropriateness and usefulness of much of the information that is collected, and the use that is made of it, have both come under some criticism, as noted earlier in this Report. The most important of these criticisms is that the information collected concentrates too much on the physical operations of the system and is not oriented towards either measuring the performance of the system in terms of the output of services to the customers or assessing of the effectiveness or efficiency of the operations.

An Operational Management Review of the Commission, conducted by the Public Service Board of Victoria in 1980, recommended a system of ongoing performance assessment. The Board proposed a number of performance measures that it felt would be more appropriate than the then current data on physical operations. The suggested measures included:

- cost per megalitre of water delivered, overall and by types of supply;
- cost per kilometre of drainage or channel construction and maintenance;
- cost trends per staff member employed in relation to total, programme, project, branch, centre and component of expense;
- cost and usage rates for plant, machinery and motor vehicles;
- cost of subsidies:
  - as a percentage of total costs,
  - per ratepayer,
  - per population serviced, and
  - per head in Victoria;
- turnaround time for payment of accounts;
- rates and charges collected as a percentage of the total collectable; and
- cost of collection per dollar collected.

The compilation and analysis of output-oriented performance statistics such as these would be considered essential in any cost-conscious and performance-oriented commercial organisation. The fact that an organisation is a government agency and

is not set-up to make a profit provides no basis for it neglecting such measures. On the contrary, in the Committee's view the lack of the discipline of the profit-loss account makes the generation and careful use of such statistics all the more essential for a government agency.

In order to provide the highest levels of service to its clients and to provide the greatest benefits to the people of the State, the Commission must use the resources it controls - which belong to the people of the State as a whole - to the greatest levels of effectiveness and efficiency. This applies whether the goals pursued are determined by economic objectives, social objectives, or a combination of both. The fact that the Commission is a government agency provides no justification for using resources at other than optimal efficiency. The level of efficiency and effectiveness can only be assessed on an objective basis if appropriate data is available. The Committee feels that the style of information suggested by the Public Service Board is appropriate.

Neilson's report also endorsed the approach suggested by the Public Service Board, and added the criticism that some of the data being collected by the Commission was compiled on differing bases and in differing formats in different districts, making comparison and consolidation of statistics very difficult. Neilson also reported criticisms of the statistical reports then prepared by the Commission because they reported only on activities that had been carried out and did not report on what had not been achieved (pp 200-201).

The Commission, in its Response to Neilson (pp 25-28), defended its approach to management information systems by referring to its "...very comprehensive...system covering the operation, administration and financial performance of its irrigation and other rural water supply systems". The Commission listed some examples of reports to management, including the following:

- daily headworks and main carriers performance;
- weekly water usage, total usage and predicted usage for irrigation;
- monthly reports on systems maintenance and capital works programmes; and
- monthly revenue collection statements.

These are precisely the kinds of physical operations measures referred to above. While it is necessary that this information be developed, the Commission's response appears not to recognise the fundamental difference that exists between the kinds of performance-oriented measures recommended by the Public Service Board and by Neilson and these physical operations data.

The State Rivers and Water Supply Commission's "Information Systems Plan" of August 1983 is a detailed and comprehensive approach to the information requirements of the Commission, and its preparation represents a substantial achievement. The Plan is, however, almost entirely directed at better ways of preparing and using the Commission's conventional data. The Plan contains few references to customer service or standards of service, and few references to performance criteria, and is not output-oriented in the sense in which this term is being used here.

In Section 5.3 above attention has been drawn to the serious difficulties encountered in attempting to obtain a true and complete picture of the Commission's finances. Although the Commission's annual reports are better in their presentation and content than the reports of many government agencies, they nonetheless fail to give adequate information about either financial or operational performance. These inadequacies apply to the information about the Commission as a whole, about individual irrigation districts, and about urban supplies.

In previous reports the Committee has recommended the adoption of more informative performance oriented reporting procedures, and it still considers such to be essential.

The Commission is responsible for the control and operation of very substantial resources, of staff, capital, water and headworks. Without this kind of information the level of accountability of the Commission for stewardship of these resources is necessarily low. The Commission cannot demonstrate to customers, to Parliament or to the community at large, that its operations are effective and efficient. In addition, these groups have a great deal of difficulty in questioning the Commission about the efficiency of its operations.

## 5.7 Summary of Issues

Irrigated agriculture is an important segment of the State's total economy, and in some areas it is the basis of most economic activity. To service the needs of irrigated agriculture the State has a considerable investment in a system of water storage, distribution and reticulation, supported by a statewide administrative structure. In recent years this investment has been developed by means of extensive drainage and salinity and groundwater control systems.

The system represents an important competitive strength for Victoria, based upon the following key features:

- . a highly skilled pool of individual irrigators who have acquired experience and knowledge of irrigation practice and needs;
- . a well developed statewide system of water storage and distribution capable of reliably delivering large quantities of high quality water across the State at comparatively low marginal costs (when costs associated with capital are not taken into account);
- . a well developed system of local distribution capable of delivering water supplies to a large number of individual properties;
- . a developing system for the management of drainage, salinity and groundwater especially within constituted irrigation districts;
- . an effective organisational and administrative structure, with highly skilled and trained personnel, to operate the system of supply and drainage;
- . statewide organisations with a large operational field presence, used to collect and distribute information about the industry; and
- . extensive agricultural research facilities backed up by extension and advisory services provided by the public and private sectors capable of meeting the needs of irrigators and the industry as a whole.

While these competitive strengths exist it is clear from the discussions of this Chapter that there are some factors operating that result in the general community and individual irrigators not realising to the greatest extent possible the economic

and social benefits that these advantages could bestow. The main inhibiting factors identified in this Chapter are:

- . irrigated agriculture currently has an inadequate policy and structural focus within the State and does not have adequately defined and relevant objectives, targets or programmes;
- . overall levels of efficiency and productivity, both agricultural and economic, are in some cases low by comparison with both overseas and some other Australian cases;
- . overall efficiency and productivity levels appear to have remained fairly constant over long periods of time, in contrast to the often dramatic increases recorded elsewhere;
- . there is an increasing level of dependence upon community resources for the provision of essential finances needed to renew and modernise existing infrastructure, rather than such costs being met from within the industry itself;
- . there is widespread concern within the industry about the overall level of capital funds being expended on renewal and modernisation in relation to needs;
- . there is a serious and growing environmental problem, of which salinity is the most well-known component;
- . there is a lack of information on the performance of the overall management of the irrigation system, with inadequate reporting arrangements; and
- . there are inadequate levels of research, and of publicity for results of research, on the changes and developments needed to take advantage of changing circumstances.

The Committee is concerned that no coherent policy framework exists within which these inhibiting factors can be addressed. Moreover, lack of this framework prevents a comprehensive assessment being made of the most appropriate role for Government in providing and supporting services for irrigated agriculture.

Understanding these issues and recognising that they exist forms the basis for the development of a more relevant objective for the future management of water resources and of appropriate strategies to use as the basis for changing the organisations to enable them to pursue and achieve that objective.

## CHAPTER SIX: CONTEMPORARY OBJECTIVES AND STRATEGIES FOR WATER RESOURCE MANAGEMENT

In Chapter Four, the Committee has noted some major changes that have occurred in the environment in which irrigated agriculture operates, changes that are of very great significance for that industry. In Chapter Five the Committee has detailed many areas of operations in which performance could and should be improved.

The purposes of this chapter are to develop and specify what the Committee believes should be the fundamental objective of water resource management in Victoria, and to develop and specify a set of basic organisational strategies that the Committee believes should be adopted to pursue this objective.

### 6.1 Fundamental Objective

The Committee believes that the principle that has governed the use of water in Victoria since at least the Irrigation Act 1886 - that surface water is the property of the community as a whole and not subject to the exclusive use of those across whose land it passes - should be retained and reaffirmed. The benefits to be gained from the use of the resource should be shared in some sense between all Victorians. The use of the resource must also recognise that Victoria and its water resources are part of Australia as a whole, and so Victoria and Victorians must use their resources in ways that take account of the needs of other parts of the country. The fundamental objective needs to recognise these points.

The objective must also make explicit that the use of water needs to contribute to both social and economic development. Thus policies and practices must in some appropriate fashion take account of the existing wide variety of social goals,

problems and circumstances, and they must also in some fashion take explicit account of the short and long-term economic consequences of decisions and activities.

The optimal balance between the social and economic aspects of an objective is not an easy matter to define or to achieve. The balance may well change from time to time, and different groups in the community may have different perceptions both of where the balance rests at any given time and of where it should rest. In the Committee's view, it is perfectly legitimate that in some aspect of the management of water resources social objectives should be given priority. Chapter Four shows that this has in fact been the case for much of the past seventy years. Where social objectives are defined the Committee considers it to be essential that the probable economic consequences be explored and made as clear as circumstances permit. This has not generally been the practice in water resource management before now. It is also essential that in the pursuit of social objectives, economic efficiency should be kept under careful review, to ensure that resources are not being wasted by inefficient use and that the social objectives are being pursued as effectively as possible.

Similarly, it is essential that when in some aspect of the management of water resources economic objectives are given priority, the probable social consequences are explored and made clear to those who make the decisions and to those who implement them.

Lastly, the Committee considers that the objective must make clear that both short and long-term consequences need to be considered. A comparatively well-known phenomenon is that of a quick and apparently easy solution to a problem that treats or mitigates some of the effects without having any influence on the underlying causes: such a solution may overcome the immediate manifestation of the problem but do nothing towards the long term goal of removing it. By obscuring the problem and delaying the need for definitive treatment, a short-term solution may in fact make the situation worse in the long-term and eventual solution even more difficult.

By stating the needs of a fundamental objective for water resource management in this form, the Committee does not mean to imply that it will be easy to make the judgements necessary. It will not be easy, and is unlikely ever to be so in a matter as complex and important as the management of water resources.

**Recommendation 1 :** The Committee recommends that the following statement be included in the Water Act 1958 as the fundamental objective of the Rural Water Commission and the Department of Water Resources:

The fundamental objective of agencies involved in the management and use of Victoria's water resources is to contribute to the greatest extent possible to the social and economic development of the State and of the nation as a whole, while recognising the particular needs of specific regions and the need to consider both short-term and long-term development.

A one-sentence statement of objectives by itself cannot be a full guide to the operations and performance of large and diverse agencies. Far more detailed objectives for specific functions of agencies are often prepared, and the Committee believes that such specific objectives are necessary.

What is recommended above is intended as a fundamental objective, a statement of why the organisations exist. The purpose of such a statement is to clarify and emphasise the change in the fundamental objective that the analyses of Chapters Four and Five have shown to be necessary.

\* \* \* \* \*

## 6.2 Five Basic Strategies

A changed fundamental objective can achieve little by itself: as the keystone of a coherent set of changes, it can contribute a very great deal. The style and general approach with which a fundamental objective is translated into specific recommendations and into direct operational practices can have even more influence on how an organisation operates than the formal statement of the objective.

The Committee believes that in the process of changing the principles and procedures of managing water resources in Victoria, it is essential to have not only the specification of a more relevant fundamental objective, but also a definition and explanation of the basic strategies that should be followed by the Department and the Commission. The purpose of this Section is to describe the strategies the Committee considers to be required.

The Committee believes that it is essential that all aspects of the management of water resources retain flexibility. Many of the difficulties considered in Chapter Five appear to result from the inability of various components of the system to cope with changes to the environment within which the system operates. This is not an uncommon phenomenon in organisations. Individuals, the organisation itself, and groups in the community that the organisation serves, can become so accustomed to a particular way of carrying out some function that even when the need for change arises, appropriate change is not possible.

On the other hand, too much flexibility leads to a chaotic and uncontrollable state of affairs, which is disruptive to individuals and makes long-term planning of any kind difficult and perhaps, ultimately, impossible. It is not easy to determine where the balance lies between a level of flexibility so great that sensible planning is seriously inhibited and a degree of rigidity so great that the organisation gets badly out of step with elements of its environment. Indeed, the balance may well change with time. But it seems probable that all agencies of Government will need to be more flexible and more responsive to changes in their environment in the future than most have been in the past.

A crucial adjunct to flexibility in the operations of water resource management is the development of suitable measures of how the system is performing. Such measures are necessary both to monitor the effectiveness and efficiency of resource management, and to help identify areas of activity in which mismatches between operations and the environment are developing. The Committee considers that the most satisfactory way of achieving this is through the development of a strong commercial orientation within all of the relevant resource management agencies.

A modern system of financial management enables full information on the costs of providing services to be available to management and to others. A well designed system also provides comprehensive data on the performance of the system in terms of its output: that is, in terms of the services that it delivers to individuals or to other organisations. It also provides clear information on the costs of various activities, including support measures, and on their distribution.

A commercial orientation also carries the implication that specific services will be provided in a way that the associated costs will be directly recovered from actual users. The greater quantity of performance oriented information that an appropriate modern commercial management system should provide means that areas or activities with the greatest losses can be identified, and measures taken to improve their effectiveness and efficiency, so reducing the total loss and freeing resources for other activities. The losses at present are taken up by transfers from the community at large to various sections within the water supply system.

This orientation also means that when the costs that are passed on to customers are unreasonable because of inefficient operations of service delivery organisations, great pressure will develop on the organisations from the customers for improved efficiency. This will be particularly so when there is restricted opportunity for the customers to pass on these higher costs to the purchasers of their production.

Output-oriented performance measures do not speak only in terms of the number of dollars spent, the number of staff employed, the number of irrigation properties serviced, the quantity of water delivered, or similar items: these are measures of input or of gross physical performance. Output-oriented performance measures are items such as the proportion of farms to which water is delivered on time and in the requested volume, the degree of freedom each irrigator has to chose his or her own

times and quantities for delivery of water, the cost per megalitre of water delivered, and the cost per kilometre of operating and maintaining channels.

Appropriate operational and financial performance measures allow informed decisions to be made about both operational matters and about long-term planning. Financial and economic analyses based on these measures can then be used as tools to assist decision-making, in ways that have been little used in water resource management up to very recent times. Choices between the available options can then be made on the basis of comparative estimates of the financial implications of the options and of their forecast performance implications.

The Committee believes that the appropriate analytical tools for developing these techniques are very largely those of modern commercially-based management. It also believes that the use of such techniques is not in any way inconsistent with the use of irrigation to promote social objectives within the community. It is most important to ensure that, in the pursuit of a goal that has a large component of community service, the efficiency of the use of resources be kept under careful review. Only in this way can the direct beneficiaries of the community service and the community at large be certain that they are getting the greatest benefit possible from the resources allocated.

It follows from this that the operations of the resource management and operations systems should be strongly oriented towards the needs of customers. Effective use of resources requires that those operating the systems find out what their customers require and strive to provide it. The methods of operation and the kinds of services provided should be determined by the needs of the customers: not by the customs of the organisations concerned, the favoured style of some professional disciplines, or the preferences of individuals.

Customers do not always appreciate fully the differences between the short and long-term effects of possible actions. An important role for agencies is therefore to try to educate customers into a better appreciation of the long-term consequences of some actions, and to try to match the short-term and long-term needs of customers. The fundamental objective recommended in Section 6.1 places emphasis on the importance of considering long-term consequences: this is perhaps most significant when dealing directly with the customers of the organisation. Amongst

the important long-term considerations are those of the effects upon the physical environment of current activities. These are of great significance, and their influence on both the long-term viability of the customers' activities and the social objectives of the community, need to be recognised and explained.

With this proviso in mind, the Committee considers that the development of a strong orientation towards the needs of the customers - be they individuals or organisations - is essential in all agencies involved in the management and use of water.

The Committee also believes that agencies must be very much aware of the fact that they are working for the present and the future, not the past. They must recognise that many of the major present influences on their activities are changing, and are likely to continue to change. The nature, magnitude and speed of the changes may all be extremely difficult to forecast. And even if it may be possible to predict a particular change with some accuracy, the effects of change may not be easy to predict. A particularly important aspect of the future is, as has already been noted, the effect on the physical environment of present practices and activities.

Some of these changes may have quite profound implications for water resource management. The difficulties of forecasting should not be used as an excuse for not attempting it, and the certainty of the past must not be used as a justification for the retention of methods and principles that have outlived their usefulness.

Future changes contain opportunities as much as they contain challenges to past practices. Agencies should make every effort to assist and encourage their customers to take positive advantage of change.

Lastly, the Committee returns to what has been a constant theme in all of its work, in the water industry and elsewhere: the accountability of the agencies concerned for their use and management of community resources entrusted to their care. The present nature and style of reporting to Parliament and to the people of Victoria on the use being made of the State's water resources is quite inadequate, although the provisions of the Annual Reporting Act 1983 provide the basis for substantial improvement.

The Committee acknowledges that the annual reports of the State Rivers and Water Supply Commission contain more information and are more carefully prepared than

are those of many other agencies, but serious inadequacies and difficulties remain, as Section 5.3 makes clear. Procedures do not at present exist in the Commission or in the Department of Management and Budget to enable a proper accountability for resources used to be made. The principles at present used in the accounting are also deficient for this purpose, as shown in Section 5.3.

Financial accountability and reporting were discussed in the Committee's Third Report, and have been considered in detail in a consultant's report to the Committee (Holmes). The Committee considers that the development of clear and comprehensive reporting on the financial and operational performance of water resource management is basic to the achievement of the fundamental objective recommended above.

This discussion has detailed five basic organisational strategies that the Committee believes are essential for a proper adaptation of the structures, functions and operating styles of water resource management agencies to the new fundamental objective. They provide a mechanism for introducing into the operations of publicly provided water-service organisations the initiative of dynamic private enterprises, as advocated by Swinburne in 1905.

**Recommendation 2:** The Committee recommends that the following five basic organisational strategies be endorsed by the Minister for Water Resources and adopted by all agencies involved in the management and use of water resources:

- (i) **Flexibility:** the methods for allocating water between alternative uses, and for allocating and supplying water within irrigated agriculture, should be as flexible as is reasonably possible, to allow rapid response to significant changes in any component of the operating environment;
- (ii) **Commercial-Base:** the methods of managing and allocating water resources and of operating water supply services should be commercially-based, aim at reducing financial losses within the system, and pay substantial regard to market forces and to changes in markets;

- (iii) **Customer-Orientation:** the operations of water supply agencies should be strongly oriented towards the real needs of the customers of the system, both irrigators and other users of water resources;
- (iv) **Future-Orientation:** all aspects of water resource management should be oriented towards the future, with emphasis on forecasting and responding to change, anticipating change where possible, and encouraging all users of water resources to take positive advantage of future circumstances; and
- (v) **Accountability:** all organisations involved in the planning, allocation or supply of water resources should be fully accountable to those who use or pay for their services, for their actions and for their management of the community's resources, and this accountability should provide clear and comprehensive information about all aspects of the operational and financial effectiveness and efficiency of the organisations.

The Committee does not suggest that the Rural Water Commission and many other Government agencies do not to some extent recognise and act upon these matters at present. It is, in fact, clear that to varying extents each of these strategies is acted upon at present within the Commission.

The Committee is recommending that each strategy, and more particularly the full set, be accepted as basic to the entire operations of the Commission and other agencies.

The Committee believes that these strategies provide clear directions as to how the fundamental objective specified in Recommendation 1 can be developed into specific operational and organisational proposals. That is the task of Chapter Seven.

## CHAPTER SEVEN : PROPOSALS FOR CHANGE

This chapter develops the strategies of Chapter Six into a set of proposals for change. The proposals are intended to place both irrigated agriculture and water resource management generally in much stronger positions to cope with the continuing changes to which they will be subject. The discussion and analysis of this chapter is presented in sections, each of which concentrates on one of the major problems that must be solved in order to overcome the difficulties described in Chapter Five.

The sections and the matters they deal with are:

- . nature and extent of the proposals for change (Section 7.1);
- . devising an organisational and management structure that clarifies the roles and responsibilities of the major agencies concerned and which will lead to co-ordinated policy development (Section 7.2);
- . devising an organisational approach that encourages strong local management and responsive delivery of rural water services (Section 7.3);
- . developing general principles and policies for charging for services that encourage the efficient and equitable use of scarce resources (Section 7.4);
- . allocating water between uses and users in ways that allow maximum effectiveness of use (Section 7.5);
- . planning for the use of resources, and ensuring that agencies are properly accountable for their activities (Section 7.6); and
- . provision for staffing arrangements within the new organisations (Section 7.7).

## 7.1 The Effects of the Changes

The recommendations of this chapter are intended to produce quite fundamental changes in the manner in which water resources generally are used in Victoria, and in the manner in which water is used for irrigation in particular.

No changes of this magnitude have occurred since the State Rivers and Water Supply Commission was established in 1905. The changes associated with the formation of the Commission ushered in a vital and dynamic era in the development of rural Victoria, and the successes of this has been described in Chapters Two and Three. These successes are substantial and real.

The changes in the community at large described in Section 4.5 have altered the environment of irrigated agriculture and of water resource management irrevocably: never again will the demographic, social, market or economic conditions of 1905 or of 1960 occur in Victoria. Later discussion in Section 5.4 shows that the changes have not ceased, and the remainder of Chapter Five has described many aspects of the problems that have arisen. The causes of these problems are many and varied, and most of the changes have been quite beyond the control of irrigators or of the Commission. The Committee believes that the difficulties have arisen because the fundamental objectives of irrigation management in Victoria have become inappropriate because of those changes, although for many years these were appropriate and relevant. Chapter Four has developed this argument in detail. The Committee believes that Victoria and its powerful irrigation industry now have the opportunity to capitalise on the changes that are occurring, and to set irrigation and water resource use firmly on a path more appropriate to the conditions of the last years of the twentieth century.

Taking this path requires a recognition of the changes and of the fact that Victoria's irrigation is now a mature system rather than a developing or pioneering one.

It is in the sense of accepting this challenge for the future that the Committee has developed the recommendations that follow. The Committee believes that they all follow as direct applications of the five strategies of Section 6.2 to the physical, organisational and social conditions of Victorian irrigation in the mid-1980s.

The Committee considers that it is essential that the operating environment of irrigated agriculture attracts and retains farm managers of ability and initiative. The Committee was most impressed by the quality of a number of the younger managers it met during its inspections of irrigation districts in 1983. In order to attract and retain these people, it is essential that they see the opportunity for an economic future and reward commensurate with their abilities, or they will choose another career for their skills and energy. Providing the right environment will require high quality services available to irrigators at fair and competitive prices, good and timely market information, as well as research and technical support that backs up and where possible anticipates marketing requirements.

The recommendations that follow are not independent of one another. They are intended to form a coherent whole, firmly based on the strategies of Recommendation 2. Some represent substantive changes, while others describe ways of re-arranging or re-defining present structures or procedures in ways that reflect the basic strategies and will aid and encourage the achievement of the fundamental objective of Recommendation 1.

Although there may appear to be many recommendations in this chapter, and many changes, the most important change is attitudinal. What is required is an acceptance throughout the industry of the strategies and of the objectives to which they are directed, and of the challenge they represent. Given this, the Committee believes that Victoria's irrigated agriculture can now commence an era of progress as successful as that initiated by the vision of Swinburne and Mead eighty years ago.

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## 7.2 Structure and Organisation

### 7.2.1 Management of Water Resources

In its Eighth Report the Committee made a number of recommendations about the central management of the water industry in Victoria. At that time the Committee recognised that a serious problem existed, in that the State Rivers and Water Supply Commission possessed significant operational functions, it constructed, operated and maintained headworks and bulk water supplies, and it also had the prime role of adviser to the Minister on questions of State water policy and on the administration of State water plans (pp 57-60). The problem lay in this confusion of roles for the Commission, and the real conflicts between these roles that necessarily arise. In that Report, the Committee noted that further analysis of the issues and the evidence presented to it specifically as part of its inquiry into the future management of irrigation was required (p 5). The Committee then also noted that "the structure of the industry should be subject to regular review to take account of changing circumstances" (p 5).

The two major tasks that contribute to the confusion of roles are those of water resource management and of direct servicing of customers. These are clearly distinguishable tasks, and the Committee believes that the confusion should be resolved by separating them wherever it is practicable to do so.

As shown in Chapter Five, the task of water resource management has become increasingly difficult in recent years, a trend which is likely to continue. The community has developed a new set of expectations for the management and allocation of these - and other - resources. At the same time the resource base itself is coming under increasing pressure from a variety of sources. In this situation, the Committee considers there is a need to ensure equity between users, and to ensure that the resources are used to maximum effectiveness. It believes that this will best be done by ensuring that service or retailing functions are not confused with resource management and allocation tasks.

**Recommendation 3:** The Committee recommends that water resource management and allocation functions at both state and regional levels (including responsibility for groundwater resources) should be, wherever practicable, clearly separated from those functions associated with major storage and regional distribution on the one hand and local reticulation on the other.

### The Department of Water Resources

The Committee believes that organisationally this separation of roles can most appropriately be achieved by vesting in the Department of Water Resources all of the functions necessary for the effective management of the resources at the state and regional level.

An important role for the Department will be the development of advice to Government on the most effective levels and forms of financial assistance to the water industry generally and to irrigation in particular. It should also provide advice on other, non-financial, forms of assistance such as research and technology transfer, although a large amount of this should be advice to the Department of Agriculture. As irrigators are major users of the existing water supply system, any discussion of policies affecting water users immediately becomes an important agricultural issue. Thus policies for the support of the water industry (such as those designed to subsidise the cost of water services) are also policies of support for the wider agricultural sector and specifically for irrigated agriculture. Given this link, it is necessary for discussions of water sector policy to be undertaken jointly by the Departments of Agriculture and Water Resources. Discussion of both financial management and policy matters will also need to have involvement from appropriate central agencies such as the Departments of the Premier and Cabinet, and Management and Budget.

The Committee feels it is necessary that management responsibilities for the State's water resources should include groundwater resources. A report on The Operation and Structure of Central Management in Victoria's Water Industry prepared for the Committee by the Public Service Board of Victoria in September 1981 drew attention to the fragmentation of responsibilities which exists for resource

management within Victoria. Various suggestions were then put forward to ensure better integration of management functions. The Committee believes that better integration of these closely related functions is an important contribution to the strategies of developing both greater flexibility and a greater commercial orientation in the effective use of resources.

**Recommendation 4:** The Committee recommends that the functions, activities and control mechanisms including pricing measures required for management of the State's water resources including groundwater, previously undertaken in part by the Rural Water Commission and in part by the Department of Minerals and Energy, become the sole responsibility of the Department of Water Resources, including the functions of:

- advising the Minister for Water Resources on all policy matters related to water resource management;
- advising the Minister on budgetary and pricing matters related to water resource management;
- in consultation with the Department of Agriculture, advising the Minister for Water Resources on the nature and extent of Government support for irrigated agriculture (see Recommendation 10);
- allocating water between categories of use;
- general oversight of the structure, functions and operations of agencies within the water industry;
- liaison with the Department of Agriculture on the establishment of priorities within the irrigation industry for the use of public sector resources, including capital;

- responsibility for design and monitoring of data collection activities; and
- strategic planning at State and regional levels.

### The Rural Water Commission

The Rural Water Commission and especially its predecessor organisation, the State Rivers and Water Supply Commission, has played the major role in the development of the State's water resources and in the allocation and management of these resources. Chapters Two and Three have given details of the substantial achievements of the Commission in this role.

In view of the clear separation of the roles of resource management and of service delivery the Committee is recommending, and of the role recommended for the Department of Water Resources, there is a need for review of the roles of the Rural Water Commission in resource management and in statewide operations. The role of the Commission in water retailing is considered in Section 7.2.2 below.

As a result of the activities referred to, Victoria now has an extensive statewide system of water storage and regional distribution. This system is capable of delivering large volumes of high quality water across the State, at comparatively low marginal costs (when the capital costs are not taken into account). The system is reliable, as shown by its performance during the 1982-83 drought when it was able to deliver 130 per cent of the entitlements under water rights. This system is of national significance, given its scale and complexity, the value of assets created, the quantity of water used, and the value of the economic activity serviced by the operations of the Commission. Its significance is even greater when considered in terms of specific regions and localities, such as northern Victoria, Sunraysia or Central Gippsland.

Given the significance of this system, the already well-developed organisational structure to manage this aspect of the Commission's functions, and the need for continuing subsidies from the State to finance it, the Committee sees no advantages in developing fundamentally new organisational arrangements for its operation and

management. The Committee is strongly of the view that large water storages and regional distribution networks should remain the responsibility of an organisation with a statewide perspective, namely the Rural Water Commission.

This does not, however, mean that the Commission's current role in statewide water resource management should remain unchanged. On the contrary, the earlier recommendations of both this Report and the Eighth Report imply that there will need to be some changes to this role. These changes will be important in areas such as the determination of available resources both on a short and longer term basis, allocation tasks, pricing responsibilities, and priority setting.

The functions and activities within the Commission associated with the overall responsibility for the tasks of bulk supply of water are at present divided. The Operations Section of the Water Management Division, Rural Water Supplies Branch, is responsible for assessing water availability in each storage for irrigation, for recommending water allocations to each district throughout each irrigation season, and for the actual distribution of water from storages to the boundaries of the irrigation districts. The Operations Section's other responsibilities include relations with interstate authorities - notably the River Murray Commission - and the operation of major salinity control projects. The physical maintenance and operation of storages is a responsibility of the Major Storages Section of the Construction Division of the Engineering and Technical Services Branch. Other relevant functions are performed by the Diversions Section of the Water Management Division of the Rural Water Supplies Branch.

While some other functions performed by these Sections are clearly not those of statewide management, they do none-the-less form the nucleus for an effective operational unit to perform the statewide functions mentioned above. The Committee considers that these Sections should form the basis for a new, upgraded Operations Branch within the Rural Water Commission. The Committee also considers that the detailed functions of this Branch should be determined following resolution of any issues arising from the rationalisation of tasks between the Department of Water Resources and the Commission.

**Recommendation 5:** The Committee recommends:

- (i) that the responsibilities of the Rural Water Commission for water resource management at state and regional levels include:
  - the operation and management of major storages and regional distribution systems; and
  - the operation and maintenance of regionally based drainage, salinity and groundwater control systems;
- (ii) that these responsibilities be exercised by a new Operations Branch to be established within the Commission by bringing together existing resources at present working on these matters; and
- (iii) that the Operations Branch be treated as an independent activity centre in the planning, operations, and accounts of the Commission, in accordance with the proposals of Recommendation 23.

**Private Diversions**

The administration of the system for the use of water resources in areas other than formal irrigation districts is an important part of overall resource management. The present administrative system, consisting of licences and permits which authorise the use of both surface water and groundwater, has been outlined in Chapter Two, and the success and effectiveness of private diverters has been noted in Chapter Three. The Rural Water Commission is required under the Water Act 1958 to control and administer private diversion licences and permits across Victoria, while the use and control of these resources is vested in the State. The Committee considers that the strategies and principles it has already recommended should apply equally to the administration and regulation of private diversion licences and permits.

The recommendations contained in the Sixth and Eighth Reports of the Committee have established a new approach to regionally based water management in Victoria. In keeping with this approach and with the strategies outlined in Chapter Six, the Committee believes that steps should be taken to devolve responsibility for private diversion licences to regional water agencies in line with the relevant legislation.

These responsibilities should be undertaken only within a policy framework established by the Department of Water Resources. Such a framework is necessary to establish specific objectives and policies for both surface water and groundwater management, to monitor performance and to review policy and practice where necessary.

**Recommendation 6:** The Committee recommends that the Rural Water Commission be responsible for the administration and regulation of private diversion licences, permits and agreements including groundwater licences and permits.

## 7.2.2 Operating Rural Water Services

### Rural Water Commission District Operations

The Committee has considered several structural options for the operation of the State's extensive system of publicly funded and operated irrigation districts. In considering the alternatives, the Committee has been aided by the generally positive discussion of this issue by irrigators and their representatives. The application of the strategies of Chapter Six requires that irrigators have an organisational structure which can provide services efficiently and effectively and which can respond to emerging needs both for irrigators as individuals and for the industry as a whole. It is also clear that management of locally-based irrigation services is a complex task, involving the satisfaction of a diverse class of users across many different situations in the State. Management is made more difficult by the complexity of the issues which affect the performance of the sector. Many of these issues have been outlined in Chapter Five, such as uncertain future markets, technological change and environmental problems such as salinity.

In principle, the Committee believes that publicly owned and operated irrigation districts or areas could be managed and operated along the same lines as the regional water boards recommended by the Committee in its Sixth Report, by autonomous local statutory bodies similar in structure to the First Mildura Irrigation Trust, or by privately managed landholder co-operatives. In its Eighth Report the Committee recommended that all water retailing functions of the Commission be progressively devolved to elected, self-managed boards. Both water boards and irrigation districts are concerned essentially with servicing local needs. The Committee believes that local management based on "District Irrigation Boards" could assist considerably in implementing the strategies of Recommendation 2.

Existing water supply and drainage systems are already largely structured along local lines; altering organisational and management arrangements would match the present operational arrangements, adding a strong element of coherence to the structure. With such an arrangement, consumers would more directly manage their own affairs, in a manner no different from the regional water boards now operating. This would be a big step in the introduction of the consumer-orientation strategy.

Local management could allow standards of service to vary from area to area to reflect differences in the actual needs of consumers, in the willingness of water users to invest in local supply systems, in the value of water to users, and in the needs of particular irrigated cultures. This would add flexibility and enhance customer-orientation. Consumers could also expect a better response to queries, requests or development proposals.

Local management, when combined with appropriate levels of financial autonomy, would help to bring about a more commercial or business-like approach to investment decisions, and a clearer basis for determining the merits of particular projects, for setting priorities and for forward planning. It could also allow price differences between different areas to emerge reflecting competitive strengths of particular areas. This would encourage and reward more efficient use of water, and add more flexibility to the system.

Other potential advantages of such a system include:

- . removal of much of the strategic planning and decision-making associated with the irrigation system from the political arena to an arena based more on local consumers' needs;

- . greater emphasis on longer term considerations than at present, because of the clear responsibility of each irrigation board to preserve its long-term viability; and
- . development of greater cost consciousness in irrigators and hence a greater awareness of the necessity for taking difficult decisions involving trade-offs between costs and levels of service.

While these advantages are offered by locally autonomous management, several of the existing District Advisory Boards have raised some doubts about how such a system might operate. Their doubts included:

- . the cost of the proposal has not been quantified and it could be considerable if every district or area needed to duplicate some of the functions now provided centrally;
- . the benefits suggested above have not been clearly shown to be attainable;
- . there may be difficulties in getting board members with the time and ability to run the areas; and
- . the resulting fragmentation could complicate the management of the irrigation industry as a whole.

The Committee recognises that there is some substance to these objections, although it believes that such independent boards could in fact operate with great effectiveness. The Committee notes the private views of a number of senior officials in water resource agencies that such a system is inevitable, and it notes also the strong moves in other areas of Government activity towards introducing greater local involvement in planning and operations.

**Recommendation 7:** The Committee recommends:

- (i) that the retailing of water in Irrigation Districts for irrigation purposes be devolved from the Rural Water Commission to elected, self-managing "District Irrigation Boards"; and
- (ii) that this devolution follow a process of public consultation involving task forces comprising appropriate farmer organisations, individuals and local government.

The Committee has concluded that such a system is the most appropriate mechanism for introducing the recommended objective and basic strategies into the retailing of irrigation water supplies. It repeats the proposition of Recommendation 9 (vii) of its Eighth Report, that such a system should be introduced wherever practicable. The process by which such a change is introduced, and the public consultation necessary as part of the process, are both of very great importance, and the Committee makes more comment on these matters later in this Report.

### First Mildura Irrigation Trust

The First Mildura Irrigation Trust survived the radical restructuring of the locally managed system of water services in 1905. Since then the Trust has continuously provided water services to irrigators, at a standard of service not markedly dissimilar to that provided to irrigators within equivalent Commission managed systems. The Trust's charges are also roughly comparable with equivalent Commission Districts.

The Trust has an established, effective system of local management, which is directly accountable and responsive to the needs of its customers. In part this has been achieved by having elected irrigator representatives on a small board of management which has executive powers. The continued viability of the Trust is evidence of the robustness of local management and of the ability and capacity of individual irrigators to participate actively in making decisions which directly affect them. The Trust therefore provides an effective working model for the development of locally managed irrigation boards in other parts of the State.

The Committee believes that the Trust should remain in existence and that it should adopt all of the proposals in this Report that are appropriate to it.

**Recommendation 8:** The Committee recommends that the First Mildura Irrigation Trust continue to exist and that it operate in the same manner as an activity centre as described in Recommendation 23.

### 7.2.3 Departmental Oversight

In its earlier report on central management in the water industry, the Committee made specific recommendations concerning the kinds of organisational arrangements necessary to support the Minister for Water Resources in all aspects of the role of oversight of the structure of the industry. The aspects covered included preparing analysis and advice on the exercise of ministerial accountability, and control and direction over all public bodies within the water sector. Consistent with these recommendations, and the recommendations made earlier in this Report, the Committee believes that the Department of Water Resources should exercise, on behalf of the Minister, the oversight role.

**Recommendation 9:** The Committee recommends that the responsibility for oversight of the operations and management of the Rural Water Commission, of each of the District Irrigation Boards proposed in Recommendation 7 and of the First Mildura Irrigation Trust, be undertaken by the Department of Water Resources in a manner consistent with Recommendation 9 (vi) of the Committee's Eighth Report concerning central management and the establishment of a Water Industry Division within the Department.

### 7.2.4 The Role of the Department of Agriculture

Chapters Four and Five have shown that managing irrigated agriculture will in future be more complex than in the past. Responding to the numerous changes will require an almost continuous process of adjustment, which in some instances will be difficult.

The policy environment for irrigated agriculture will also be influenced by the adoption of revised financial management strategies within the water sector generally. Some of these changes - which are characteristic of the mature water sector - are outlined in Section 7.4.

From the evidence presented to it, the Committee has concluded that there is at present no effective focus within Government for the development and implementation of co-ordinated policies affecting irrigated agriculture. This lack of focus has resulted in several deficiencies, namely:

- . inadequate planning and forecasting of needs;
- . inadequate mechanisms for priority setting and resource allocation within the public sector;
- . programmes of government support which are unco-ordinated and at times contradictory in their effects;
- . overlap and duplication in the provision of some public sector services, especially in areas of extension and advisory services at the farm level; and
- . inadequate provision of other public sector services such as research and development and market identification.

The lack of focus has created a situation whereby there is no coherent framework for the development of policies or for the provision of co-ordinated assistance to the industry by Government. The Committee also strongly believes that this lack of focus could inhibit the adoption of the strategies it has recommended for the future development of the industry.

It is also clear that the need to change has at least in part been recognised, and that mechanisms have begun to develop for a more co-ordinated approach. The creation of the Victorian Irrigation Research and Advisory Committee (see Section 5.1) is one step in this direction: but the Committee believes that a single, adequately-resourced focus for the provision of comprehensive advice on all matters related to Government policy for irrigated agriculture should be developed. The Committee is strongly of the opinion that this policy advice role should come from one primary agency, and should not be attempted by co-ordination of the activities of several agencies.

The Committee believes that the responsibility for the provision of policy advice and service co-ordination and provision (other than water services) should be developed within the Department of Agriculture. At the same time effective links need to be developed between the Departments of Agriculture and Water Resources to negotiate on the matters raised by the interaction of water sector policy and irrigated agriculture policy. These links are discussed further below.

The Department of Agriculture should be clearly nominated as having this role so that policy decisions affecting irrigated agriculture can be properly made within the broader framework of State and regional agricultural policy.

Policies for irrigated agriculture should not be confused with policies for the water sector, and wherever possible the two should be more clearly separated. The Committee believes that there are separate interests of the water industry and irrigated agriculture. This distinction exists despite the fact that, when considering volumes of water used, irrigated agriculture is the largest single consumer of water sector services. The Committee, therefore, does not feel that it is appropriate for agencies such as the Department of Water Resources or the Rural Water Commission to have the lead role in developing policies for irrigated agriculture. None-the-less these latter agencies will continue to have an important role in developing policies and implementation programmes on matters concerning irrigated agriculture. However, this role will be played out under the general supervision of the Department of Agriculture.

The Committee believes that the roles recommended for the Department of Agriculture as set out in Recommendation 10 would probably be best developed within a small, specific unit of that Department. Such a unit, perhaps entitled the Irrigation Branch, would provide a focus for the Department's role, including the all-important function of liaison with the Department of Water Resources on matters affecting State water policy. In general terms the Branch will need to undertake policy development functions and to co-ordinate the provision of services actually undertaken by other operationally oriented parts of the Department.

**Recommendation 10:** The Committee recommends:

- (i) that the Department of Agriculture become the primary source of policy advice to the Government on all matters related to irrigated agriculture, including:
  - . forecasting and planning, including the establishment of general objectives and indicative targets at State and regional levels;

- in consultation with the Department of Water Resources, setting priorities within the irrigation industry for the use of public sector resources including capital;
  - developing programmes for the management of public sector resources, in consultation with relevant public sector agencies; and
  - monitoring performance toward the achievement of planned objectives and targets and making recommendations where necessary for the review of programmes;
- (ii) that the Department of Agriculture become wholly responsible for the provision of all publicly-provided services other than direct water services (that is, other than water supply, drainage, and groundwater and salinity control) necessary for the continuation of irrigated agriculture within the State, including:
- the identification of market opportunities and subsequent market development, in close co-operation with private enterprise, commodity marketing bodies and relevant agencies of the Commonwealth and other state governments;
  - identification of likely future needs and problems, by drawing on local and overseas experience, the active encouragement of research into such needs and problems, and the active dissemination of the findings of this work; and
  - the provision of all on-farm extension and advisory services related to irrigated agriculture including those services currently provided by the Rural Water Commission;

- (iii) that the functions of the Rural Water Commission and the Land Protection Division of the Department of Conservation, Forests and Lands concerning advice on farm water supply and use be reviewed with a view to their transfer to the Department of Agriculture; and
- (iv) that a close liaison also be established and maintained with appropriate individuals and organisations in the private sector through the formation of a widely representative Advisory Council on Irrigated Agriculture;
- (v) that an Irrigation Branch be established within the Department of Agriculture to ensure that these functions are carried out, by co-ordinating the provision of all services from within the Department to irrigated agriculture.

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### 7.3 Retailing Rural Water Services

#### 7.3.1 District Irrigation Boards: Structure and Functions

In Recommendation 7 the Committee proposed that the retailing of water services to irrigators be devolved from the Rural Water Commission to elected, self-managing District Irrigation Boards, a procedure in line with the recommendations of the Committee's Eighth Report. In this section, the structure and functions of such Boards are outlined.

It should be noted that the Boards as proposed would not be small organisations. Some of the Boards proposed in Recommendations 14 and 15 below might employ 150 or more staff and have annual water sales income of close to six million dollars. When viewed in this light they are quite substantial enterprises, controlling significant resources. Their effective and efficient operation is essential to the development of the favourable environment for irrigators that is one of the major aims of this Chapter.

#### Boards of Management

In its Seventh Report the Committee proposed that regional water boards be formed of members directly elected by the consumers of the services provided by those boards. The Committee similarly believes that District Irrigation Boards should also be based on a customer franchise. In view of the close involvement of several Government agencies in the development of irrigation systems, the Committee believes that each Board should also have representatives of the major agencies concerned. These appointees will have the important task of broadening the range of community interests on the Boards.

Each Board should have one member as a staff representative, particularly in view of the comparatively large number of staff members of some Boards. In addition, the chief executive officer of the Board, responsible to the Board for the operations of the District, should also be a member.

Elections of Board members should be held on a regular basis, with all customers of the Board being entitled to vote. All members should hold office for two year terms, and should receive a sitting fee and expenses.

**Recommendation 11:** The Committee recommends that, following the consultative procedures of Recommendation 7:

- (i) District Irrigation Boards be established by Order in Council;  
and
- (ii) that District Irrigation Boards consist of:
  - six members elected by and from customers of the Board;
  - one person with a broad knowledge and understanding of water resource management, nominated by the Minister of Water Resources;
  - one person with a broad knowledge and understanding of irrigated agriculture, nominated by the Minister of Agriculture;
  - one person elected by and from all the staff of the Board; and
  - the chief executive officer of the Board.

### Functions of Boards

The Committee proposes that the Boards should be responsible for the operations, maintenance, planning and development of the assets and services under their control. They will develop services to standards set jointly with their customers, and have a good appreciation of the short and long-term needs and expectations of their customers. These Boards would also need to develop strategies for meeting these needs, as well as identifying priority areas for growth and investment.

To assist in carrying out these functions, each Board should prepare a management plan setting out a strategy for the development and management of water services.

These District Management Plans need to be developed in conjunction with local officers of the Department of Agriculture, within an appropriate regional context. The Plan should be used to provide the basis for priority setting and resource allocation, and monitoring of performance against objectives at the regional level. The plans also need to be flexible enough to respond to change, and must not be or become rigid and unchangeable prescriptions of what should happen. The Committee believes that the context for such plans should be determined by a "Strategic Plan for Irrigated Agriculture" prepared by the Department of Agriculture (see Recommendation 46), and by the provisions of the "State Water Plan".

**Recommendation 12:** The Committee recommends that each District Irrigation Board:

- (i) prepare a five year District Management Plan;
- (ii) review its Plan annually;
- (iii) use its Plan to provide the basis for priority setting and resource allocation, and monitoring of performance against objectives at the regional level; and
- (iv) develop the Plan in consultation with irrigator groups and other relevant public sector managers.

### District Manager

Each Board will need to appoint a chief executive officer, who will be called the District Manager. The task of this person is to a large extent a general management task, of allocating resources, of making choices between alternatives, and of overseeing operational details. A strong emphasis of this position will be on customer relations. Another will be on the need to ensure that there is an effective exchange of ideas and information between customers and the research and investigation agencies.

The Committee sees no reason why these positions must be filled by engineers, as is the present senior position in each District. People with more general management experience could make first-rate managers of the activities of these Districts. Acting on the same principle, the Health Commission of Victoria does not require Regional Directors of Health to have medical qualifications.

**Recommendation 13:** The Committee recommends:

- (i) that each District Irrigation Board appoint a District Manager to be responsible to the Board for the operations of the District;
- (ii) that the position of District Manager be described and classified as an essentially managerial position open to applicants with general management skills; and
- (iii) that the District Manager be a member of the Board of the Irrigation District.

### 7.3.2 District Irrigation Boards: Boundaries

The Committee believes that District Irrigation Boards as recommended form a most important factor in developing more flexible, more customer-oriented and more commercially-oriented procedures for retailing water to irrigated agriculture. A second key factor is the restructuring of the boundaries of Districts, to make them more appropriate for this style of operation.

The current arrangement of irrigation districts is not consistent across the State. The Committee believes that districts should be rationalised to assist the operations of autonomous District Irrigation Boards. Most of the irrigation districts cover comparatively small and uniform areas, except for the very large Goulburn Murray Irrigation District. Given the need to develop organisational arrangements more in keeping with current conditions, the need to concentrate more on the effectiveness and efficiency of operations, and the need to devolve planning and decision-making

responsibilities to local levels, the Committee feels that the continuation of the Goulburn Murray Irrigation District in its present form is no longer the most effective structure for service delivery. A restructuring of the Goulburn Murray Irrigation District was in fact suggested by Robertson in his 1977 inquiry (p 42). The Committee believes that the structure of this District and of the adjacent Campaspe Irrigation District should be reviewed, with a view to developing structures that bring greater coherence between management tasks and operational responsibilities.

The Goulburn Murray Irrigation District at present covers a very large area, and is not treated operationally as one unit. It is likely that, through various cross-subsidies, this structure obscures the real costs of operations and distorts some resource allocation decisions. Cross-subsidies occur where one group of consumers of a given service subsidise the cost of providing the same, or similar services, to other consumers. Cross-subsidies pose equity problems, especially where such subsidies have been built into a financing system over a long period of time, benefitting the one group of consumers. There is a lack of information on the extent of cross-subsidies within the water sector, and they are often hidden in the accounting and costing procedures used. While the existence of cross-subsidies within irrigated agriculture was referred to by Neilson Associates (p 77), the extent of such subsidies is not apparent at present and it is not clear who gains and who loses by them. It is likely that within the Goulburn Murray Irrigation District cross-subsidies result from the uniform charges for services, despite clear differences in the costs of providing them to different parts of the District. The single entry for the whole District in the accounts of the Commission has the effect of hiding the extent and nature of this transfer.

A more appropriate structure for the present Goulburn Murray Irrigation District would also allow for differences in standards of service to develop in accordance with customers needs, expectations and preparedness to support the standards. The Committee believes that a more appropriate structure should be based on the re-organisation of the Goulburn Murray Irrigation District into a small number of new districts. The Committee believes that these districts should be based upon the existing independent operational entities in this region, consistent with the need to have financially viable operational units. The Committee suggests that four new districts can be created, provisionally entitled the Yarrawonga, Shepparton, Goulburn-Campaspe and Torrumbarry-Waranga Irrigation Districts.

The Committee believes that the smaller organisational components within the Goulburn Murray Irrigation District - the irrigation areas - should be retained for the time being. Such areas should continue to play a role in local management decisions through retaining the present system of advisory boards, but within the management context determined by the new autonomous districts and the District Irrigation Boards.

In recent years the Commission has rationalised its management to a smaller number of operational centres, while retaining the benefits of having individual irrigation districts. For example, for all three northern Mallee irrigation districts - Robinvale, Red Cliffs and Merbein - management tasks are undertaken from the Red Cliffs Centre. Similarly the Nyah, Tresco and Swan Hill Irrigation Districts are all managed from the Swan Hill Centre, and Werribee and Bacchus Marsh Irrigation Districts are managed from the Werribee District Centre.

The Committee believes that these changes have contributed to more effective management, and that consideration should be given to retaining them under the autonomous District Irrigation Boards.

The Committee considers that the First Mildura Irrigation Trust should be invited to join the other northern Mallee districts to form one district of four areas in the Sunraysia region.

**Recommendation 14:** The Committee recommends that an inquiry be established by the Minister for Water Resources to determine the most appropriate configuration for the organisation of irrigation districts within the Goulburn Murray, Campaspe, Nyah and Tresco Irrigation Districts, based on the principles discussed in this Report; the Committee believes that these would probably best be based upon the more-or-less independent operational entities that exist there at present, namely:

- the area served from Yarrawonga Weir in the north east, to be managed from the Cobram Area Office, and called the Yarrawonga Irrigation District;

- . the area served from Torrumbarry Weir, Kow Swamp and the Waranga Western Main Channel west and north of the Tandarra Storage, including the Nyah, Tresco and the Swan Hill sections, called Torrumbarry-Waranga Irrigation District, with Area Offices in Cohuna, Kerang, Swan Hill, Pyramid Hill and Boort;
- . the central segment of the district between Mooroopna and Echuca, called Goulburn-Campaspe Irrigation District with Area Offices at Tatura, Tongala and Rochester; and
- . the area north of Shepparton, served by the Goulburn Main Channel, called the Shepparton Irrigation District, managed from the Shepparton District Centre.

**Recommendation 15:** The Committee recommends that autonomous District Irrigation Boards be established to manage all aspects of the retailing of water for irrigation purposes in the following Irrigation Districts, each formed from the specified existing districts or areas:

- . Macalister Irrigation Board in the Macalister Irrigation District, the same as the existing District;
- . Sunraysia Irrigation Board in the Sunraysia Irrigation District, comprising Merbein, Red Cliffs and Robinvale Irrigation Areas, formed from the present Merbein, Red Cliffs and Robinvale Irrigation Districts;
- . Werribee River Irrigation District, comprising Bacchus Marsh and Werribee Irrigation Areas, formed from the present Bacchus Marsh and Werribee Irrigation Districts;
- . Goulburn-Campaspe Irrigation District;
- . Shepparton Irrigation District;

- . Torrumbarry-Waranga Irrigation District; and
- . Yarrawonga Irrigation District.

**Recommendation 16:** The Committee recommends that the First Mildura Irrigation Trust be invited to join the Sunraysia Irrigation District.

**Recommendation 17:** The Committee recommends:

- (i) that the existing organisational arrangements for the following rural districts be retained:
  - . Millewa; and
  - . Otway;
- (ii) that the existing organisational arrangements for the following waterworks districts be retained:
  - . Otway;
  - . Carwarp Yelta;
  - . East Loddon;
  - . Kerang North West Lakes;
  - . Mallee;
  - . Normanville;
  - . Tyntynder North;
  - . West Loddon; and
  - . Wimmera;
- (iii) that the organisational arrangements for the Mornington Peninsula Waterworks district be considered as part of the current review of Urban Water Services on the Mornington Peninsula convened by the Minister for Water Resources; and

- (iv) that the rural water services currently provided as part of the Coliban water supply system remain with the Rural Water Commission until a regional water authority based on Bendigo is established.

**Recommendation 18:** The Committee recommends that each rural and waterworks district within the Rural Water Commission be treated as a separate activity centre in the planning, operations and accounts of the Commission as described in Recommendation 23.

Implementation of the major changes proposed above, and the introduction of the measures for financing rural water services recommended in Section 7.4, will need to be by a very careful procedure over time. Extensive consultation with all interested parties will be necessary, to explain the scheme and its advantages, to identify potential difficulties in implementation, and to devise ways of overcoming these. Irrigators should be adequately represented on steering committees, task forces, and the like. Chapter Eight discusses the implementation of the proposals in more detail.

**Recommendation 19:** The Committee recommends that the proposals of Recommendations 11 to 18 be introduced over three years by a carefully planned implementation programme incorporating extensive consultation with and participation by irrigators and their representatives.

### 7.3.3 Customer Services within the Rural Water Commission

Removing the functions of retailing water to irrigation districts from the Commission will not divest the Commission of a role in servicing customers. The District Boards will be customers of the Commission, as autonomous bodies. So also will other water users, such as rural and waterworks districts and private diverters.

In previous reports and during hearings and consultations on the water industry, the Committee has stressed the importance of accountability, of the participation principle and of effective response to consumers' needs. These principles have been incorporated into the Committee's recommendations concerning both local water agencies (see Sixth and Seventh Reports) and central management (see Eight Report), into its recommendations on bodies outside the water industry (Ninth, Tenth and Thirteenth Reports), and into the strategies it has recommended in this Report.

Since the publication of the earlier reports, greater attention has been paid within Government to the relationship between public sector agencies and their clients. This concern has produced reports such as "Consumer Policies and Procedures of Energy Utilities in Victoria" prepared by a Customer Policy Review Panel. This report and others like it indicate a fundamental shift in the management of some public sector agencies.

Two of the basic strategies proposed in Section 6.2 are the development of greater flexibility throughout the rural water sector generally and the development of a more customer-oriented focus. The Committee believes that with sufficient attention paid to several key matters, the Rural Water Commission can become a truly customer-oriented agency. One of these matters is the identification of customers' current and likely future needs for water services as markets and technology change and the subsequent identification of requirements within the Rural Water Commission's system to meet those needs. Another is the development of marketing plans to allow individual managers within the Commission to respond to the needs of its customers, and a third is the development of policies and guidelines for customer relations. The Committee believes that an organisational unit devoted to Customer Services within the Commission is the most appropriate way of organising this activity. As District Irrigation Boards will be among the major customers of the Commission this unit would have a major role in arranging interactions between the Commission and the Boards.

**Recommendation 20:** The Committee recommends:

- (i) that a Customer Services Division be established within the Rural Water Services Branch of the Rural Water Commission;  
and
- (ii) that functions of the Division include:
  - determining practices for the Commission's water service system, in the light of customers' current and likely future needs for water services;
  - development of a marketing plan which allows managers within the Commission to respond to customers' needs;
  - development of policies and guidelines for customer relations including all forms of public information services; and
  - liaison with the Department of Agriculture where necessary.

\* \* \* \* \*

## 7.4 Financing Rural Water Services

### 7.4.1 General Principles

#### Publicly-Provided, Commercially- Based Enterprises

Provision of water services to irrigated agriculture is similar to many other forms of public sector activities whereby a publicly provided service is made available to enable commercial activities to be carried out. In this sense, water services are similar in nature to freight transport or to energy services to industry, both of which are necessary services assisting commercial activities. It is equally clear that irrigated agriculture is a major form of economic activity within the state. As shown in Chapters Two and Three, irrigated agriculture is responsible for a significant amount of economic activity and employs, directly and indirectly, large numbers of people. Irrigated agriculture is based on large numbers of small economic enterprises, whose principal task in economic terms is to optimise several inputs necessary in order to make a profit, or obtain a return upon the capital invested.

As has been noted earlier in this Chapter, in recent years major changes have occurred to the manner in which Government services are provided to commercial enterprises. One of these changes has been the development of management practices more in accord with those used by the private sector. These changes are generally motivated by strategies similar to those recommended in Section 6.2, and they have affected areas such as planning and priority setting, financial management and accounting, reporting and auditing.

In the 1982-83 Annual Report, the State Rivers and Water Supply Commission indicated that it is moving to reform its existing practices so as to be consistent with commercial principles practised elsewhere. The principal elements of this reform were described in the following terms:

"Resource consumption is measured on accrual principles with all costs being taken into account. Cash expenditure and receipts are properly treated as elements of liquidity management. Resource consumption is compared to budgeted consumption and budgeted performance or output. Control reports from the system range from financial reports of results of operations, statements of financial position and source

and disposition of funds to management reports reflecting cost centre performance" (Annual Report 1982-83, vol 1, p 76).

The Committee regards the progress made by the Commission in adopting commercially-based resource management principles as a substantial step towards the full adoption of one of the major strategies recommended.

**Recommendation 21:** The Committee recommends that the provision of all rural water services be undertaken as publicly-provided commercially-based enterprises, where:

- publicly-provided means that the organisations providing the services are established by the Government and are directly accountable to their customers and to the Government; and
- commercially-based means that the organisations providing the services operate, manage, charge and account for, and plan all their activities including capital investment, on the basis of standard commercial practices.

The principles behind the financing of the activities of the Commission and the Irrigation Boards are of great importance. Many publicly provided enterprises are required to be entirely self-financing, and large agencies such as the Melbourne and Metropolitan Board of Works and the Gas and Fuel Corporation of Victoria are examples. Other agencies do not generate all their own funds and are not expected to. Still others raise large amounts of revenue, and have full self-financing as an ultimate goal.

Under the present arrangements and under any developments foreseeable in the medium-term, it is not possible for customers of rural water services to meet all of the costs - including the costs of the large capital investments in the system - of providing the service. There are also very substantial arguments over how much of the costs it would be appropriate to charge directly to customers. As the system has developed under a very different pattern of financing any rapid change to placing

more of the costs on the customers would inflict inequities on most present customers. On the other hand it is argued also that the present system imposes inequities on the community at large, in that it supports a large-scale use of resources that appears now to have become less than optimal in its efficiency and effectiveness.

The Committee considers that it will be necessary for some substantial community support to irrigated agriculture to continue. Such support need not be inconsistent with the concept of self-financing here being discussed. If the support is provided in the form of identified grants for specific purposes, it can be treated as a standard item of income in the accounts.

The major form of ongoing community support for irrigated agriculture is through the Government paying the very substantial cost of the interest on the capital invested in the system. The Committee considers that this form of support should continue, although later in this Report it recommends some changes in the way in which this support is paid and the way in which it is entered into the accounts of water service organisations.

**Recommendation 22:** The Committee recommends that the State continue to pay the interest on the capital invested in the construction of major storages and main distributary channels, as the major form of ongoing community support for irrigated agriculture.

There are several major advantages in the adoption of the self-financing concept. Perhaps the most important is that it should lead to a better appreciation of the effectiveness with which the resources available are used. If the Commission were to be required to plan and operate all activities on a modern commercial basis, retaining the funds generated and absorbing Government grants into its accounts as items of revenue, it would then be necessary for it to determine more closely what various services actually cost and how much revenue each service generates.

The Committee believes that a further advantage of self-financing is that a significant change in morale would eventually develop if the Commission and

Districts were more self-reliant and more independent of the vagaries of funding which are part and parcel of being in receipt of State Treasury funds. Irrigators themselves would gain from the knowledge of their greater involvement in the provision of services and lessened dependence upon Government support.

The Committee notes the tendency which has developed within some - but not all - sections of the irrigation industry to expect that Governments will meet revenue shortfalls. At present there appears to the Committee to be no coherent framework by which Governments step in and support the industry: support is ad hoc and has often developed as short-term responses to immediate political problems. As has been noted earlier, this kind of approach often makes the long-term solutions more difficult. The adoption of self-financing as described here would require the development of more coherent planning and priority setting, and lead to pressure from irrigators to reduce inefficiency in the system.

Some advantages would accrue directly to the community generally from the adoption of this concept of self-financing. Under present policies the community bears a substantial part of the costs of providing rural water services. At the same time, neither the community generally nor the Commission has any mechanism for analysing how effective or equitable such arrangements are in meeting either the objectives of efficient resource management or those of irrigated agriculture specifically. Self-financing and the activity centre concepts would help overcome these problems.

### Activity Centres

The Committee believes that the most appropriate way of incorporating Government grants into the self-financing concept is through the development of a system of responsibility areas or what are commonly called cost centres. Cost centre approaches are intended to enhance accountability and control, and should be founded on commercially-oriented principles in accordance with the strategies recommended in Section 6.2. Cost centres are intended to make easier the comparison of actual resource consumption (capital and manpower) with budgeted consumption.

Cost centres can and should be substantially more than this. If the kinds of output-oriented performance measures described in Section 5.6 and recommended later in this Chapter are developed for each cost centre, then an extremely powerful technique is available for assessing the effectiveness of the centre. These output-oriented measures of performance are, in the Committee's view, the essential link between the financial and economic methods that are used as tools, and the social and economic objectives of the system.

Thus the financial procedures used in each cost centre should aim at identifying as closely as possible the costs of providing specific services and of carrying out specific functions. The operational procedures used should aim at providing specific quantitative measures of performance wherever possible, where performance is defined in terms related to the quality and quantity of service delivered to customers.

Adoption of these kinds of procedures should enable both the Commission and individual District Irrigation Boards to make far more informed decisions about both operational matters and about long-term planning matters. Financial and economic analyses would then be used as a tool to assist decision-making, in a way rarely done now. Informed choices between options could be made on the basis of comparative estimates of both financial and operational performance implications. Comparative data should be built-up over a number of years, allowing comparisons of performance in successive years, again making it easier to make informed decisions on areas of operations most needing review, change or development.

In effect, this means applying the analytic techniques of a commercial enterprise to the operation and planning of an activity that contains some social objective. The Committee believes it to be crucial that when an agency is pursuing an objectives that has a large social or community service element, the economic and financial aspects of the methods and techniques employed be kept under careful review. This is to ensure that resources are not being wasted by inefficient use, and that the objective is being pursued as effectively as possible.

In this sense, the development of these centres is quite crucial to the implementation of the basic organisational strategies. Because the kind of centre here being proposed is very much more than the standard accounting "cost centre", the Committee believes the term "activity centre" should be used instead.

**Recommendation 23:** The Committee recommends:

- (i) that all the activities of the Rural Water Commission, including those of organisational units providing or contracting financial, administrative and technical services to other units within the Commission and to District Irrigation Boards, be divided into a number of independent activity centres in the planning, operations and accounts of the Commission;
- (ii) that each District Irrigation Board operate in the same manner as an independent activity centre;
- (iii) that to the greatest extent possible, quantitative output-oriented performance measures be developed for each activity centre;
- (iv) that each activity centre be required to be self-financing, through charging other activity centres inside the Commission and customers outside the Commission for services provided and through other sources including direct Government support grants;
- (v) that all costs attributable to activity centres be debited to their accounts, including the costs of indirect services and of the capital used; and
- (vi) that operational and planning decisions of activity centres be made on the basis of assessment of expected financial consequences of the options and of their expected operational performance implications.

The Committee notes that the Rural Water Commission has made progress towards the implementation of some new financial management and control systems, including the establishment of conventional accounting cost centres. The Committee is not aware that the Commission is incorporating strong output-oriented

performance measures into its cost centre procedures, and the Committee believes that cost centres based solely on accounting procedures are inadequate.

#### Government Support for Rural Water Services

There are many aspects of the current operations of the Rural Water Commission which are very unlikely to be self-financed in the foreseeable future. This Report has already recommended that continued community support is essential. In such cases Government grants should be paid directly to the relevant activity centre to finance those aspects of water services that cannot generate adequate revenue directly. Equally there are opportunities for the entrepreneurial development of some services which will enhance the capacity of activity centres to finance the costs of maintaining their extensive infrastructure. The Committee believes that there may be considerable opportunities for centres to market water imaginatively given the greater flexibility being recommended in this Report for all components of the water supply system. Examples of services which are unlikely ever to be completely self-financed include the operations of waterworks districts such as Wimmera-Mallee and regionally based groundwater and salinity control systems. In the medium-term future at least, irrigation districts and the Commission will require continuing government support to meet the cost of interest on sunk capital and probably some of the new capital investment required for renewals and new development.

Since the formation of the State Rivers and Water Supply Commission, the Government has effectively borne the cost of interest associated with the development of rural water supply services, although it does not do so for water supply works for metropolitan Melbourne. Various estimates have been made of the size of the interest payments, and these have been discussed to some extent in Section 5.3, but as noted there published reports and accounts are not sufficiently accurate or detailed to ascertain the true picture.

Since the late 1930s the interest costs have been recorded in the financial accounting system of the Commission as "Capital Expenditure Borne by State". The present arrangement whereby the Department of Management and Budget provides only very limited information about how this amount is calculated, how much relates to specific works, the interest rates used in the calculations, and so on, is quite

unsatisfactory. Without such information no accurate calculation or allocation of costs can be made. The situation is the same for many other major items of Government capital expenditure.

The Committee believes that the interest should be debited directly as a cost and expenditure item of the Rural Water Commission, and where practicable against the individual activity centres. It should be pointed out again that the listing of this as an item of direct expenditure in the accounts of the Rural Water Commission does not mean that the Committee expects that irrigators can and should actually pay for the interest costs.

Debiting the interest directly to the Commission is necessary in the self-financing model here recommended, in order to facilitate proper financial management and efficient use of resources, as this requires all costs associated with the provision of services to be identified and accounted for.

The Committee recognises that irrigators generally would not be able to pay the full cost of debt servicing on the capital associated with state works of water supply, especially given the existing commodity mix within irrigated agriculture. Debt servicing for these assets could increase the price of water very substantially. Not only would this impose severe financial hardship upon many irrigators in irrigation districts, but it would also make them uncompetitive with other segments of the agricultural community with whom they directly compete.

As has been noted above, the Committee believes that the payment of the interest debt on the capital invested into major storages and main distribution channels should remain as the major element of general community support for irrigated agriculture. In keeping with the strategy of commercially-based operations, however, the Committee believes that this item should appear in the Commission's accounts as an item of revenue from the Government for the purpose of "Government income support for interest expense on capital invested" and as an item of expenditure to the Government as "interest expense on capital invested".

The Committee believes that the total programme of assistance to water users including debt servicing arrangements should be regularly reviewed in the context of overall levels and forms of assistance to both the agricultural and water sectors.

Such reviews should ensure that overall levels of Government assistance are consistent with the level of development of the districts and the progress toward the achievement of targets related to economic and financial viability. Over time, the Committee is confident that districts can become rather more efficient and effective, and so less reliant on and more independent of the large scale support characteristic of the past. Given the level of overall Government assistance to irrigated agriculture, in relation to agriculture as a whole, largely arising from the the State continuing to bear this increasingly large debt, the Committee feels that in the interests of both the agricultural and water sectors as a whole such reviews need to be made regularly.

In situations where it is necessary for the community to support service provision, such actions should be taken only as part of a defined policy framework and as the result of explicit decisions to commit or to continue to commit a certain level of resources to each specific form of support. Clear guidelines need also to be made about the method by which assistance is given. The policy framework should require proposals for support to specify the objectives and need for the support proposed, and the number and nature of beneficiaries, estimates of how long the support may be required, and explanation of steps being taken to reduce the level and duration of the support.

The Committee believes that existing forms of support should be phased out and replaced with direct income support to the respective service agencies. As an important component of the self-financing concept, the Committee believes that all support should be direct and readily identifiable in any reports or financial statements.

These principles have already been implemented in other parts of the water industry, in particular with revenue subsidies paid to local and regional urban water authorities. These practices should be adopted within irrigated agriculture.

**Recommendation 24:** The Committee recommends that any direct Government support for components of rural water services be in the form of identified direct grants to the activity centre responsible for those services, and be developed as part of an overall framework of support.

**Recommendation 25:** The Committee recommends that all activity centres of rural water service organisations be self-financing, with Government grants made under Recommendation 24 treated as items of income in the accounts of the centres, and with all the expenses of providing the services treated as expenses in these accounts.

**Recommendation 26:** The Committee recommends:

- (i) that the Department of Management and Budget provide to the Rural Water Commission and where possible to District Irrigation Boards details of how the interest costs are calculated, including in particular allocations of the costs to specific works;
- (ii) that the interest costs associated with the assets owned and managed by the Rural Water Commission and the District Irrigation Boards be directly debited to the Commission as a whole, and to the Boards collectively, and wherever practicable to individual activity centres within the Commission and to individual District Irrigation Boards;
- (iii) that the Government pay a direct grant as an item of revenue to each activity centre either within the Commission or to the separate Boards, to match the interest expenditure; and
- (iv) that this policy be continuously monitored to measure its effectiveness in meeting broader Government objectives for both the wider agricultural sector and water sector, and that it and other measures of support be reviewed in five years.

#### Payments to Consolidated Revenue

As a specific measure to facilitate the development of the Rural Water Commission and the Boards as commercially-based, self-financed agencies, the Committee

believes that in principle they should be given more autonomy and independence within the overall State Budget. The most important element of this independence is that these agencies would all need to be able to retain the revenue that they generate, rather than crediting any to the Consolidated Fund. This revenue should be used directly to finance the activity centres' operations.

Difficulties could arise with this arrangement if there were no framework of objectives and targets for the Commission and the Districts to operate within. Only if such a framework were established could the Committee feel confident that providing such independence to these agencies would not simply be re-establishing the kind of uncontrolled statutory agency that has been criticised in previous reports of this Committee.

**Recommendation 27:** The Committee recommends that revenue received by rural water service activity centres for services provided be credited directly to the organisation and used directly to meet its expenses rather than being credited to the Consolidated Fund.

### Legislation

Amendment of the legislation within which the Rural Water Commission and the Districts currently operate would be required in order to adopt these principles. Reform of existing water law is needed in any case to ensure that the Commission and the District Irrigation Boards have the necessary powers and responsibilities to operate as commercially-based entities. This is not suggesting any greater powers for these agencies than those already possessed by regional water boards. In its Seventh Report (p 9) the Committee recommended substantial amendments to water law, with a view to introducing simpler, briefer and more systematic legislation containing statements of purpose and objectives and transferring administrative detail to delegated legislation or regulations.

**Recommendation 28:** The Committee recommends that the Rural Water Commission and the District Irrigation Boards be given the powers necessary to operate as commercially-based, self-financing enterprises including the powers to:

- . determine preferred financing methods;
- . determine annual charges for the services it provides, subject to Ministerial disallowance; and
- . borrow privately.

### Implementation

The adoption of the general principles outlined in this Section would bring about fundamental change to the management approach and to the operations of the Commission and the District Irrigation Boards, and to a lesser extent of the Department of Water Resources. These principles support the other changes recommended in this Report, and their adoption would require the development of a comprehensive programme of implementation.

The Committee is very sensitive to the possibility of some short-term disruptions that might be produced by the changes it believes are in the best interests of the water sector and of irrigated agriculture in the medium to longer term. There is a need for the changes to be planned carefully, and for individuals to be made fully aware of the purpose, nature and pace of change. Given the magnitude of individual investment decisions, the Committee believes that it is vital to have adequate information on programmes for change widely available to the industry.

Implementation of these and other recommendations needs to be progressive. Gradual introduction will minimise disruption and allow adjustment decisions to take place. Recent long-term restructuring plans within the manufacturing industry - for example within the Australian motor industry - provide useful models for the development of comprehensive implementation programmes. Such programmes should be designed in such a way as to identify and monitor the effects of change, to

enable corrective action to be taken where necessary, and to form an effective basis for providing assistance to facilitate adjustment. The implementation programme needs to be developed by a process of consultation involving all the interested parties, and it must be constantly reviewed and monitored against objectives and general targets.

The changes to the financial system that are being recommended in this Section need to be in place before the autonomous District Irrigation Boards of Sections 7.2 and 7.3 are established. The Committee has recommended that these Boards be implemented over a three year period, and it considers that two years is an appropriate time for implementing the changes to the financial system proposed in this Section.

**Recommendation 29:** The Committee recommends that the proposals of Recommendations 21 to 28 be introduced over two years by a carefully planned implementation programme incorporating extensive consultation with and participation by irrigators and their representatives.

#### 7.4.2 Pricing Policies - Statewide Operations

##### General Principles

The development of an efficient pricing policy for the Rural Water Commission is an important element in the implementation of the strategies of a commercial-base and of being fully accountable. Pricing policies must also contribute to other objectives and strategies, such as those concerned with efficient resource management and the methods for allocating resources between competing uses.

In the past, water prices have not been used as an allocative mechanism within the irrigation industry, largely because during the pioneer or developing phase of the industry the concept of an equitable distribution of this resource was felt to be of greater importance. Section 5.2 has shown how, as the industry has progressed from the pioneering to the mature phase, inequities in water allocation have developed.

That Section has also outlined the adverse economic impact, on both individual irrigators and on the resource use of the State, that developed as conditions have changed.

There is a large body of evidence, both practical (see Section 5.4) and theoretical, on the importance of pricing policies in promoting efficient resource use and in allocating resources between competing uses. As shown in Chapter Five, present arrangements for the allocation of resources have become too inflexible and have produced an allocation of resources within the irrigation sector that is not optimal under contemporary conditions. In consequence, the level of economic efficiency is less than it could be. The Committee wishes to repeat here the conclusion of Chapter Four: the system at present used has clearly been quite effective in generating substantial irrigation development, but recent fundamental changes have made the development of new pricing policies essential.

To implement the commercially-based strategy and the concept of self-financing, it will be necessary to develop pricing policies which ensure that all relevant costs of the provision of services are incorporated into the charges to be levied. This implies a broader base for charges than is used under present pricing policies. Proper cost recovery policies are an essential component of the self-financing concept, and have the advantages of:

- providing adequate levels of information to management and to irrigators as to the true costs of the provision of services, thus enabling more rational resource allocation decisions to be taken;
- identifying where Government support of rural water services is most needed; and
- when combined with other measures, reducing the degree of hidden cross-subsidies within the water sector.

When discussing the statewide operations of the Commission, it is important to recognise that the "customers" of the Commission include the new autonomous districts that retail the water. The wholesaling portion of the Commission should act as one activity centre, selling water to the District Boards which in turn retail it to individual irrigators or end users.

The pricing policy needs to recognise both the costs of actually providing the water to the customer, which can be expected to vary somewhat from season to season and from area to area, and the value to the customer of the security of being connected to the supply. This principle is recognised in many other service delivery agencies, and is in large part behind the present system of charging for the full water right whether or not it is used. Introducing such a system does not mean that charges for water would necessarily be higher or lower, but rather that a different manner of calculating charges would be used.

**Recommendation 30:** The Committee recommends that charges to all customers for services provided by the Rural Water Commission reflect:

- . the need to promote and encourage efficiency in resource use;
- . the fixed costs of service provision; and
- . the variable costs of providing the water actually delivered.

**Recommendation 31:** The Committee recommends that the statewide water wholesaling operations performed by the Rural Water Commission be a self-financing activity centre as described in Recommendation 23.

#### Operations, Maintenance, Depreciation and Capital Investment

The Committee is very concerned at the evidence which has been presented to it concerning the present status of physical assets, their projected condition and the adequacy of programmes which have been developed to improve their status. The existing assets at the storage and regional distribution level contain elements which are not adequate to the task of storing and delivering water efficiently and effectively. The pace of technological change within irrigated agriculture, when combined with the increasing age of these assets, suggest that these problems will

become more noticeable and pressing in future years. Section 5.3 has noted that insufficient resources have been set aside to renew and where necessary enhance existing assets as they deteriorate and become technologically obsolete. Possible reasons for this insufficient depreciation funding have been discussed elsewhere. The Committee believes that, in order to ensure that the assets are properly maintained in the longer term and that the system is properly developed, adequate resources for depreciation and capital investment need to be found. To ensure that these resources are equitably sourced, the Committee believes that the Rural Water Commission should ensure that they are met largely from the customers of services, rather than following existing ad hoc policies which see the general community providing all of the capital resources for such purposes.

The commercially-based strategy and the self-financing concept imply that, as an important principle, pricing policies should seek the cost recovery of all major items of expenditure associated with the provision of water services to irrigated agriculture. This principle implies that over time, the costs of routine operations and maintenance, depreciation, and the costs associated with new capital investment (both debt servicing and redemption) would be incorporated progressively into the structure of charges levied by the Rural Water Commission for its statewide operations of bulk supply to districts.

This policy should have the effect that:

- . all direct operating costs of the statewide system are recovered;
- . capital resources available to the Commission are used efficiently and allocated to their most productive use;
- . the need for unplanned and ad hoc Government support measures is reduced;
- . the Commission is able to make better informed decisions about the levels of resources used and the level of service provided;
- . cross-subsidies within the overall operation of the bulk supply system are reduced; and
- . adequate resources are available to maintain properly the supply and distribution systems and to ensure that proper steps are taken to halt the deterioration in the state of the assets.

The pursuit of some specific social objective may make it desirable to maintain a level of Government support for an item of the costs of operations, maintenance, and depreciation, or to the investment of new capital, in some specific area, either generally or in specific years only. In such cases, the Government support should again be made as a specific purpose grant, identified as such in the accounts, and credited as an item of income for that purpose in that area.

**Recommendation 32:** The Committee recommends that the Rural Water Commission recover from relevant customers (including agricultural, urban, industrial, and recreational users) all the costs associated with the provision of services to such groups, less any explicit Government support contributions, and including the costs of:

- routine operations and maintenance of all works of water storage, regional distribution, drainage and salinity and groundwater control;
- adequate depreciation allowances for all works;
- capital investment for both enhancement of existing works and the development of new works;
- interest on such capital if it has been obtained by borrowing;
- surveys, investigations, planning and assessment; and
- administration.

### Supply Charge

The Committee believes that, in principle, the pricing policy adopted by the Rural Water Commission should recognise the value to the customers of being connected to the water supply and drainage systems. By means of this complex system of water storages and main distribution channels, irrigators can have large volumes of high

quality water even in the worst recorded drought right across the State. Water services are, in short, plentiful, reliable, secure, and of high quality. The supply system is of immense value to irrigated agriculture as it underwrites successful irrigation practice. There is thus a substantial value in having access to such a system for individual irrigators. This is recognised at present in the procedure whereby irrigators are charged for their full water right, even if it is not all used.

Some disadvantages of this method of recognising the value of being connected to the system have been outlined in Section 5.2. To overcome the problems identified there, the Committee considered a separate component of the overall water charge levied by the Operations Branch for bulk water supplies to Districts and other retailers as a "supply charge". This system has been widely adopted in the financing of many essential services, such as telephones and electricity. The Committee is not, however making any recommendation that a supply charge be introduced. This is because the whole question of charging is extremely complex, and will be made more so by the introduction of transferability of water rights. Once a system of transferable water rights is introduced, the structure of charges should be re-examined in detail based on the principles discussed in this Report.

#### River Murray Commission

The State of Victoria incurs expenditure for its share of the operation and management of the works of the River Murray Commission. These costs are associated with the capital costs of construction, operation and maintenance of the headworks (Dartmouth and Hume Dams) which ensure that there is water in sufficient quantity, at the correct location within the river systems, as and when required by the various user groups. Similarly there are costs in managing the quality of that water, in monitoring usage and in planning for the future.

In 1983-84 expenditure by Victoria on River Murray Commission works totalled \$4 022 000 (Annual Report 1982-83), made up of \$2 885 000 contribution towards the cost of works constructed under agreements under the River Murray Waters Act, \$887 000 instalments of principal and interest towards the cost of Dartmouth Dam, and \$250 000 contribution towards the costs of the Commission itself.

Under present arrangements it is not clear whether irrigators make any direct contribution toward these costs, and the available reports do not refer to other specific River Murray Commission works such as Yarrawonga Weir. The Committee believes that the annual reports of the River Murray Commission and of the Rural Water Commission should contain far more information about the source of the funds for the River Murray Commission and about how its funds are spent.

**Recommendation 33:** The Committee recommends that the costs of operations, maintenance, new infrastructure and interest arising from Victoria's share of the costs of the River Murray Commission and its works be debited to the Commission and financed in the same way as other costs referred to earlier.

#### 7.4.3 Pricing Policies - Operations of the District Irrigation Boards

##### General Principles

The Committee believes that the general principles outlined earlier in this section relating to the financing of operations and establishing charges for various water services, should also be applied to retailing operations within Districts. The issues relating to the financing of retail or local distribution are broadly the same as those for the provision of statewide or wholesaling operations.

The Committee feels that it is desirable that the operations of the District Irrigation Boards should be self-financing, including direct Government support grants as items of income. This self-financing should cover all major elements of the provision of water services such as maintenance, depreciation, new capital expenditure and associated capital costs of debt servicing.

The Committee also is keen to ensure that charges are both efficient and equitable. Thus charges should, to the extent possible, encourage efficient resource use and facilitate the processes of adjustment within irrigated agriculture. These charges should not impede the progress being made toward the development of a more efficient and productive agricultural sector. At the same time charges need to be

equitable. Thus the Committee believes that users should be charged an amount which reflects the actual cost of providing water services to them less any Government support grants, and that groups of irrigators should not, as a general rule, subsidise the cost of providing services to other irrigators.

Other important principles established elsewhere in this Report - notably relating to financial management and reporting, and to provision of Government assistance - should also apply.

**Recommendation 34:** The Committee recommends that charges for services provided by each District Irrigation Board reflect more closely both the need to promote and encourage efficiency in resource use and the actual costs of service provision, including the fixed and variable costs of providing the water actually delivered.

**Recommendation 35:** The Committee recommends that each separate irrigation district and area be a self-financing activity centre as described in Recommendation 23.

**Recommendation 36:** The Committee recommends:

- (i) that the costs of providing services to identifiable customers or groups of customers be directly recovered from those customers or groups of customers wherever practicable; and
- (ii) that revenue obtained from one group of customers not be used to subsidise the costs of providing services to other groups of customers unless:
  - there is a direction to do so from the Minister; and
  - the subsidy is shown as items of expenditure in the accounts for one activity centre and of income in the accounts of the other.

The manner in which continued Government support for district activities should be distributed has been outlined in Section 7.4.1.

#### Operations, Maintenance, Depreciation and Capital Investment

The principles outlined in Section 7.4.2 for financing these items for the statewide wholesaling functions of the Commission also apply to the activities of the individual Districts.

**Recommendation 37:** The Committee recommends that each separate Irrigation District, acting as an independent activity centre, recover from irrigators and other users where appropriate all the costs associated with the provision of services, less any explicit Government support contributions, and including the costs of:

- charges levied against the District by the Commission for bulk water supplies and for all other services;
- routine operation and maintenance on all relevant works of local water supply, drainage and salinity and groundwater control;
- adequate depreciation allowances for all works within the District;
- capital for both enhancement of existing works and development of new works and interest on such capital if it has been obtained by borrowing;
- surveys, investigations, planning and assessments; and
- administration.

As with other recommendations, the Committee believes that changes listed above should be introduced progressively and as part of a carefully constructed programme designed to manage the change process. As before, the implementation programmes should be designed in such a way as to identify and monitor the effects of change, to enable corrective action to be taken wherever necessary, and to form an effective basis for providing assistance to facilitate adjustment; the implementation programme needs to be developed in consultation with all affected parties and be constantly monitored against objectives and indicative targets.

**Recommendation 38:** The Committee recommends that proposals of Recommendations 30 to 37 be introduced over two years by a carefully planned implementation programme, incorporating extensive consultation with and participation by irrigators and their representatives.

#### 7.4.4 Water Charges

##### Compulsory Payment for Water Rights

As part of the strategies of greater flexibility and a more customer-oriented approach, the Committee has considered the existing policy whereby irrigators pay for their entire water right whether the entitlement is all used or not. Many of the issues involved in this matter have already been raised in this Report, and the undesirable rigidity that it introduces has been described in Section 5.2.

The compulsory payment for water rights was introduced at a time when it was necessary to encourage irrigation development. An argument often used to justify continuance of this policy is that compulsory payment guarantees income for the Rural Water Commission and that it minimises fluctuations in that income between dry years and wet years. The Committee believes that such objectives can be achieved by other, more effective and efficient, mechanisms such as the development of reserves to be used only in years of lower revenue, or private borrowing, or possibly through the development of a supply charge to cover much of the fixed costs of water supply.

Given the importance of encouraging efficient water use, and of developing the Commission and the District Irrigation Boards as commercially-based and customer-oriented bodies, the Committee believes that the compulsory payment for water rights should be abolished. Where it is considered necessary to minimise revenue fluctuations the Committee believes that other pricing, charging and financial mechanisms should be used.

**Recommendation 39:** The Committee recommends that the compulsory payment for water rights, irrespective of the actual level of water usage, should be abolished, and that other methods for providing some stability to revenue be used.

### Tariffs

The structure of charges for the provision of irrigation services is largely uniform across the State within defined systems (that is, private diversions, gravity districts and pumped districts). This uniform approach exists despite the differences which are evident in the actual costs of servicing particular groups across the State.

The earlier Recommendations made by the Committee, made in response to a number of existing and emerging issues, underline the need for review of the existing structure of charges. Briefly these issues include:

- devising a pricing policy which encourages efficient resource use;
- developing a financing strategy capable of meeting, over a period of time, all the relevant costs of providing water services in future;
- ensuring that the fixed costs of water supply are met;
- avoiding, to the extent possible, the fluctuations of revenue inherent in a natural, resource based system; and

- . ensuring equity in charging practices, whereby individual consumers pay only for the actual costs of their own levels of consumption and thereby gradually eliminating cross-subsidies.

The Committee has not attempted to devise appropriate charging structures to meet all these needs, some of which may conflict. Options for charging structures include block pricing, either rising or falling or combination of fixed supply charge plus variable charge for each marginal unit used. It believes however that there is a need for a close examination of this issue by the Government with a view to the development of more appropriate structures. Such a review should include a close examination of tariff structures used elsewhere in the public sector, such as by electricity supply and telecommunications authorities.

**Recommendation 40:** The Committee recommends:

- (i) that the charge for water services provided by the Rural Water Commission be determined by the Commission separately for each of its activity centres following consultation with the customers of each activity centre and within guidelines determined from time to time by the Minister for Water Resources;
- (ii) that the charges for water services provided by District Irrigation Boards be determined by each Board following consultation with its customers and within guidelines determined from time to time by the Minister for Water Resources; and
- (iii) that the charges be set so as to meet the requirements set out earlier in this chapter for the financing of activity centres.

#### Payment of Water Charges

The Committee believes that all the customers of the Rural Water Commission and of District Irrigation Boards should have the option to pay water charges at more

regular intervals than at present, and it considers that the most desirable arrangement is an option for quarterly payment. This practice is used elsewhere within the water industry (payment of Melbourne and Metropolitan Board of Works rates) and even within other areas of the Commission's operations. Adopting this recommendation would help to promote greater awareness of water consumption patterns by irrigators, through a more direct relating of quantities of water received to the amounts paid for it. It would also make payment of water charges by irrigators easier, through smaller more regular payments, and it would help balance Commission and Irrigation Board revenues between periods of the year.

**Recommendation 41:** The Committee recommends:

- (i) that all customers of the Rural Water Commission and of District Irrigation Boards have the option of paying for water services provided by irrigation, waterworks or rural districts quarterly; and
- (ii) that arrears be subject to market rates of interest.

#### 7.4.5 Pricing Policies - Private Diversions

The principles developed and recommended for pricing policies for district based operations apply also to the pricing of water for private diversion licences and permits. Thus prices need to be established so as to fully recover the cost of regulation and administration and where applicable the cost of the capital involved on regulated streams: as before, any direct Government support measures should be in the form of clearly specified income supplements to the Commission or whatever other agency is concerned.

The successful record of private diverters in many areas across the State should be recognised, and every encouragement given to the greater use of private capital to develop and improve irrigated agriculture. In particular, when charges are set they should recognise that those pumping from unregulated streams or from underground aquifers use little or no State-provided capital and receive no equivalent level of

community support. Indeed, they must provide their own capital as well as all of their own operating costs.

In view of the increasing competition for available water resources on a number of river systems across the State, steps need to be taken to encourage resource use efficiency and to ensure that water is available to the most productive uses.

**Recommendation 42:** The Committee recommends that:

- (i) organisations responsible for the administration of private diversion licences for both surface and groundwater set charges:
  - . to cover fully the cost of regulation and administration;
  - . to contribute towards the funding of capital works where applicable;
  - . that recognise the widely differing extents to which private diverters make use of State - provided capital or any equivalent form of community support; and
- (ii) in order to encourage resource use efficiency and to ensure water is available to the most productive uses, consideration be given to pricing mechanisms that recognise the value of scarce water resources consumed by holders of diversion licences and permits.

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## 7.5 Water Allocations

### 7.5.1 Future Allocations of Water

From the discussions of Chapter Five, it is clear that at present there is no coherent framework for the allocation of resources between competing uses.

While this has been the case for many years, there is a growing appreciation that this approach is no longer adequate. There is a growing acceptance that, in the words of the Rural Water Commission in a submission to the Parliamentary Salinity Committee in July 1984 (pp 4-5):

"Water allocations and water rights administration should be tested against the following criteria:

- . economic efficiency of water use "on-farm" and at State level;
- . application efficiency of water;
- . adaptability of the system to meet changed circumstances in the future it required..".

The Commission listed some other criteria as well.

The Committee believes that future allocations of water between competing uses and between different irrigation districts should be the subject of specific economic and social evaluation, with the objectives of maximising the benefits to the community and to the irrigation industry of the development and use of those resources. Where there are social or environmental objectives, these should be incorporated into the planning decisions and given due weighting.

As there are serious reservations about the appropriateness of the present system of water allocations, the Committee believes that no extra water should be allocated by the present allocation formula. In particular, the Committee believes that the allocation of 300 000 megalitres from Dartmouth to the Goulburn Murray Irrigation District under the existing water formula should be very carefully reviewed in order to ascertain whether this is in fact the most advantageous use for such a large volume of water.

**Recommendation 43:** The Committee recommends that:

- (i) any future allocation of new water resources made available by further development be based upon an evaluation of both the social and the economic issues with the objective of maximising the benefits to the State as a whole of the development and use of those water resources;
- (ii) any future allocation of new water resources be based substantially upon market principles, while recognising the significance of social objectives; and
- (iii) any future allocations of new water resources facilitate and encourage flexibility and the capacity to accept change within irrigated agriculture.

#### 7.5.2 Existing Allocations of Water

As has been discussed in detail in Section 5.2.3 an irrigator's use of irrigation water is controlled largely by administrative action rather than by the needs of the irrigator. This lack of control has resulted from the inflexibility of present system for the allocation of water, which is founded on a system of complex administrative regulations. This administrative system restricts individual choice on resource use and prevents a flexible response to changing circumstances.

At a broader regional level, the present system of allocation does not allow resources to be transferred to areas of emerging need, or to be efficiently transferred away from areas where demand falls. With the adoption of certain types of production techniques (such as trickle or drip irrigation systems) considerable savings in water use can be achieved. On the other hand emerging areas of agricultural activity, for example those based on new export oriented crops, may require expansion and reallocation of existing resources.

The Committee notes the point frequently made about the technical limitations on transferability of water allocations, and notes the brief discussion of this topic in

the study "Transferability of Water Entitlements" by ACIL Australia Pty Ltd for the Department of Water Resources (August 1984). While such limitations undoubtedly exist, the Committee considers that the nature and extent of them should be carefully reviewed so that they are kept to a minimum. The economic implications of each particular constraint should be examined carefully, as should other ways of overcoming the problem that leads to the constraint in the first place.

The Committee is firmly of the view that in order to develop the industry so that it can more quickly respond to change, present arrangements for the allocation of resources need to be modified. This issue is of course being considered by the Parliamentary Salinity Committee at present and has also been the subject of a study by consultants to the State Water Plan. It is not appropriate for this Committee to discuss details of how the present methods of allocating water might be changed. The Committee does however consider there to be some most important principles that should be observed. These are incorporated in the following recommendations.

**Recommendation 44:** The Committee recommends that the existing nexus between the title to land and the entitlement to water be broken so as to permit the transfer of water more in accordance with the economic needs of users.

**Recommendation 45:** The Committee recommends that the particular method of allocating water that is introduced be designed to:

- . seek to remove the inequities and anomalies introduced and perpetuated by the present system;
- . distribute the resource in ways that pay substantial regard to its market value amongst the various users;
- . provide a system that will allow irrigators to make their own decisions about the quantity of water they wish to use in any season;

- . recognise that many irrigators have invested substantial amounts of capital in the present system and that the right to water substantially underpins the capital value of their enterprise;
- . keep administrative involvement in the transfer mechanism to a minimum; and
- . retains flexibility to respond rapidly to further changes in the environment of irrigated agriculture.

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## 7.6 Planning, Management and Information

### 7.6.1 Strategic and Corporate Plans

The major challenge faced by the irrigation sector was encapsulated in a statement by Birch in his analysis of development options for irrigated agriculture. In his report, the challenge was expressed as (p x):

"Irrigated agriculture in Victoria has almost unlimited potential for expanding production without increasing either water or land used. The main inhibiting factors are poor agricultural practices, inability to continuous crop, salinity, apparent lack of markets, high costs, and, in some cases, inferior, or inconsistent, quality of product. Indeed the future outlook, based on maintaining the present range of inputs and outputs is not very favourable to the achievement of sustained expansion".

Similar comments have been made by witnesses appearing before the Committee. Birch has identified a major challenge to the industry and to the community as a whole, in developing a coherent programme to effect the necessary and desirable changes. The challenge has within it the implicit issue of the overall future scale and structure of the industry: a future which may be very different from that which we see today. Indeed the experience from overseas suggests that change is possible, and may bring many benefits.

The magnitude of the changes implied by Birch suggests that a co-ordinated programme of response needs to be developed. An essential part of such a programme is the acceptance and incorporation into the operations of the Rural Water Commission and the Irrigation Boards the five strategies recommended in Section 6.2. The programme needs in addition to encompass some other major elements which affect the performance of irrigated agriculture, many of which have been outlined in Section 5.4.

It is important to recognise that, even without the adoption of the objective and strategies recommended by the Committee, major changes will inevitably occur in irrigated agriculture in Victoria. The Committee is not seeking to initiate these changes: it is seeking ways of taking positive advantage of the changes that are occurring.

The Committee believes that this would be greatly facilitated by the development of some general or indicative plans for the industry, that set out to provide some specific operational goals, or at least some general directions, consistent with the basic strategies. The Committee believes that the Department of Agriculture should be given the responsibility for the preparation of what might be termed a "Strategic Plan for Irrigated Agriculture". The Department should also be primarily responsible for the development of policies and programmes for the implementation of this strategic plan.

As with all strategic plans, it is vital that this plan indicate directions, remain flexible and be able to respond actively to changing circumstances and needs. The Committee believes that the Department should regularly monitor performance against objectives and targets established by the Plan, and recommend any necessary changes to policies or programmes, and where appropriate to the Plan itself.

The aim of the Strategic Plan is to assist the development of a system of irrigated agriculture which is economically viable, and environmentally sustainable in the longer term. As such it will form the basis for all subsequent resource allocation decisions, priority setting policy and programme development, performance measurement and policy review.

**Recommendation 46:** The Committee recommends that:

- (i) the Department of Agriculture convene a task force and charge it with the preparation of a "Strategic Plan for Irrigated Agriculture";
- (ii) this Plan be used as the basis for resource allocation and for the development of Government policies and programmes of assistance to irrigated agriculture; and
- (iii) the Task Force include representatives of all Government agencies whose functions and objectives have a direct bearing on irrigated agriculture, and representatives of irrigators and

irrigation-based industries through the Advisory Council for Irrigated Agriculture proposed in Recommendation 10.

The establishment of corporate planning processes by the Rural Water Commission is a significant step towards the enhancement of decision-making processes within that organisation. The Committee believes that corporate planning in the Rural Water Commission should ensure that the Commission progresses toward the achievement of the fundamental objectives outlined in Chapter Six, in a manner that is fully consistent with and supportive of the proposed "Strategic Plan for Irrigated Agriculture". The Commission's Corporate Plan should be based on activity centres as earlier recommended, and should be amended to place strong emphasis on customer-orientation and on appropriate performance measures. The Corporate Plan should enable rational choices to be made about the allocation and subsequent management of resources. Finally, the Corporate Plan should enable performance to be monitored against plans and objectives and facilitate adequate reporting, and retain flexibility for coping with changing circumstances.

The Committee has earlier recommended the preparation of management plans by the separate District Irrigation Boards. These should be developed within the broad context established by the "Strategic Plan for Irrigated Agriculture".

**Recommendation 47:** The Committee recommends that the Rural Water Commission amend its Corporate Plan, and the process by which it is updated, in order to:

- incorporate within it the objective and strategies recommended in this Report;
- base its organisation on self-financing activity centres;
- place strong emphasis on output-oriented performance measures; and
- recognise the creation of District Irrigation Boards as independent agencies.

## 7.6.2 Information and Accountability

### Management Information Systems

An essential element of efficient management is access to accurate, reliable and relevant information on the performance of the organisation. This has been recognised for many years within the State Rivers and Water Supply Commission and the Rural Water Commission, where as part of the corporate planning process the Commission developed the first stage of a management information system.

In Section 5.6 the Committee noted some criticisms that have been made about the nature and style of the Commission's systems for collection and analysis of information at present. In Section 5.3 the lack of information about capital debts and the interest on them has been noted.

The importance of accurate and relevant information cannot be overstated, and the Committee has made many observations on this matter in its previous reports on the water industry. The inadequacies concern both financial and performance information. The Committee has been frustrated during its lengthy examination of the non-metropolitan water industry by the lack of objective measures of performance. As a result of the inadequacy of the information that is available, the community - which underwrites the provision of many of these services - is not in a position to make informed decisions about how effectively, equitably and efficiently resources are used within the industry.

The operating principles proposed in this Report require the development of very much improved information systems, and the generation of a different style of information. The improved information system is needed by the District Irrigation Boards as well as within each activity centre of the Commission.

The Committee considers that a suitable information system should provide the following broad categories of information:

- . indicators of progress toward achievement of defined, measurable consumer-oriented objectives and targets;
- . measures of efficiency and effectiveness in the provision of specific services (for example, total cost per individual service;

total cost recovery per individual service; cost components for individual services);

- . measures which allow comparisons between equivalent systems across the State and between each system in different years; and
- . measures of equity in the provision of services.

Developing such systems will require the provision of appropriate support services (for example, provision of computers) at central and regional locations.

In addition, the above information should be conveyed effectively to all groups having an interest in the matter, such as consumers of water services, other public sector agencies, the responsible Minister and the community generally, as well as to senior management within the Commission and within District Irrigation Boards.

**Recommendation 48:** The Committee recommends that a management information system be developed for the Rural Water Commission and for the District Irrigation Boards that produces output-oriented performance measures as described in this Report.

### Asset Register

Each year the Rural Water Commission publishes in its annual report a statement showing all major categories of capital expenditure. However, there does not exist a comprehensive statement of the physical assets that exist, and there is very little systematic information available about the physical state of such assets across the system as a whole. This Committee's inquiries have prompted some preliminary estimates of the value of the physical assets that exist and on their maintenance needs. These estimates show how little information is available and what little agreement there is on just what are these needs (see Section 5.3).

The Committee believes that the compilation of an accurate asset register is an urgent task as part of the general enhancement of the management systems of the Commission and of the Districts. Such a register, accompanied by an accurate estimate of the physical state of these assets is essential to tasks such as monitoring

of performance, especially in relation to measures based on efficiency of the use of capital, and planning and priority setting for the allocation of funds for depreciation and for renewals in various locations across the state.

The Committee notes that the Commission has done some work in this direction, but it considers that more is required.

**Recommendation 49:** The Committee recommends:

- (i) that the Rural Water Commission complete, as a matter of urgency, a register of the assets under its control, including wherever practical an assessment of the physical state of such assets; and
- (ii) that this register be used as the basis for the development of proper provision for depreciation;
- (iii) that when the separate District Irrigation Boards are formed each Board be responsible for compiling and maintaining the register of assets in its own District.

Financial Reporting, Accountability and Information

In the Committee's Third Report, various proposals were put forward for the "restoration of accountability" within the public sector of Victoria. Avenues then discussed included adoption of explicit statements of objectives, annual reporting requirements, performance measurement, new financial accounting approaches, and improvements to audit procedures (pp 18-19).

Many of these recommendations have been implemented, not only within the water industry, but also across the whole of the Victorian public sector. This has been achieved through the development and passage of the Annual Reporting Act 1983, which is to a large extent based upon the principles established by this Committee in previous reports. The Committee believes that the District Irrigation Boards (as well

as the Rural Water Commission) should be subject to the Act's provisions. In addition, a number of specific changes have been made to the accountability requirements and reporting arrangements for the Rural Water Commission by the Water (Central Management Restructuring) Act 1984.

The Committee considers that the principles outlined for management information systems earlier in this Section should govern the kinds of information contained in annual reports of the Commission and of the District Irrigation Boards.

**Recommendation 50:** The Committee recommends that:

- (i) the Rural Water Commission and the District Irrigation Boards be subject to the Annual Reporting Act 1983;
- (ii) that their reporting be on the basis of activity centres as described in Recommendation 23; and
- (iii) that the Department of Water Resources produce annual consolidated reports on the activities of the Rural Water Commission and on those of the District Irrigation Boards.

### 7.6.3 Research and Information Needs

Among the major issues identified in Chapter Five was the lack of an effective organisational focus to capitalise upon the competitive strengths of Victoria's irrigation sector, and to assist individual irrigators to take advantage of the changes that are affecting the industry. There is at present a great need for systematic research and investigation to identify potential export and domestic markets, the potential of Victoria's irrigated agriculture to produce alternative products, to develop markets either for further sales of existing products or for new products, and to disseminate the appropriate information to irrigators. While some of these tasks can be performed by private entrepreneurs, a crucial component of community support to the industry is the public provision of such services.

The Committee believes that a programme of action should be developed by consultation between Government and the industry. One of the major needs of such a programme is market research and development in both domestic and export markets, with tasks including export market research, analysis of the activities and plans of competitors in markets, liaison with and assistance to the private-sector in export market development, and the negotiation and facilitation of export oriented new capital investments. Another major research task concerns the identification of potential production of alternative irrigated crops by Victoria's irrigated agriculture. To accompany this, there needs also to be consideration of technical, agricultural, economic or other factors inhibiting the development of these new crops in Victoria, and programmes to devise ways of mitigating the effects of these factors. There is also a need to ensure that current extension and advisory services provided by the public sector support the need to develop new markets, commodities and products, in addition to provision of advice on efficiency and productivity.

The Committee recognises that some work along these lines is carried out at present by Commonwealth Government agencies, by product marketing organisations, and by other organisations. The Committee does not wish to suggest that Victoria should set up in competition with these other agencies. The work of these agencies should be recognised and utilised, and complementary rather than overlapping new work should be carried out. The results of all work should be widely promoted and disseminated.

The Committee believes that this activity is of the very greatest importance, because viable alternative products or markets or both is an essential component of the restructuring of irrigated agriculture.

The Committee has made recommendations in several parts of this Report which closely concern these matters. These include the role of the Department of Agriculture (Recommendation 10), the preparation of a "Strategic Plan for Irrigated Agriculture" (Recommendation 46), the preparation of District Management Plans (Recommendation 12), and finally the development of co-ordinated assistance to irrigated agriculture (Recommendation 52).

**Recommendation 51:** The Committee recommends that as part of the "Strategic Plan for Irrigated Agriculture" adequate resources be made available to ensure that all research and development needs are met and that information on products and markets is conveyed efficiently and effectively to individuals within the irrigation sector.

#### 7.6.4 Rural Support Policies

The general community through several avenues provides a large degree of economic and financial support to irrigated agriculture. The principal form of support is the cost of interest on existing capital borne by the State, and meeting the burden of a large part of new capital expenditure. From the best available evidence it appears that the total level of assistance is increasing. Chapter Five outlines some of the existing forms and levels of support. In addition to the assistance mentioned above, irrigators are also provided with a range of services which are not directly charged to them by the Department of Agriculture. These include the costs of research, and extension and advisory services. However, irrigators are not unique in this regard.

With the increasing amount of support to irrigated agriculture in recent years, several issues have emerged, in large part prompted by the changes outlined in Section 4.5. The effectiveness of the methods of support was raised about ten years ago by Mr A G Robertson, as part of his inquiry into the administration of the Goulburn Murray Irrigation District (pp 84-6). The main issues raised by Robertson and others include:

- whether existing forms of support are in the best long-term interests of individual irrigators and of the industry generally;
- whether existing forms of support assist irrigated agriculture to remain competitive in real terms, especially when much of the product is aimed at export markets;
- whether existing forms of support in fact assist those who most need it;
- whether existing forms of support facilitate the process of structural change and adjustment within irrigated agriculture; and
- whether subsidisation of inputs such as water is the most effective way of achieving efficient resource use within the industry.

The Committee has in this Report recommended a new approach to the provision of some of the support to irrigated agriculture, through the provision of specific purpose income supplements to activity centres within the Commission and to District Irrigation Boards. The Committee believes that it is desirable that Government involvement in rationalisation programmes adopted for the irrigation-based industries should not be one of across the board subsidisation, but one of selective encouragement and support to potentially viable components of the industry and reasonable compensation for the disadvantaged and non-viable components where appropriate. Greater selectivity and more evaluation of the results of support mechanisms are also desirable.

**Recommendation 52:** The Committee recommends that Government support to irrigated agriculture be formulated to facilitate change within irrigated agriculture, and to ensure that the support is provided in demonstrably effective forms to individuals, communities or groups most in need of it.

#### 7.6.5 Water Management Functions at the Regional Level

The Rural Water Commission's District Centres at present perform a number of tasks which do not directly relate to the provision of water services to irrigated agriculture.

For example, the Shepparton District Centre undertakes the following tasks:

- . Management of irrigation and drainage;
- . Management of Tallygaroopna urban system;
- . Supervision of private diversion;
- . Management of Loch Garry Flood Protection District;
- . Pollution Control;
- . Groundwater Control; and
- . Provision of extension and advisory services.

In other centres additional functions of management of rural and waterworks districts, salinity control, and research, data collection and resource assessment may also be performed.

The Committee's recommendations define a functional statement for the District Irrigation Boards which will ensure that they are able to provide water services to irrigated agriculture.

The Committee has also recommended the transfer of some functions and staff to other Government agencies, in particular the provision of advisory, research and extension services to the Department of Agriculture (Recommendation 10).

Where existing District Centres of the Commission perform other non-irrigation services, the Committee believes that future provision of these services should be subject to negotiation between the respective Boards and the Rural Water Commission. These discussions should ensure that services continue to be provided efficiently and effectively.

The Committee believes that several options exist for these services. For example, it may be appropriate for the Boards to provide services at present performed by the Commission directly, such as in the case of minor urban, rural and waterworks districts. In other cases, where a District at present provides a component of a statewide service (such as resource assessment) a contractual arrangement could be devised between the Commission and the District Irrigation Board as required.

The operation of the existing District Centres is both supported and enhanced by the presence of technical, administrative and financial support services within the existing Rural Water Commission. Without access to these services, many of the current services could not be provided efficiently and effectively. It will thus be necessary to develop new arrangements to ensure that access to these support services is maintained.

The Committee recognises the significance of the expertise possessed by the Commission and the value to the wider community of having this experience and expertise available within the State. The Committee believes that the existence of this pool of expertise should be given wider recognition and should play a more effective role in promoting the economic development of the State.

The Rural Water Commission can develop its expertise in providing technical services to District Irrigation Boards, in a way beneficial to both. Technical services could be provided on a needs basis so that Boards could receive and pay for services efficiently and competitively. This proposal is not greatly different from the practice now being developed within the Commission of charging internal cost centres for services provided by other internal cost centres.

The Committee can see no reason why these technical services cannot be made available to the wider water industry and public sector on a similar basis. For example, the Commission's considerable skills in data collection and handling, surveys and investigations can be used in many situations throughout the public sector.

**Recommendation 53:** The Committee recommends that:

- (i) the Rural Water Commission provide to the District Irrigation Boards and wherever practicable to the water industry generally, technical, administrative and financial support services required by those Boards and requested from the Commission; and
- (ii) that any technical, administrative and financial support services performed by the Rural Water Commission be provided at a charge which reflects the real costs of service provision.

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## 7.7 Staff and the District Irrigation Boards

One of the most important aspects of any set of major changes to an organisation is the influence the changes have on the staff. In its previous reports the Committee has paid special attention to staffing and employment matters. The Committee expresses strong support for the need for extensive consultation with affected employees as well as with irrigators on the effective implementation of these recommendations. Well-established consultative mechanisms exist at present as part of the process of reform within the water industry.

In its earlier reports on the formation of local and regional water boards, the Committee was concerned with relatively complex staffing, employment and industrial relations issues. This complexity arose from the multiplicity of public bodies concerned and the myriad arrangements which had developed with respect to their staff. The creation of District Irrigation Boards should, in the Committee's view, be much less difficult.

There are, however, several matters upon which individual employees may have concerns. These include access to a larger statewide organisation with attendant benefits in careers, promotion prospects and diversity of available positions; and concerns relating to the terms and conditions of existing positions. The Committee believes that the recommendation below will allay any concerns which may be felt.

**Recommendation 54:** The Committee recommends:

- (i) that the Rural Water Commission and the District Irrigation Boards employ all staff under the Public Service Act 1984, and that the staff be engaged under identical terms and conditions to those of the present Rural Water Commission;
- (ii) that officers and employees at present employed by the Rural Water Commission and to be employed by the District Irrigation Boards be offered similar employment by the Boards at existing salaries and conditions of employment; and

- (iii) that rights and entitlements including recreation leave, long service leave, holiday pay and superannuation, be preserved for employees who transfer to the District Irrigation Boards.

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## CHAPTER EIGHT: IMPLEMENTATION

The recommendations in Chapters Six and Seven will produce quite substantial change in the methods of operation of the organisations responsible for water resource management and for the supply of water for irrigation in Victoria. The end product of much of the organisation will be largely unchanged: the delivery of water in the quantities requested to irrigation farmers across the State. The recommendations are designed to enable this to happen more in accordance with the needs of farmers and at greater levels of effectiveness and efficiency in the use of resources.

Major changes are at present affecting all parts of the environment of irrigated agriculture, and are expected to continue to do so. The Committee is not initiating these changes: they are happening anyway. One of the main aims of the Committee is to seek ways and means of assisting irrigated agriculture and the communities and industries that depend upon it to respond positively to the changes, and to gain from them where possible rather than suffer from them. The Committee believes that its recommendations provide the best available avenue for providing support to irrigated agriculture where this is needed for reasons of social or economic objectives.

The Committee does not believe that its recommendations can or should be implemented in a hurry. The present system has built up over a period of perhaps 100 years, and major change should not be rushed. To rush change of this magnitude now would risk making serious errors in the detail of implementation, risk antagonising large sections of the irrigation community by seeking to force upon them changes they have not had the time or the opportunity to understand and accept, and to risk undoing many of the desirable characteristics of the present system without having a workable and acceptable replacement.

The Committee has recommended that many of its proposals be implemented over periods of two to three years. During this time there should be extensive discussion

within all segments of the irrigation community about the key proposals. In particular, the proposals to establish autonomous District Irrigation Boards needs to be widely considered, because it is asking irrigators to take on extra organisational responsibilities.

These responsibilities are no more than those presently exercised by a number of other groups, including the customers of regional water boards, and they can be seen as extensions of the work of the existing advisory boards. A number of irrigators have put to the Committee the view that irrigators collectively need to have more influence over the operations of the water supply system, more influence on its effectiveness, and more on its setting of priorities. The Committee sees these autonomous Boards as the most effective way of achieving these ends. Nevertheless, time, extensive discussion, and careful preparation are all required before they can be put in place.

The Committee believes that the changes recommended to the system of local management should be implemented with maximum levels of consultation with irrigators and others affected. The programme of consultation should define the process by which responsibility and decision-making powers can be enhanced progressively at the local level and devolved from the Rural Water Commission. A major advantage of such a progressive transfer of power is the increasing familiarity with decision-making responsibilities gained by individuals concerned. The Committee believes that the programme should be structured along the following lines:

- . establishment of new district boundaries based upon the activity centre concept as in Recommendations 14 and 15 within 18 months;
- . creation of the activity centres and development of the required financial and performance measures as in Recommendations 18, 23 and 48 within two years;
- . development of the district manager positions and appointment of district managers as in Recommendation 13 within two years;
- . creation of interim Boards of Management for each district to undertake limited executive powers and to provide advisory services to the district managers following their appointment;

- . initiation of the district management planning process as in Recommendation 12 following the creation of interim Boards;
- . following establishment of such interim Boards, a progressive devolution of executive power to the Boards; and
- . creation of the autonomous self-managing District Irrigation Boards as in Recommendation 7 to be completed within three years.

It is important to understand what the Committee's recommendations do and what they do not do. First, they do not recommend massive increases in water charges: no recommendation is made on specific levels of charges for water. Second, they do recommend that substantial general community support for irrigated agriculture continue through Government payment of the very substantial interest on the capital already invested in the system. Third, the Committee recommends the introduction of new principles and procedures of operation that are intended to make it clearer to everybody - irrigators, the community at large, and the Government - whether that support and other forms of support are in fact provided in the most effective way possible for the industry. These principles and procedures will also make clearer whether the substantial funds spent each year on operations, most of which come directly from irrigators, are spent efficiently and in ways that are as effective as possible in helping irrigators and their industry.

In addition, the recommendations seek to increase the flexibility with which individual irrigators may operate, thus giving greater scope to irrigators to respond themselves to the ongoing changes in their operating environment.

The Committee believes that the incorporation into the principles and operations of water resource management of the fundamental objectives and the basic strategies that it has recommended will be of very great benefit to the irrigation community and to the people of Victoria as a whole.

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## CHAPTER NINE : LIST OF RECOMMENDATIONS

### Chapter Six: Contemporary Objectives and Strategies for Water Resource Management

#### Section 6.1: Fundamental Objective

**Recommendation 1 :** The Committee recommends that the following statement be included in the Water Act 1958 as the fundamental objective of the Rural Water Commission and the Department of Water Resources:

The fundamental objective of agencies involved in the management and use of Victoria's water resources is to contribute to the greatest extent possible to the social and economic development of the State and of the nation as a whole, while recognising the particular needs of specific regions and the need to consider both short-term and long-term development.

#### Section 6.2: Five Basic Strategies

**Recommendation 2:** The Committee recommends that the following five basic organisational strategies be endorsed by the Minister for Water Resources and adopted by all agencies involved in the management and use of water resources:

- (i) **Flexibility:** the methods for allocating water between alternative uses, and for allocating and supplying water within irrigated agriculture, should be as flexible as is reasonably possible, to allow rapid response to significant changes in any component of the operating environment;

- (ii) **Commercial-Base:** the methods of managing and allocating water resources and of operating water supply services should be commercially-based, aim at reducing financial losses within the system, and pay substantial regard to market forces and to changes in markets;
- (iii) **Customer-Orientation:** the operations of water supply agencies should be strongly oriented towards the real needs of the customers of the system, both irrigators and other users of water resources;
- (iv) **Future-Orientation:** all aspects of water resource management should be oriented towards the future, with emphasis on forecasting and responding to change, anticipating change where possible, and encouraging all users of water resources to take positive advantage of future circumstances; and
- (v) **Accountability:** all organisations involved in the planning, allocation or supply of water resources should be fully accountable to those who use or pay for their services, for their actions and for their management of the community's resources, and this accountability should provide clear and comprehensive information about all aspects of the operational and financial effectiveness and efficiency of the organisations.

## **Chapter Seven: Proposals for Change**

### **Section 7.2: Structure and Organisation**

**Recommendation 3:** The Committee recommends that water resource management and allocation functions at both state and regional levels (including responsibility for groundwater resources) should be, wherever practicable, clearly separated from those functions associated with major storage and regional distribution on the one hand and local reticulation on the other.

**Recommendation 4:** The Committee recommends that the functions, activities and control mechanisms including pricing measures required for management of the State's water resources including groundwater, previously undertaken in part by the Rural Water Commission and in part by the Department of Minerals and Energy, become the sole responsibility of the Department of Water Resources, including the functions of:

- . advising the Minister for Water Resources on all policy matters related to water resource management;
- . advising the Minister on budgetary and pricing matters related to water resource management;
- . in consultation with the Department of Agriculture, advising the Minister for Water Resources on the nature and extent of Government support for irrigated agriculture (see Recommendation 10);
- . allocating water between categories of use;
- . general oversight of the structure, functions and operations of agencies within the water industry;
- . liaison with the Department of Agriculture on the establishment of priorities within the irrigation industry for the use of public sector resources, including capital;
- . responsibility for design and monitoring of data collection activities; and
- . strategic planning at State and regional levels.

**Recommendation 5:** The Committee recommends:

- (i) that the responsibilities of the Rural Water Commission for water resource management at state and regional levels include:
  - . the operation and management of major storages and regional distribution systems; and
  - . the operation and maintenance of regionally based drainage, salinity and groundwater control systems;
- (ii) that these responsibilities be exercised by a new Operations Branch to be established within the Commission by bringing together existing resources at present working on these matters; and
- (iii) that the Operations Branch be treated as an independent activity centre in the planning, operations, and accounts of the Commission, in accordance with the proposals of Recommendation 23.

**Recommendation 6:** The Committee recommends that the Rural Water Commission be responsible for the administration and regulation of private diversion licences, permits and agreements including groundwater licences and permits.

**Recommendation 7:** The Committee recommends:

- (i) that the retailing of water in Irrigation Districts for irrigation purposes be devolved from the Rural Water Commission to elected, self-managing "District Irrigation Boards"; and
- (ii) that this devolution follow a process of public consultation involving task force comprising appropriate farmer organisations, individuals and local government.

**Recommendation 8:** The Committee recommends that the First Mildura Irrigation Trust continue to exist and that it operate in the same manner as an activity centre as described in Recommendation 23.

**Recommendation 9:** The Committee recommends that the responsibility for oversight of the operations and management of the Rural Water Commission, of each of the District Irrigation Boards proposed in Recommendation 7 and of the First Mildura Irrigation Trust, be undertaken by the Department of Water Resources in a manner consistent with Recommendation 9 (vi) of the Committee's Eighth Report concerning central management and the establishment of a Water Industry Division within the Department.

**Recommendation 10:** The Committee recommends:

- (i) that the Department of Agriculture become the primary source of policy advice to the Government on all matters related to irrigated agriculture, including:
- . forecasting and planning, including the establishment of general objectives and indicative targets at State and regional levels;
  - . in consultation with the Department of Water Resources, setting priorities within the irrigation industry for the use of public sector resources including capital;
  - . developing programmes for the management of public sector resources, in consultation with relevant public sector agencies; and
  - . monitoring performance toward the achievement of planned objectives and targets and making

recommendations where necessary for the review of programmes;

- (ii) that the Department of Agriculture become wholly responsible for the provision of all publicly-provided services other than direct water services (that is, other than water supply, drainage, and groundwater and salinity control) necessary for the continuation of irrigated agriculture within the State, including:
- . the identification of market opportunities and subsequent market development, in close co-operation with private enterprise, commodity marketing bodies and relevant agencies of the Commonwealth and other state governments;
  - . identification of likely future needs and problems, by drawing on local and overseas experience, the active encouragement of research into such needs and problems, and the active dissemination of the findings of this work; and
  - . the provision of all on-farm extension and advisory services related to irrigated agriculture including those services currently provided by the Rural Water Commission;
- (iii) that the functions of the Rural Water Commission and the Land Protection Division of the Department of Conservation, Forests and Lands concerning advice on farm water supply and use be reviewed with a view to their transfer to the Department of Agriculture; and
- (iv) that a close liaison also be established and maintained with appropriate individuals and organisations in the private sector through the formation of a widely representative Advisory Council on Irrigated Agriculture;

- (v) that an Irrigation Branch be established within the Department of Agriculture to ensure that these functions are carried out, by co-ordinating the provision of all services from within the Department to irrigated agriculture.

### **Section 7.3: Retailing Rural Water Services**

**Recommendation 11:** The Committee recommends that, following the consultative procedures of Recommendation 7:

- (i) District Irrigation Boards be established by Order in Council; and
- (ii) that District Irrigation Boards consist of:
- six members elected by and from customers of the Board;
  - one person with a broad knowledge and understanding of water resource management, nominated by the Minister of Water Resources;
  - one person with a broad knowledge and understanding of irrigated agriculture, nominated by the Minister of Agriculture;
  - one person elected by and from all the staff of the Board; and
  - the chief executive officer of the Board.

**Recommendation 12:** The Committee recommends that each District Irrigation Board:

- (i) prepare a five year District Management Plan;
- (ii) review its Plan annually;
- (iii) use its Plan to provide the basis for priority setting and resource allocation, and monitoring of performance against objectives at the regional level; and
- (iv) develop the Plan in consultation with irrigator groups and other relevant public sector managers.

**Recommendation 13:** The Committee recommends:

- (i) that each District Irrigation Board appoint a District Manager to be responsible to the Board for the operations of the District;
- (ii) that the position of District Manager be described and classified as an essentially managerial position open to applicants with general management skills; and
- (iii) that the District Manager be a member of the Board of the Irrigation District.

**Recommendation 14:** The Committee recommends that an inquiry be established by the Minister for Water Resources to determine the most appropriate configuration for the organisation of irrigation districts within the Goulburn Murray, Campaspe, Nyah and Tresco Irrigation Districts, based on the principles discussed in this Report; the Committee believes that these would probably best be based upon the

more-or-less independent operational entities that exist there at present, namely:

- . the area served from Yarrawonga Weir in the north east, to be managed from the Cobram Area Office, and called the Yarrawonga Irrigation District;
- . the area served from Torrumbarry Weir, Kow Swamp and the Waranga Western Main Channel west and north of the Tandarra Storage, including the Nyah, Tresco and the Swan Hill sections, called Torrumbarry-Waranga Irrigation District, with Area Offices in Cohuna, Kerang, Swan Hill, Pyramid Hill and Boort;
- . the central segment of the district between Mooroopna and Echuca, called Goulburn-Campaspe Irrigation District with Area Offices at Tatura, Tongala and Rochester; and
- . the area north of Shepparton, served by the Goulburn Main Channel, called the Shepparton Irrigation District, managed from the Shepparton District Centre.

**Recommendation 15:** The Committee recommends that autonomous District Irrigation Boards be established to manage all aspects of the retailing of water for irrigation purposes in the following Irrigation Districts, each formed from the specified existing districts or areas:

- . Macalister Irrigation Board in the Macalister Irrigation District, the same as the existing District;
- . Sunraysia Irrigation Board in the Sunraysia Irrigation District, comprising Merbein, Red Cliffs and Robinvale Irrigation Areas, formed from the present Merbein, Red Cliffs and Robinvale Irrigation Districts;

- . Werribee River Irrigation District, comprising Bacchus Marsh and Werribee Irrigation Areas, formed from the present Bacchus Marsh and Werribee Irrigation Districts;
- . Goulburn-Campaspe Irrigation District;
- . Shepparton Irrigation District;
- . Torrumbarry-Waranga Irrigation District; and
- . Yarrawonga Irrigation District.

**Recommendation 16:** The Committee recommends that the First Mildura Irrigation Trust be invited to join the Sunraysia Irrigation District.

**Recommendation 17:** The Committee recommends:

- (i) that the existing organisational arrangements for the following rural districts be retained:
  - . Millewa; and
  - . Otway;
- (ii) that the existing organisational arrangements for the following waterworks districts be retained:
  - . Otway;
  - . Carwarp Yelta;
  - . East Loddon;
  - . Kerang North West Lakes;
  - . Mallee;
  - . Normanville;
  - . Tyntynder North;

- . West Loddon; and
  - . Wimmera;
- (iii) that the organisational arrangements for the Mornington Peninsula Waterworks district be considered as part of the current review of Urban Water Services on the Mornington Peninsula convened by the Minister for Water Resources; and
- (iv) that the rural water services currently provided as part of the Coliban water supply system remain with the Rural Water Commission until a regional water authority based on Bendigo is established.

**Recommendation 18:** The Committee recommends that each rural and waterworks district within the Rural Water Commission be treated as a separate activity centre in the planning, operations and accounts of the Commission as described in Recommendation 23.

**Recommendation 19:** The Committee recommends that the proposals of Recommendations 11 to 18 be introduced over three years by a carefully planned implementation programme incorporating extensive consultation with and participation by irrigators and their representatives.

**Recommendation 20:** The Committee recommends:

- (i) that a Customer Services Division be established within the Rural Water Services Branch of the Rural Water Commission; and
- (ii) that functions of the Division include:
- . determining practices for the Commission's water service system, in the light of customers' current and likely future needs for water services;

- development of a marketing plan which allows managers within the Commission to respond to customers' needs;
- development of policies and guidelines for customer relations including all forms of public information services; and
- liaison with the Department of Agriculture where necessary.

#### **Section 7.4: Financing Rural Water Services**

**Recommendation 21:** The Committee recommends that the provision of all rural water services be undertaken as publicly-provided commercially-based enterprises, where:

- publicly-provided means that the organisations providing the services are established by the Government and are directly accountable to their customers and to the Government; and
- commercially-based means that the organisations providing the services operate, manage, charge and account for, and plan all their activities including capital investment, on the basis of standard commercial practices.

**Recommendation 22:** The Committee recommends that the State continue to pay the interest on the capital invested in the construction of major storages and main distributary channels, as the major form of ongoing community support for irrigated agriculture.

**Recommendation 23:** The Committee recommends:

- (i) that all the activities of the Rural Water Commission, including those of organisational units providing or contracting financial, administrative and technical services to other units within the Commission and to District Irrigation Boards, be divided into a number of independent activity centres in the planning, operations and accounts of the Commission;
- (ii) that each District Irrigation Board operate in the same manner as an independent activity centre;
- (iii) that to the greatest extent possible, quantitative output-oriented performance measures be developed for each activity centre;
- (iv) that each activity centre be required to be self-financing, through charging other activity centres inside the Commission and customers outside the Commission for services provided and through other sources including direct Government support grants;
- (v) that all costs attributable to activity centres be debited to their accounts, including the costs of indirect services and of the capital used; and
- (vi) that operational and planning decisions of activity centres be made on the basis of assessment of expected financial consequences of the options and of their expected operational performance implications.

**Recommendation 24:** The Committee recommends that any direct Government support for components of rural water services be in the form of identified direct grants to the activity centre responsible for those services, and be developed as part of an overall framework of support.

**Recommendation 25:** The Committee recommends that all activity centres of rural water service organisations be self-financing, with Government grants made under Recommendation 24 treated as items of income in the accounts of the centres, and with all the expenses of providing the services treated as expenses in these accounts.

**Recommendation 26:** The Committee recommends:

- (i) that the Department of Management and Budget provide to the Rural Water Commission and where possible to District Irrigation Boards details of how the interest costs are calculated, including in particular allocations of the costs to specific works;
- (ii) that the interest costs associated with the assets owned and managed by the Rural Water Commission and the District Irrigation Boards be directly debited to the Commission as a whole, and to the Boards collectively, and wherever practicable to individual activity centres within the Commission and to individual District Irrigation Boards;
- (iii) that the Government pay a direct grant as an item of revenue to each activity centre either within the Commission or to the separate Boards, to match the interest expenditure; and
- (iv) that this policy be continuously monitored to measure its effectiveness in meeting broader Government objectives for both the wider agricultural sector and water sector, and that it and other measures of support be reviewed in five years.

**Recommendation 27:** The Committee recommends that revenue received by rural water service activity centres for services provided be credited directly to the organisation and used directly to meet its expenses rather than being credited to the Consolidated Fund.

**Recommendation 28:** The Committee recommends that the Rural Water Commission and the District Irrigation Boards be given the powers necessary to operate as commercially-based, self-financing enterprises including the powers to:

- . determine preferred financing methods;
- . determine annual charges for the services it provides, subject to Ministerial disallowance; and
- . borrow privately.

**Recommendation 29:** The Committee recommends that the proposals of Recommendations 21 to 28 be introduced over two years by a carefully planned implementation programme incorporating extensive consultation with and participation by irrigators and their representatives.

**Recommendation 30:** The Committee recommends that charges to all customers for services provided by the Rural Water Commission reflect:

- . the need to promote and encourage efficiency in resource use;
- . the fixed costs of service provision; and
- . the variable costs of providing the water actually delivered.

**Recommendation 31:** The Committee recommends that the statewide water wholesaling operations performed by the Rural Water Commission be a self-financing activity centre as described in Recommendation 23.

**Recommendation 32:** The Committee recommends that the Rural Water Commission recover from relevant customers (including agricultural, urban, industrial, and recreational users) all the costs associated with the provision of services to such groups, less any explicit Government support contributions, and including the costs of:

- . routine operations and maintenance of all works of water storage, regional distribution, drainage and salinity and groundwater control;
- . adequate depreciation allowances for all works;
- . capital investment for both enhancement of existing works and the development of new works;
- . interest on such capital if it has been obtained by borrowing;
- . surveys, investigations, planning and assessment; and
- . administration.

**Recommendation 33:** The Committee recommends that the costs of operations, maintenance, new infrastructure and interest arising from Victoria's share of the costs of the River Murray Commission and its works be debited to the Commission and financed in the same way as other costs referred to earlier.

**Recommendation 34:** The Committee recommends that charges for services provided by each District Irrigation Board reflect more closely both the need to promote and encourage efficiency in resource use and the actual costs of service provision, including the fixed and variable costs of providing the water actually delivered.

**Recommendation 35:** The Committee recommends that each separate irrigation district and area be a self-financing activity centre as described in Recommendation 23.

**Recommendation 36:** The Committee recommends:

- (i) that the costs of providing services to identifiable customers or groups of customers be directly recovered from those customers or groups of customers wherever practicable; and
- (ii) that revenue obtained from one group of customers not be used to subsidise the costs of providing services to other groups of customers unless:
  - there is a direction to do so from the Minister; and
  - the subsidy is shown as items of expenditure in the accounts for one activity centre and of income in the accounts of the other.

**Recommendation 37:** The Committee recommends that each separate Irrigation District, acting as an independent activity centre, recover from irrigators and other users where appropriate all the costs associated with the provision of services, less any explicit Government support contributions, and including the costs of:

- charges levied against the District by the Commission for bulk water supplies and for all other services;
- routine operation and maintenance on all relevant works of local water supply, drainage and salinity and groundwater control;
- adequate depreciation allowances for all works within the District;

- . capital for both enhancement of existing works and development of new works and interest on such capital if it has been obtained by borrowing;
- . surveys, investigations, planning and assessments; and
- . administration.

**Recommendation 38:** The Committee recommends that proposals of Recommendations 30 to 37 be introduced over two years by a carefully planned implementation programme, incorporating extensive consultation with and participation by irrigators and their representatives.

**Recommendation 39:** The Committee recommends that the compulsory payment for water rights, irrespective of the actual level of water usage, should be abolished, and that other methods for providing some stability to revenue be used.

**Recommendation 40:** The Committee recommends:

- (i) that the charge for water services provided by the Rural Water Commission be determined by the Commission separately for each of its activity centres following consultation with the customers of each activity centre and within guidelines determined from time to time by the Minister for Water Resources;
- (ii) that the charges for water services provided by District Irrigation Boards be determined by each Board following consultation with its customers and within guidelines determined from time to time by the Minister for Water Resources; and

- (iii) that the charges be set so as to meet the requirements set out earlier in this chapter for the financing of activity centres.

**Recommendation 41:** The Committee recommends:

- (i) that all customers of the Rural Water Commission and of District Irrigation Boards have the option of paying for water services provided by irrigation, waterworks or rural districts quarterly; and
- (ii) that arrears be subject to market rates of interest.

**Recommendation 42:** The Committee recommends that:

- (i) organisations responsible for the administration of private diversion licences for both surface and groundwater set charges:
- to cover fully the cost of regulation and administration;
  - to contribute towards the funding of capital works where applicable;
  - that recognise the widely differing extents to which private diverters make use of State - provided capital or any equivalent form of community support; and
- (ii) in order to encourage resource use efficiency and to ensure water is available to the most productive uses, consideration be given to pricing mechanisms that recognise the value of scarce water resources consumed by holders of diversion licences and permits.

### Section 7.5: Water Allocations

**Recommendation 43:** The Committee recommends that:

- (i) any future allocation of new water resources made available by further development be based upon an evaluation of both the social and the economic issues with the objective of maximising the benefits to the State as a whole of the development and use of those water resources;
- (ii) any future allocation of new water resources be based substantially upon market principles, while recognising the significance of social objectives; and
- (iii) any future allocations of new water resources facilitate and encourage flexibility and the capacity to accept change within irrigated agriculture.

**Recommendation 44:** The Committee recommends that the existing nexus between the title to land and the entitlement to water be broken so as to permit the transfer of water more in accordance with the economic needs of users.

**Recommendation 45:** The Committee recommends that the particular method of allocating water that is introduced be designed to:

- seek to remove the inequities and anomalies introduced and perpetuated by the present system;
- distribute the resource in ways that pay substantial regard to its market value amongst the various users;
- provide a system that will allow irrigators to make their own decisions about the quantity of water they wish to use in any season;

- recognise that many irrigators have invested substantial amounts of capital in the present system and that the right to water substantially underpins the capital value of their enterprise;
- keep administrative involvement in the transfer mechanism to a minimum; and
- retains flexibility to respond rapidly to further changes in the environment of irrigated agriculture.

### **Section 7.6 : Planning, Management and Information**

**Recommendation 46:** The Committee recommends that:

- (i) the Department of Agriculture convene a task force and charge it with the preparation of a "Strategic Plan for Irrigated Agriculture";
- (ii) this Plan be used as the basis for resource allocation and for the development of government policies and programmes of assistance to irrigated agriculture; and
- (iii) the Task Force include representatives of all government agencies whose functions and objectives have a direct bearing on irrigated agriculture, and representatives of irrigators and irrigation-based industries through the Advisory Council for Irrigated Agriculture proposed in Recommendation 10.

**Recommendation 47:** The Committee recommends that the Rural Water Commission amend its Corporate Plan, and the process by which it is updated, in order to:

- incorporate within it the objective and strategies recommended in this Report;

- base its organisation on self-financing activity centres;
- place strong emphasis on output-oriented performance measures; and
- recognise the creation of District Irrigation Boards as independent agencies.

**Recommendation 48:** The Committee recommends that a management information system be developed for the Rural Water Commission and for the District Irrigation Boards that produces output-oriented performance measures as described in this Report.

**Recommendation 49:** The Committee recommends:

- (i) that the Rural Water Commission complete, as a matter of urgency, a register of the assets under its control, including wherever practical an assessment of the physical state of such assets; and
- (ii) that this register be used as the basis for the development of proper provision for depreciation;
- (iii) that when the separate District Irrigation Boards are formed each Board be responsible for compiling and maintaining the register of assets in its own District.

**Recommendation 50:** The Committee recommends that:

- (i) the Rural Water Commission and the District Irrigation Boards be subject to the Annual Reporting Act 1983;
- (ii) that their reporting be on the basis of activity centres as described in Recommendation 23; and

- (iii) that the Department of Water Resources produce annual consolidated reports on the activities of the Rural Water Commission and on those of the District Irrigation Boards.

**Recommendation 51:** The Committee recommends that as part of the "Strategic Plan for Irrigated Agriculture" adequate resources be made available to ensure that all research and development needs are met and that information on products and markets is conveyed efficiently and effectively to individuals within the irrigation sector.

**Recommendation 52:** The Committee recommends that Government support to irrigated agriculture be formulated to facilitate change within irrigated agriculture, and to ensure that the support is provided in demonstrably effective forms to individuals, communities or groups most in need of it.

**Recommendation 53:** The Committee recommends that:

- (i) the Rural Water Commission provide to the District Irrigation Boards and wherever practicable to the water industry generally, technical, administrative and financial support services required by those Boards and requested from the Commission; and
- (ii) that any technical, administrative and financial support services performed by the Rural Water Commission be provided at a charge which reflects the real costs of service provision.

**Section 7.7: Staff and the District Irrigation Boards**

**Recommendation 54:** The Committee recommends:

- (i) that the Rural Water Commission and the District Irrigation Boards employ all staff under the Public Service Act 1984, and that the staff be engaged under identical terms and conditions to those of the present Rural Water Commission;
- (ii) that officers and employees at present employed by the Rural Water Commission and to be employed by the District Irrigation Boards be offered similar employment by the Boards at existing salaries and conditions of employment; and
- (iii) that rights and entitlements including recreation leave, long service leave, holiday pay and superannuation, be preserved for employees who transfer to the District Irrigation Boards.

\* \* \* \* \*

Committee Room  
10 October 1984

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## APPENDIX ONE : PUBLIC HEARINGS, WITNESSES AND DISCUSSIONS

This list is a continuation of that published as Appendix Four to the Committee's Sixth Report to the Parliament.

<u>Date</u>	<u>Location</u>	<u>Witnesses</u>
22 September 1982	Melbourne	The Hon D R White, M L C, Minister of Water Supply
13 October 1982	Melbourne	The Hon D R White, M L C Dr K J Foley, Chairman, Water Structures Task Force
26 October 1982	Melbourne	Mr E McL Holmes, University of Melbourne
24 November 1982	Melbourne	Mr L Neilson, Principal, Neilson Associates
8 December 1982	Melbourne	Mr D J Constable, Mr A H Clegg, Mr B E Foley, State Rivers and Water Supply Commission
6 April 1983	Shepparton	Ibis Milk Products Ltd McColl Partners Pty Ltd Tobacco Growers of Victoria Ltd Torrumbarry System Irrigators Association Kerang Centre Advisory Board Lower Broken Creek Pumpers Association
8 April 1983	Mildura	First Mildura Irrigation Trust Shire of Mildura Sunraysia District Citrus Co-operative Red Cliffs Advisory Board Robinvale Advisory Board Mr K B Kiley, District Engineer, State Rivers and Water Supply Commission City of Mildura

13 April 1983	Maffra	Shire of Bairnsdale Mitchell River Water Utilisation Committee Macalister River Water User's League Mr G Kermode, District Engineer, State Rivers and Water Supply Commission Town of Bairnsdale The Hon B A Murphy, M L C
7 September 1983	Melbourne	Mr R H Taylor, Assistant Director-General, Department of Agriculture
26 October 1983	Melbourne	Dr B Cockroft, Director, Animal and Irrigated Pastures Research Institute, Kyabram
7 December 1983	Melbourne	Dr B Cockroft Mr E Turnbull, Animal and Irrigated Pastures Research Institute, Kyabram
7 March 1984	Melbourne	The Hon D R White, M L C Mr K J Shepherd, Ministry of Water Resources, Mr J S Rogerson, State Rivers and Water Supply Commission
31 July 1984	Melbourne	Mr D J Constable General Manager, Rural Water Commission
1 August 1984	Melbourne	Mr G I Hogbin Dr I Wills Mr M Read Centre of Policy Studies, Monash University
8 August 1984	Melbourne	The Hon D R White, M L C Ms C Forster Mr A Clegg Mr D Dole Rural Water Commission Dr J Langford Department of Water Resources
14 August 1984	Melbourne	Dr J Paterson Director-General of Water Resources, Department of Water Resources

**APPENDIX TWO : VISITS BY THE PUBLIC BODIES REVIEW COMMITTEE  
CONCERNING IRRIGATION AND WATER RESOURCE MANAGEMENT**

6 April 1983	Full Committee	Inspection of parts of Goulburn Murray Irrigation District  Public Hearing - Shepparton
7 April 1983	Full Committee	Inspections of parts of Goulburn Murray Irrigation District and of Tresco Irrigation District
8 April 1983	Full Committee	Aerial inspection of Robinvale Irrigation District and of Nangiloc-Colignan private diversions  Inspection of First Mildura Irrigation Trust and of Merbein and Red Cliffs Irrigation Districts  Public Hearing - Mildura
11 April 1983	Sub-Committee	Inspection of private diversions in King and Ovens River areas
12 April 1983	Full Committee	Inspection of Macalister Irrigation District and of Mitchell River
13 April 1983	Full Committee	Public Hearing - Maffra
31 August 1983	Full Committee	Inspection of private diversions in Koo-Wee-Rup Swamp, Neerim South and Thorpdale areas

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### APPENDIX THREE : SUBMISSIONS RECEIVED

1. Submissions on Irrigation following the Committee's June 1981 Invitation for Public Comment on Irrigation

Adam, Mr Andrew, Torrumbarry, September 1981

Advisory Boards - Irrigation Areas and Districts:

Boort, July 1981

Central-Gippsland and Maffra Sale, July 1981

Goulburn Murray, July 1981

Kerang, August 1981

Merbein, July 1981

Murray Valley, undated

Nyah, July 1981

Pyramid Hill, July 1981

Red Cliffs, July 1981

Robinvale, July 1981

Rochester-Campaspe, July 1981

Rodney, July 1981

Shepparton, July 1981

Tongala, July 1981

Werribee-Bacchus Marsh (July 1981 & October 1981)

Agriculture, Department of, Melbourne, August 1981

Australian Dried Fruits Association, Melbourne, July 1981

Bosely, Mr J A, Cowangie, February 1981

Bryant, Mr Ian, Ararat, August 1981

Coghill, Mr Ken, M P, August 1981 (two Submissions)

Coliban Rural Water Users Action Committee, Bendigo, July 1981

First Mildura Irrigation Trust, Mildura, April 1981

Fisher, Cleeland Turner and Dwyer (Vic) Pty Ltd, Melbourne, July 1981

Goulburn Murray Food Processors, Shepparton, September 1981

Inland Salinity Action Committee, Swan Hill, February 1981

Kerang Irrigation Region Salinity Action Committee, Kerang, September 1981

Lake Charm Restoration Committee, Lake Charm, July 1981

Lower Broken Creek Pumpers Association, Picola, July 1981

Macalister District Water Users League, Maffra, July 1981

Mildura District Dried Fruits Association, (ADFA), Mildura, July 1981

Northern Victorian Fruitgrowers Association Ltd, Shepparton, September 1981

Pattison, Mr K W, Fernihurst, July 1981

Shires of:

Deakin

Kerang

Numurkah

State Rivers and Water Supply Commission, Melbourne

Sunraysia Districts Citrus Co-operative Society Ltd, Mildura, August 1981

Torrumbarry System Irrigators Association, Kerang, March 1981 & October 1981

Victorian Irrigation Research and Promotion Organisation, Kerang, July 1981

Victorian Irrigators Central Council, Watershed Association of Victoria, Wodonga, July 1981

2. Responses to Neilson's Report

Responses to the Report on Irrigation Management in Victoria by Neilson Associates of October 1981.

Advisory Boards - Irrigation Areas and Districts:

Boort, May 1982  
Central-Gippsland and Maffra Sale, April 1982  
Cohuna, March 1982  
Goulburn Murray, March 1982  
Kerang, May 1982  
Merbein, February 1982  
Murray Valley, March 1982  
Nyah and Tresco, April 1982  
Pyramid Hill, March 1982  
Red Cliffs, February 1982  
Robinvale, March 1982  
Rochester, May 1982  
Rodney, August 1982  
Shepparton, May 1982  
Swan Hill, April 1982  
Tongala, April 1982

Australian Dried Fruits Association, Mildura, April 1982  
Catchment Education Trust (Mr E M Jackson), Albury, March 1982  
Decentralisation and Development Association of Victoria, Ballarat, March 1982  
Environment Protection Authority of Victoria, Melbourne, May 1982  
First Mildura Irrigation Trust, Mildura, March 1982  
Geelong Regional Commission, Geelong, May 1982  
Gippsland Water Utilisation Committee, Glengarry, March 1982  
Goulburn Murray Food Processors, Shepparton, April 1982  
Horsham South Water Users Association, Horsham, March 1982  
Jewson, Mr R L, Lake Boga, February 1982  
Kerang Irrigation Region Salinity Action Committee, Kerang, March 1982  
Macalister District Water Users League Maffra, March 1982  
Mitchell River Water Utilisation Committee, Bairnsdale, February 1982  
Molnar, Dr Ian, Kew, April 1982  
Murray Valley League for Development and Conservation, Albury, February 1982  
Pyramid Hill Irrigators Branch (VFGA), Pyramid Hill, April 1982

Shires of:

Arapiles, Natimuk, March 1982  
East Loddon, Serpentine, June 1982  
Huntly, June 1982  
Mildura, Irymple, September 1982  
Nathalia, March 1982  
Numurkah, March 1982  
Shepparton, April 1982

State Rivers and Water Supply Commission, Melbourne, February 1982  
Sunraysia Districts Citrus Co-operative Society, Mildura, August 1982  
Threadgold, Mr R W, Tresco, February 1982  
United Dairyfarmers of Victoria, Melbourne, March 1982  
Victorian Farmers and Graziers Association, Melbourne, April 1982  
Whiting, Mr Milton S, M P, Mildura, March 1982

3. Submissions on Irrigation following the Committee's December 1982 Invitation for Further Public Comment on Irrigation

Agriculture, Department of, Melbourne, September 1983  
Animal and Irrigated Pastures Research Institute, Department of Agriculture, Kyabram, October 1983  
Bairnsdale, Town of, Bairnsdale, February 1983  
Broken River Irrigation Development League, Dookie, July 1983  
Catchment Education Trust (Mr E M Jackson), Albury, 1983  
Cocks, Mr C, Picola North, February 1983  
Dandenong and Yarra Valley Rural Advisory Committee, March 1983 and May 1983  
Drew, Mr R F, Mornington, February 1983  
Environment Protection Authority, Melbourne, July 1984  
Forests Commission of Victoria, Melbourne, January 1983  
Ibis Milk Products Ltd, Shepparton, February 1983  
Kerang Irrigation Area Advisory Board, Kerang, February 1983  
King River Advisory Committee, undated  
Macalister District Water Users' League, May 1983  
Nankervis, Mr K, Corryong, February 1983  
Neilson Associates, Canberra, July 1983  
Shires of:  
    Avon, Stratford, March 1983  
    Maffra, April 1983  
    Nathalia, May 1983  
    Tambo, Bruthen, February 1983  
Soil Conservation Authority, Melbourne, February 1983  
Sunraysia Districts Citrus Co-operative Society Ltd, Mildura, February 1983  
Tobacco Growers of Victoria Ltd, Myrtleford, February 1983  
Torrumbarry System Irrigators Association, Kerang, February 1983  
United Dairyfarmers of Victoria, Melbourne, December 1982  
Wakiti Irrigators Co-operative Society Ltd, March 1983

4. Responses to the Centre of Policy Studies Report

Responses to the study of the Distribution of Costs and Benefits of Victoria's Irrigation Systems by the Centre of Policy Studies, Monash University, of December 1983.

Advisory Boards - Irrigation Areas and Districts:

    Boort, March 1984  
    Central-Gippsland and Maffra-Sale, March 1984  
    Cohuna, March 1984  
    Kerang, April 1984  
Agriculture, Department of, Melbourne, March 1984  
Benalla Associated Stock Agents, Benalla, March 1984  
Broken River Conservation and Water Users League, March 1984  
"Bush View" Partnership, Picola, March 1984  
Coliban Water Investigation Committee, Bendigo, May 1984  
Decentralisation and Development Association of Victoria, Ballarat, August 1984

First Mildura Irrigation Trust, Mildura, April 1984  
Gippsland Water Utilization Committee, Glengarry, June 1984  
Goulburn Irrigation Region Drainage Action Committee, Shepparton, April 1984  
Goulburn Waranga Irrigators District Council, April 1984  
Irrigation Association of Australia, April 1984  
Kerang Irrigation Region Salinity Action Committee, Kerang, March 1984  
Koondrook and District Irrigators League, Koondrook, August 1984  
Langley, Mr W, Kyabram, March 1984  
Loddon-Campaspe Regional Planning Authority, Bendigo, August 1984  
Macalister District Water Users League, Maffra, April 1984  
McKinnon and Partners - Mr A K Turner, February 1984  
Northern Victorian Fruitgrowers Association, Shepparton, April 1984  
Shepparton, City of, Shepparton, April 1984  
Shires of:  
    Avon, April 1984  
    Benalla, March 1984  
    Cobram, Deakin, Nathalia, Numurkah, Rodney, Shepparton, Tungamah,  
        Yarrawonga combined, March 1984  
    Maffra, March 1984  
    Mildura, Irymple, May 1984  
    Rodney, March 1984  
    Rosedale, May 1984  
    Violet Town, March 1984  
State Rivers and Water Supply Commission, Melbourne, April 1984  
Sullivan, Mr M P, Tatura, March 1984  
Sunraysia Districts Citrus Co-operative Society - Nangiloc Branch, March 1984  
Tragowel Plains Irrigators League, April 1984  
Torrumbarry System Irrigators Association, Kerang, July 1984  
United Dairyfarmers of Victoria,  
    Number Eight District Council, April 1984  
    Katunga-Numurkah Branch, March 1984  
Victorian Farmers and Graziers Association, Melbourne, August 1984  
Water Resources and Water Supply, Ministry of, Melbourne, April 1984

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**APPENDIX FOUR : FORMAL REFERENCES**

**EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY**

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**WEDNESDAY, 2 APRIL 1980**

18. **PUBLIC BODIES REVIEW COMMITTEE - Motion made and question - That the State Rivers and Water Supply Commission and each constituted water, sewerage, drainage and river improvement trust or authority, except the Melbourne and Metropolitan Board of Works, be referred to the Public Bodies Review Committee for review put, after debate, and agreed to.**
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EXTRACTED FROM THE VICTORIAN GOVERNMENT GAZETTE  
OF 20 MAY 1981, NO. 42, p 1595

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PARLIAMENTARY COMMITTEES ACT  
PUBLIC BODIES REVIEW COMMITTEE

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At the Executive Council Chamber, Melbourne, the nineteenth day of May, 1981

PRESENT:

His Excellency the Governor of Victoria  
Mr Crozier            Mr Borthwick  
Mr Lacy

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NOMINATION OF PUBLIC BODIES FOR REVIEW  
BY THE PUBLIC BODIES REVIEW COMMITTEE

Whereas section 48B(1) of the Parliamentary Committees Act 1968, No. 9367, provides inter alia that the Legislative Council or the Legislative Assembly may by resolution or the Governor in Council may by Order published in the Government Gazette at any time nominate a public body for review by the Public Bodies Review Committee.

And whereas on 2 April 1980 the Legislative Assembly resolved "That the State Rivers and Water Supply Commission and each constituted water, sewerage, drainage and river improvement trust or authority, except the Melbourne and Metropolitan Board of Works, be referred to the Public Bodies Review Committee for review."

Now therefore His Excellency the Governor of the State of Victoria by and with the advice of the Executive Council thereof and in exercise of the powers conferred by section 48B(1) of the Parliamentary Committees Act 1968 doth hereby nominate the Local Governing Bodies constituted under the Water Act 1958, the Ballarat Water Commissioners and Sewerage Authority, the Dandenong Valley Authority, the First Mildura Irrigation Trust, the Geelong Waterworks and Sewerage Trust, the LaTrobe Valley Water and Sewerage Board, the Mildura Urban Water Trust, the West Moorabool Water Board and the personnel of the State Rivers and Water Supply Commission, for review by the Public Bodies Review Committee.

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And the Honourable Rupert James Hamer, Her Majesty's Premier for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL,  
Clerk of the Executive Council.

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EXTRACTED FROM THE VICTORIAN GOVERNMENT GAZETTE  
OF 9 MAY 1984, NO. 54, p 1424

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PARLIAMENTARY COMMITTEES ACT 1968

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At the Executive Council Chamber, Melbourne, the first day of May 1984

PRESENT:

His Excellency the Governor of Victoria

Mr Jolly                      Mr Cathie  
Mr Wilkes                    Mr Mackenzie

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THE PUBLIC BODIES REVIEW COMMITTEE

Whereas the Parliamentary Committees Act 1968 as amended by the Parliamentary Committees (Joint Investigatory Committees) Act 1982 provides, among other things, for the establishment of a Joint Investigatory Committee of the Legislative Council of Victoria and the Legislative Assembly of Victoria to be called the Public Bodies Review Committee.

And whereas paragraph (a) of section 4F(1) of the said Act provides, in part, that a Joint Investigatory Committee is required to enquire into, consider and report to the Parliament on any proposal, matter or thing relevant to the functions of the Committee which is referred to the Committee by Order of the Governor in Council published in the Government Gazette.

And whereas section 4F(3) of the said Act provides that an Order of the Governor in Council referring a proposal, matter or thing to a Joint Investigatory Committee pursuant to section 4F(1) of the said Act may specify a period of time within which the Committee is required to make a final report to the Parliament on the proposal, matter or thing.

And therefore I His Excellency the Governor of the State of Victoria in the Commonwealth of Australia by and with the advice of the Executive Council of the said State doth by this Order require the said Public Bodies Review Committee to enquire into, consider and report to the Parliament on the following proposal, matter or thing, that is to say:

To enquire into, and report to the Parliament on the powers, functions and duties with respect to irrigation exercised and performed by the State Rivers and Water Supply Commission or by any successor body or bodies to such Commission as may be constituted by an Act of the Parliament.

The Committee is required to report to the Parliament on the said Terms of Reference by 31 December 1984.

And the Honourable David Ronald White, Her Majesty's Minister of Water Supply for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL  
Clerk of the Executive Council.

## APPENDIX FIVE : REFERENCES

### ACIL:

Transferability of Water Entitlements, report commissioned by the Department of Water Resources from ACIL Australia Pty Ltd, Melbourne, August 1984.

### D Anderson:

D Anderson, "The Economic Value of the Irrigation System", paper delivered to the Combined Advisory Boards Conference, Melbourne, July 1983.

### Arthur Andersen and Co:

Arthur Andersen and Company, Cost Recovery in the Goulburn Murray Irrigation District, unpublished, 11 pp, undated.

### Atlas of Victoria:

Atlas of Victoria, edited by J S Duncan, Victorian Government Printing Office, Melbourne, 1982.

### Balderstone:

Agricultural Policy, Issues and Options for the 1980's, report to the Minister for Primary Industry of the Working Group chaired by Mr J S Balderstone, Australian Government Publishing Service, Canberra, 1982.

### Birch:

G A Birch, Development options for Irrigated Agriculture in Victoria, Department of Agriculture, Melbourne, February 1984.

### Centre:

Distribution of Costs and Benefits of Victoria's Irrigation Systems, a report by Centre of Policy Studies, Monash University, on a study commissioned by the Public Bodies Review Committee of the Parliament of Victoria, Government Printer, Melbourne, December 1983.

### Constable:

D J Constable, "Water Right Allocations and Pricing Policies", paper delivered to the Combined Advisory Boards Conference 1983, Melbourne, 12 pp, July 1983.

### Consumer Policies and Procedures of Energy Utilities in Victoria:

Customer Policies and Procedures of Energy Utilities in Victoria, a report to the Hon D R White, M L C, Minister for Minerals and Energy, from the Customer Policy Review Panel, Department of Minerals and Energy, Melbourne, 1983.

### CSIRO:

Murray Darling Basin Project: Development Study Stage One - Summary Report, CSIRO Institute of Biological Resources, Division of Water and Land Resources, Canberra, 1982.

Dunk:

W P Dunk, "The River as a Multiple Use Resource - What is it Worth to South Australians?", paper delivered to symposium Who Owns the Murray?, Adelaide, October 1981, unpublished.

East:

L R East, "The Development of a National Water Policy in Victoria", Journal of the Institution of Engineers, Australia, January-February 1958, pp 35-43.

Eighth Report:

Public Bodies Review Committee, Eighth Report to the Parliament. Future Structures for Water Management. Volume Three, Final Report: The Central and Regional Management of the Water Industry, Government Printer, Melbourne, May 1983.

First Report:

Public Bodies Review Committee, First Report to the Parliament on The Activities of the Public Bodies Review Committee, Government Printer, Melbourne, December 1980.

Holmes:

E McL Holmes, Managing the Water Industry. The Accounting, Reporting and Auditing Dimension, a report to the Public Bodies Review Committee, Government Printer, Melbourne, October 1982.

Map Study:

A Map Study of Victoria's Water Resources, co-ordinated by Brian Frazer for the Ministry of Water Resources, Secondary Geography Committee and State Rivers and Water Supply Commission, Melbourne, 1982.

MISV:

Management of Irrigation Systems in Victoria, submission by the State Rivers and Water Supply Commission to the Public Bodies Review Committee, Melbourne, February 1981.

Ministers Policy Statement:

State Rivers and Water Supply Commission, "Statement by Hon George Graham, Minister of Water Supply explaining the New Irrigation Policy", Government Printer, Melbourne, 1909.

Neilson:

Irrigation Management in Victoria, a report by Neilson Associates commissioned by the Public Bodies Review Committee, Government Printer, Melbourne, October 1981.

Ninth Report:

Public Bodies Review Committee, Ninth Report to the Parliament. Report on Albury-Wodonga (Victoria) Corporation, Government Printer, Melbourne, December 1983.

Operation and Structure of Central Management in Victoria's Water Industry:

Report on The Operation and Structure of Central Management in Victoria's Water Industry, a report to the Public Bodies Review Committee from the Management Consultancy and Organisational Studies Division, Public Service Board of Victoria, Government Printer, Melbourne, September 1981.

Public Service Board:

State Rivers and Water Supply Commission Operational Management Review, Public Service Board of Victoria, Melbourne, 1980.

Response to Centre:

Comments on the Study of the Distribution of Costs and Benefits of Victoria's Irrigation Systems by the Centre of Policy Studies, Monash University, State Rivers and Water Supply Commission, Melbourne, 38 pp, April 1984.

Response to Neilson:

Irrigation Management in Victoria. Comments Submitted by State Rivers and Water Supply Commission to Public Bodies Review Committee in Response to Report by Neilson Associates, Melbourne, 58 pp, February 1982.

Robertson:

A G Robertson, Report of the Inquiry into the Administration of the Goulburn Murray Irrigation District, Melbourne, 1977.

Royal Commission 1936:

Royal Commission on the Expediency of Amending the Water Act 1928 and Other Matters, First Progress Report (September 1936), Second Progress Report (October 1936), Third Progress Report (December 1936), Fourth and Final Report (April 1937), Government Printer, Melbourne.

Rural Water Commission - Salinity Submission:

Inquiry into Water Allocations in Northern Victoria: Evidence Presented to the Salinity Committee on the Fourth Term of Reference, Rural Water Commission, Melbourne, July 1984.

Sixth Report:

Public Bodies Review Committee, Sixth Report to the Parliament. Future Structures for Water Management. Volume One, Final Recommendations: Regional and Local Structures for Urban Services, Government Printer, Melbourne, December 1981.

Seventh Report:

Public Bodies Review Committee, Seventh Report to the Parliament. Future Structures for Water Management. Volume Two, Final Report: Implementation Issues Arising from Regional and Local Structures for Urban Services, Government Printer, Melbourne, October 1982.

Smith:

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**PUBLIC BODIES REVIEW COMMITTEE**

**MINORITY REPORT TO THE TWELFTH REPORT**

by

Mr B J Evans, M P

Submitted pursuant to Section 4N(4) of the  
Parliamentary Committees Act 1968.



LEGISLATIVE ASSEMBLY  
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## FOREWORD

It should be noted that the preparation of this minority report could not begin until a draft of the Committee's report was available. This has meant that there has been only a few days available to compile this report.

The Committee has the advantage of a staff of six, centrally located, to do all the time consuming work of writing, amending and editing its report which is the culmination of over four years work by the Committee.

I acknowledge the work of my Secretary, Mrs. June Mathieson, and Mrs. Margaret Evans, in assisting with the preparation of this report. They had to contend with the distractions and interruptions of an electorate office and to take changes and amendments to drafting by telephone. The limited direct contact between us has not made this difficult task any easier.

I must express my concern that the ordinary rules of justice were not applied during the course of this enquiry. It seemed clear from the outset that the Committee was determined to make drastic changes even if the evidence did not justify it. There was very little adverse comment about the State Rivers and Water Supply Commission - indeed, it apparently enjoyed an excellent reputation by comparison with many other Government instrumentalities and departments.

Instead, the Commission was abolished on the grounds that it, and its subsidiaries, did not conform to a series of performance criteria laid down by academic consultants. It would be most doubtful if any Government department or instrumentality could comply and certainly no evidence to suggest the SR & WSC was less than average in this regard.

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In accordance with parliamentary practise, I hereby declare an interest in those aspects of the enquiry dealing with private diversion from uncontrolled streams.

All the water requirements for my home and for the irrigation of 50 hectares of agricultural land which is operated in conjunction with other members of my family, are obtained by way of licence or permit.

Yours faithfully,

*Bruce Evans.*

BRUCE EVANS M.P.

## Introduction.

The Parliamentary Committees (Joint Investigatory Committees) Act 1982 Sec. 4N (4) states:- "If requested to do so by one or more members of the Committee, a joint Select Committee shall include with a report made by it to the Parliament a minority report on behalf of that member or those members."

This minority report is included at the request of one member of the Committee because of fundamental differences with the Committee's report. The minority report will draw attention to the shortcomings in the methods adopted by the Committee during its enquiry; to false assumptions or misinterpretation of historical data; and to failure to deal with issues before the Committee.

One of the major issues is the failure of the Committee to deal with the highly controversial evidence of the Centre of Policy Studies of Monash University (known among irrigators as the "Monash" Report, referred to in the Committee's Report as the "Centre" report, and referred to in this report as the C.O.P.S. evidence). This will be dealt with in some detail later in this report.

It is difficult to avoid the conclusion that from the very outset of its enquiry, the P.B.R.C. was determined to establish a reputation for itself. Much of the ground work on which the Committee's report is based was done by the previous Committee prior to 1982 and to some extent, the present Committee has inherited pre-conceived ideas and misconceptions of the first Committee.

The terms of reference.

Sec. 4D of the Parliamentary (Joint Investigatory Committees) Act 1982 states:

"The functions of the Public Bodies Review Committee shall be to review any public body nominated for review under section 4M(1) and report to the Parliament on the question whether or not the body should cease to exist."

This is a very concise statement of the Committees functions which charges the Committee with a clear responsibility to give a definitive answer to that question with respect to any public body referred to it.

Sec. 4M(9) states:

"When reviewing the activities of a public body the Committee shall inquire into any matter which it considers relevant to the question whether or not the body should cease to exist and, without limiting the generality of the foregoing, it shall inquire into the following matters in particular:

- (a) Whether or not the objects of the body are worth pursuing in contemporary society;
- (b) Whether or not the body pursues its objects efficiently, effectively and economically;
- (c) Whether or not the structure of the body is suited to the activities it performs;
- (d) Whether or not the body duplicates the work of another person or body;
- (e) The financial and other liabilities and obligations of the body;
- (f) The staff of the body (including officers or employees of the public service whose services are being made use of by the body);
- (g) The extent to which the body seeks information as to the effect of its activities and acts on the information it receives;
- (h) The extent to which the body considers the public interest when performing its activities;
- (i) The extent to which the body encourages public participation in its activities;
- (j) The manner in which the body handles complaints about its activities: and
- (k) The extent to which the body is prepared to improve its structure, composition, and procedures".

The above section instructs the Committee on matters it should investigate and consider in arriving at the answer to the question posed in Sec. 4(D).

Sec. 4P. is a lengthy section which details what further recommendations the Committee should make consequent upon its decision either that a public body should continue to exist or cease to exist.

Sec. 4P.(2) states:

"Where the Committee recommends in its report to the Parliament that a public body reviewed by it should continue to exist, the Committee:

- (a) shall include in the report a recommendation as to -
  - (1) the period within which the body should again be reviewed; and
  - (11) the changes (if any) that should be made to the structure or membership of the body, the procedures adopted by the body or the powers, functions or duties exercised or performed by the body; and
- (b) may include in the report a statement of the objects which, in the opinion of the Committee, the body ought to pursue when exercising or performing its powers, functions or duties".

By any interpretation, the Committee's report must be seen as applying these provisions, which are specifically related to a body which it recommends should continue to exist, to a body it has recommended should cease to exist.

Sec. 4P (3), (4), (5) and (6) give detailed instructions on the recommendations the Committee must make in consequence of a recommendation that a public body should cease to exist. Despite the great detail, no reference is made to any power for the Committee to recommend the creation of a new body or bodies to replace one which it recommends should cease to exist.

Parliament should be meticulous in ensuring that laws which it alone can enforce are obeyed. If it considers that the powers which the Committee has assumed are appropriate, it should amend the Act accordingly.

It is even more important that the P.B.R.C. having as its charter the function of critical appraisal of other public bodies, should ensure that it complies with the Act of Parliament under which it operates.

Although it is the Final Report on the first reference made to the Committee by Parliament, such drastic changes have already been recommended and implemented that the body originally referred to the Committee (the State Rivers and Water Supply Commission) no longer exists. Instead the Committee is reporting on the Rural Water Commission, a body which is a product of its own earlier recommendations and which has been in existence for only a few months.

Almost the entire evidence on which the Committee's report is based was given in relation to the S.R.W.&S.C.

To draw an analogy, the Committee gave its verdict and the sentence was carried out before all the evidence was considered. Such an analogy is valid because the reputation of previous governments, previous Ministers and previous Commissioners of the S.R.W.&S.C., as well as the reputation of the water industry as a whole, have been clouded by earlier recommendations.

Unanswered questions.

The question posed so concisely in Sec. 4D should have been determined in the light of the Committee's findings in relation to the matters referred to in Sec. 4M(9).

The first question posed to the Committee in determining whether or not a public body should cease to exist is whether the objects of the body are worth pursuing in contemporary society.

The Committee became hopelessly bogged down by this question because it was unable to find any explicit statement of objectives. It seems to be stating the obvious that the implicit objective set the State Rivers and Water Supply Commission was, subject to the policy of the government of the day, to provide every citizen of the State with an assured and good quality water supply.

The other activities of the Commission flowed on from this basic objective. The vesting of streams in the Crown, although pre-dating the setting up of the

Commission was essential to the attainment of this objective. This vesting brought with it, responsibility to manage the streams owned by the Crown, a responsibility which has not been understood or accepted as it should have been by previous governments. The question of whether water should be provided at the cost of the consumer or on some other basis is a matter for the government of the day.

The answer to the first question (a) is clearly in the affirmative

The answers to the remaining questions are not quite so clear cut.

Significance and scope of the Report.

In this section, the Committee points out that the twelfth report completes the reference given by Parliament some four and half years ago. The twelfth report is therefore the fourth "final" report on this one reference. A "final" report of the P.B.R.C has particular significance because, under the Act, recommendations contained in such a report automatically come into effect on the anniversary of the date of presentation of the report unless Parliament determines otherwise.

It further states that the report "considers for the first time the processes for and the objectives of water resource management in a far more general sense." It would seem logical that these issues should have been considered first rather than after far reaching recommendations were made in previous "final" reports.

Early in its enquiries, the Committee commissioned a number of studies, including one from the Institute of Economic and Social Research (I.S.E.R.) which dealt with wider philosophical issues. One of the most significant comments in that report related to the expectations which the community should have regarding the financial performance of government "business undertakings."

The first of a number of guidelines proposed was that:-

"authorities be required to gradually increase their real rate of return on total assets.....until it at least equals the long-term real rate of interest on semi-government

borrowing. In present circumstances this would imply minimum real rates of return of 2-3 percent although a higher rate would be preferable. For authorities for which such a target is inappropriate, such as VicRail and the Tramways Board, other specific financial targets should be set...."

At that stage of the Committee enquiry, it was concentrating on the role and operation of water trusts and sewerage authorities and it is most doubtful whether the I.S.E.R. document came to the notice of many people outside that area of interest. A number of other documents containing lengthy and technical comments on public administration in general were prepared for the Committee at about the same period.

Dealing, as they did, with wide issues of public administration, these documents should not have been dealt with as part of an enquiry into the S.R.&W.S.C. and associated bodies, which at that time, was confined even further to water trusts and sewerage authorities. The issues should have been part of a much wider community debate.

The question of which of the wide range of government activities should be considered to be business undertakings is central to the whole enquiry. Indeed no justification has ever been given for the expectation that rural water supplies should provide a real rate of return to the State but that metropolitan public transport should not.

The provision of any public service provides a benefit to someone. The building of every school, art gallery, freeway etc. puts some measure of additional value on property in the vicinity. As one of the consultants agreed in evidence before the Committee, he is a beneficiary from the building of a university from which he makes his livelihood. If he had owned property near the university when it was built, he would no doubt have received a capital gain as a result.

When the Melbourne Underground Rail Loop Authority was established, the Melbourne City Council and the Melbourne and Metropolitan Board of Works each agreed to pay 25% of the cost because property owners were seen to be beneficiaries of the scheme. This share has been reduced to 10% each because the benefits have not come up to expectations.

It is clearly not a "principle", that the beneficiaries from the provision of government services should pay for those services. There is ample evidence that it is non-metropolitan residents on whom such expectations fall.

In view of the Committee's role as a critic of the operations of public bodies, it is interesting to note its comment that "There are some most important issues which were not addressed by the creation of the organisational framework of the Rural Water Commission. These issues include such matters as definition of the broad context for the management and allocation of resources, the quality of service provision, and policies relating to the financial management of the Commission and the planning of operations. These issues are amongst the subjects of this Report."

It would have been more logical for the Committee to have considered and reported on these questions before it recommended the abolition of the S.R.&W.S.C. and the establishment of the Rural Water Commission.

Basic objections to the Report.

The report is a mixture of prejudices, misconceptions and illogical reasoning and it is difficult to escape the conclusion that the Committee's approach was subjective rather than objective.

In para 22 page 7 of the report, the Committee states "The complex of poorly co-ordinated legal, organisational and administrative arrangements has developed in an ad hoc manner, with each new stage usually being added in response to some specific historical need rather than as a part of a planned and integrated expansion of activities."

This is an exaggerated and unjustified denegration of the whole industry and seems calculated to inflame hostility to irrigators. There is no attempt to explain how or why the Committee arrived at this point of view nor what comparisons were made. The question which obviously arises is whether the administration of the water industry has been bad by comparison with other government departments. It is difficult to understand how the Committee can make such an assertion given the limited experience it has in examining other areas.

Para 28, page 9, states:- "The Committee has carried out its analysis with a strong commitment to what has been a fundamental and unquestioned principle of the management of water resources in Victoria since 1886 - for almost one hundred years. That is, that the waters of the State are public property that do not belong to the owners of the owners of any land through which they flow. They are a resource owned by the people of the entire State, and so the benefits accruing from their use should, in some sense, flow to all the residents of the State".

The interpretation the Committee places on this "principle" is fundamental to its attitude to the enquiry. The last sentence seems to imply that because water belongs to the State, it has the right to sell it to the highest bidder.

Such an attitude is repugnant and untenable and no reasonable person could accept that that was ever in the minds of the architects of the original legislation.

It became painfully obvious to the early settlers that this was a land "of droughts and flooding rains". It was obvious that water would have to be conserved on a very large scale if the continent was to be able to support a population which, in the space of less than 100 years, had grown to many times that which the natural environment could sustain.

Control of streams by private individuals would have given unacceptable power to an elite and brought the undesirable conflicts which had been experienced in places in the United States.

It is a gross distortion of the purpose of vesting of water in the Crown to assume that the intention was to substitute a government monopoly for a private monopoly.

The whole tenor of the report is that the State should get the best return for the use of water rather than all citizens should be entitled to access to the most basic commodity essential to life itself.

### Overseas Comparisons.

The Committee's references to comparative value of production in other countries are pointless and deceiving. There is a real danger that uninformed people will see the comparisons as evidence of a backward, inefficient irrigation industry in Australia.

These figures prove that, if a farmer is paid enough and his market is assured, he can produce anything anywhere. A comparison of gross value without reference to the cost of that production and the price received for the final product is futile. It is more valid to claim that, partly as a result of investment in irrigation, this nation has the benefit of an abundant, assured and cheap supply of food. Too often, comparisons are made, not with the prices paid for food by consumers in countries with an equivalent standard of living, but with world parity prices which are severely depressed by large subsidies to agriculture in those same countries.

What might have been useful information, viz: the amount of government assistance to primary industry in general and irrigation in particular in countries such as Israel, was conspicuously absent.

### Conduct of the Inquiry.

As in a minority report to the Eighth Report, attention is drawn to the engagement of consultants to report to the Committee.

Although these reports are given the status of "technical" reports, the authors are obviously influenced by the same prejudices and misconceptions referred to in this minority report.

It is quite apparent that they share the view that the vesting of water in the Crown entitles the government to get the best return possible rather than conferring on it the responsibility to ensure that the resource is shared fairly.

Whilst the consultants are paid to put their views before the Committee, other people are required to do so at their own expense. It is not valid to give these reports any higher status than the expression of opinions by the authors.

## Objectives.

As in previous reports, the Committee places great stress on the need for objectives, again emphasising the need for them to be explicit.

In para 4.21, it refers back to the speech of Hon. Geo. Swinburne introducing the 1904 legislation; and even earlier to Alfred Deakin, to justify the Committee's view that the State should expect a rate of return on its investment in water.

Given the vast change in taxation methods and the responsibilities of State and Commonwealth Governments which has taken place, the views expressed so long ago are hardly of relevance today. The introduction of income tax, as an example, changed the emphasis on revenue raising quite dramatically.

Throughout the report, there seems to be an underlying theme that the irrigation industry is something of a blight on the State which has grown only because of the greed of landowners who wished to benefit from the enhancement in the capital value of their land.

Plain logic would indicate that if that was so, existing irrigators would have strenuously resisted any extension as it would reduce the value of their land. There is no evidence that anything of that kind occurred.

Instead, governments of the day responded to the wishes of the community to irrigate more land. In a great many cases, the land, the type of crop and, indeed the farmer himself, was chosen by the government.

Policy decisions, including the charges for water, were obviously made in the light of contemporary opinion. For example, in the immediate post World War 2 years, dairy products were in short supply world wide. The nation had a serious adverse balance of payments and in the interests of creating a more prosperous nation, the production of dairy and other agricultural products were encouraged by the Government.

At no time did the Committee seem to come to grips with the problems which arise at the interface between public and private enterprise. On the one hand, if the

Committee's view is accepted, the State Rivers and Water Supply Commission was supposed to work to a budget which would include a rate of return for capital investment. This would have required a reasonably consistent income which had to be raised from farmers having a very variable annual income.

If the concept that the supply of water by the S.R.& W.S.C. was never intended to be a business undertaking but rather a service, in the nature of public transport, universities and a host of other services, then the Committee would have to agree that it has performed its implicit functions effectively and efficiently.(see 4.4.1).

No matter how the Committee may try to gloss over the fact, the report could be summarised in one line - the government has not charged enough for water in the past and must do so in the future.

#### Changes.

The Committee in Sec. 4.5 of its report refers to changes in the economic, social and technical environment of the industry.

A number of points made are open to argument both as to their accuracy and their relevance.

The comments regarding the statement of objectives as contained in the Water (Central Management Restructuring) Act 1984 are interesting in the light of the view expressed in the minority report to the Seventh Report that the preparation of such a statement would prove to be difficult. It was a former Member of the Committee, who argued that the objectives of a public body should be stated explicitly who was the Minister responsible for the 1984 Act. The Committee expresses dissatisfaction with the result.

In Sec. 5.1, referring to changes following the earlier reports of the Committee, the view is expressed that the Committee "is in no doubt that the present arrangements are a major improvement to those that prevailed prior to 1980." It is incredible that the Committee can hold such a view when the new arrangements have not had twelve months to prove themselves.

Allocation of water.

Much of the discussion regarding the utilisation of water reveals a naive and simplistic view of agriculture. Obviously, the value of water to an irrigator, varies with the buoyancy of the particular enterprise concerned at any point of time.

This buoyancy responds to a great range of factors including international markets, climatic conditions and the like, over which the irrigator has no control.

Because of the high capital investment involved and the time scale involved in such enterprises as horticulture and dairying, it would be destabilising to encourage farmers to change from industry to industry as fluctuations occur.

Changes in profitability in agriculture are very frequent and it has so far defied economists to decide which are temporary and which are permanent.

In Chapter 5:-

"The Committee notes that there has been no comprehensive analysis of what alternative uses might exist for most of the water used for irrigation. It should also be noted that the capital has been committed to water resource development has been expended and cannot be recovered, although the State continues to bear the interest cost of that capital. In this chapter, the Committee seeks to identify issues in order to assist in devising ways of better utilising the resources that Victoria now has available."

For the Committee to believe that it has the competence to carry out such a task is presumptuous in the extreme. Commonwealth Departments of Trade and Agriculture and State Departments, together with primary industry organisations and individual farmers are constantly seeking ways of improving efficiency and utilising resources better.

There is little argument that the basic problem is that Australia is losing or has lost its ability to compete on overseas markets, a problem which besets all exporting industries. Most are reducing production to home consumption and some are finding even that market is being invaded by imports.

The reasons for this are beyond the scope of this minority report but it is futile for the Committee to believe that the operations of the water industry in Victoria will have any influence whatsoever.

The Committee goes on to refer to some considerable length about the number of government departments and agencies having a relationship with the irrigation industry.

It makes the comment that "The Committee is not aware of any structural or procedural mechanisms for ongoing regular consultation and discussion aimed at integrating policies and coordinating operations between agencies....". The questions which arise are - What then is the function of State Cabinet and why was the State Coordination Council destroyed?

In fact, over the years every water conservation proposal was referred to a Parliamentary Committee and evidence taken from anyone, including other departments and agencies, who had a view to express. There is probably no other area of government activity which has been so thoroughly investigated.

In addition, until recent years, the activities of the State Rivers and Water Supply Commission have been the subject of a specific Act of Parliament annually when every Member of Parliament had an opportunity to express views during the Water Supply and Services Bill.

#### The Consultant's Reports.

The Neilson Report adopted a narrow interpretation of those who are the beneficiaries from irrigation and, as a result of the writers criticism of this, and despite his opinion that it would be a "futile exercise", the Committee decided to engage the Centre of Policy Studies (C.O.P.S.) to report on the wider interpretation.

One of the main purposes of this minority report is to disassociate the writer from the Committee's defence of the C.O.P.S. report.

Prior to the establishment of the P.B.R.C.. those seeking to put their views before a Parliamentary Committee did so at their own expense.

It is not unreasonable that reports of a technical nature, such as Accounting Procedures, should be commissioned by the Committee but the Neilson Report, to some extent, and the C.O.P.S. report by its very nature, dealt with matters of opinion and have no more validity as "technical" reports than any other evidence given on irrigation aspects.

The C.O.P.S. report was naive in its approach to its task and its presentation was irritating. The constant repetition that those who owned the land at the time irrigation schemes were established and not the present irrigators were the beneficiaries was a transparent attempt to forestall criticism.

Despite frequent references to this point, the authors did not trouble to seek out information on what proportion of irrigated land was originally purchased by the State as dry land, redeveloped for irrigation and then sold, thus returning the alleged benefit back to the State.

The Committee's comment that "the general thrust of Part 111 of the C.O.P.S. report, in searching for ways of defending irrigator's present incomes in the name of equity....." compounds the damaging nature of the report.

Irrigators do not need the C.O.P.S. or anyone else "to seek to defend" their present incomes. Their capital investment, hours of work and the risks they take to keep up possibly the highest quality and cheapest food supply to any country with an equivalent living standard is more than sufficient to justify their incomes.

For the Committee to state that it "has neither accepted nor rejected the arguments contained in the C.O.P.S. report" is indefensible.

By doing so, it has effectively cut off all avenues of objection to the contents of the report. It has frequently reiterated that it was a report to the Committee but has now backed off from committing itself to any of its contents.

Just two of its assertions viz 1. "Decentralisation... cannot necessarily be regarded as a net benefit to society" and 2. "that the generation of export income is in itself a benefit.... is doubtful" display a total lack of objectivity.

For the Committee to remain uncommitted on questions such as these will lead to even greater frustration in non-metropolitan areas and confirm the growing belief that they no longer have any influence in decisions which affect their welfare.

Undoubtedly, the issue of over-riding importance is the Committee's failure to react to the comments on Page 105 of the C.O.P.S. evidence, viz:-

"The average price which is charged currently to irrigators is \$8 per ML and all we can say is that:

- (1) if charges were to cover operation, maintenance and capital renewals, then average charges would have to increase to possibly as much as \$20 per ML.
- (11) if charges were to cover operation, maintenance, capital renewals and the costs of using the public's capital, then average charges would have to increase possibly to somewhere between \$30 per ML and \$45 per ML.

In this section we have suggested that average charges for water could be increased to \$20 per ML or probably to \$30 per ML before the quantity of water demanded by irrigators in total would be reduced. We do not have enough information to judge accurately the extent to which such charges would cover the costs associated with the irrigation system. We conjecture that such charges would probably cover the costs of operation, maintenance and capital renewals but would allow for little contribution towards the costs of using the public's capital."

This comment makes it abundantly clear that if the State is to move to collect a rate of return on its investments in irrigation it represents not a marginal increase in water charges but a 400-500% increase.

It is the Committee's failure to analyse the validity of this assessment and the effects on the whole development of the State if the assessment was adopted as accurate, which calls for the greatest condemnation.

In its recommendations in previous reports as with those in the Twelfth Report, the Committee makes no assessment of whether its recommendations will reduce the gap between the cost of delivering water and the charges applied. There is every reason to believe that more stringent requirements for accountability will add to, rather than reduce, the overall costs of administration.

The inference which is drawn from the emphasis on "accountability" is that those in the hierarchy of public administration have more concern for effectiveness in the expenditure of public money. There is every reason to believe that the contrary is the case and that those closest to the people with whom they are dealing are most likely to exercise care in the expenditure of public money.

Private diverters.

The importance of this group has been stated in the report in relation to their higher productivity. The areas irrigated by private diversion, generally speaking, adjoin streams and are likely to be more fertile soil than areas irrigated by reticulated supplies. This fact would probably account for the higher productivity rather than any aspect of irrigation practise.

While enjoying the advantages of more fertile soil, these farmers also have to accept the risks associated with flooding both from the stream itself and from higher lands. In such cases, the "fundamental principle" enunciated early in the report, "that all water vests in the Crown", for no explained reason, no longer applies. Farmers are unable to claim damage from the Crown when its water invades their property. It is widespread practise to justify this anomaly on

the grounds that a flood is an "Act of God" but equally so are the last vestiges of water trickling down an uncontrolled stream in time of drought.

Private diverters from controlled streams have the worst of both worlds. Although they have the additional capital expense of pumps and pipelines and the heavy annual cost of pumping, they are charged the same amount for water as the irrigator having water delivered to his boundary. This situation probably arose from a decision to charge a uniform price throughout a district rather than graduated charges according to the cost of supplying each individual property. Nevertheless, there is a need to recognise the substantial additional costs incurred by these irrigators.

Private diverters from uncontrolled streams pay charges for licences and/or permits of various kinds. The revenue raised, following recent increases, "cover the cost of services provided". There is some feeling among private diverters from uncontrolled streams that the "services provided" absorb whatever amount is raised as they can see little justification in the level of charges.

As an example, prior to 1965, along the Mitchell River private diversion took place under a 15 year licence, annual permit and in some cases, without official sanction. The licences gave a priority over permits so that, in theory, when water was in short supply permits would be cancelled first, then licences.

Faced with a crisis in water supply in 1965, the irrigators on the Mitchell River unanimously agreed that regardless of any rights conferred by a licence or a permit, all irrigators, including the unauthorised, should share in available water according to their need.

They drew up a roster to ensure each obtained a share of the water available and appointed one of their number to act as diversion officer to regulate rationing with the support of a committee.

They do not accept the view that this now has to be carried out by full time employees nor that it justifies the level of charges applied. Restrictions are applied only during times of drought and it could be policed voluntarily or by a person employed on a temporary basis.

Private diverters for stock and domestic purposes also require a permit. For the right to use water, they are required to pay, currently, \$20 per annum. No equivalent charge is paid to the Commission by the Board of Works for the right to use water belonging to the Crown.

Assuming some 700,000 family units in the metropolitan area, the government should expect \$14,000,000 (700,000 x \$20) annually from the M.M.B.W. for the right to use the water of the Yarra and Thomson Rivers.

It is often argued that, as Melbourne finances its own water storage and reticulation, that it has some over-riding right to water resources naturally belonging to other areas. Such an argument is only valid if the belief is held that water is a commodity to be sold to the highest bidder.

The individual private diverter has to pay the cost of pumping equipment, treatment and storage if necessary, and the running costs of this system. These are the same things, carried out by the Board of Works for metropolitan people, for which water rates are paid. The \$20 permit fee has to be paid on top of this amount.

#### CONCLUSION.

The Committee's report reflects a superficial and shortsighted approach to its first reference. There is an underlying feeling that the rural water industry has been the victim of a newly established committee setting out with a reformist zeal.

It is not the purpose of this minority report to argue that there should have been no changes but there was no demonstrated need to completely dismember a long established body simply to remove a few blemishes which had developed over the years.

The Committee did not show concern for the financial implications of its recommendations on the consumers. The over-riding consideration always appeared to be

whether the State Government should contribute toward the cost of providing water to non-metropolitan residents - apparently, because it does not contribute to the cost of metropolitan supplies.

This is not a question which is for the Committee to decide because it involves much wider implications, some of which were canvassed in a superficial way in the C.O.P.S. report.

There is a need for the community to decide which interpretation it places on the "fundamental principle" which is the basis of the differing views expressed in the committee report and this minority report:- that is, whether the vesting of water in the Crown entitles the Crown to sell it to the highest bidder, whether as an individual or as a community.



SALINITY COMMITTEE

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*First Report*

PROGRESS REPORT ON THE BARR CREEK CATCHMENT,  
MINERAL RESERVE BASIN AND LAKE TYRRELL SCHEMES

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*Ordered to be printed*

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EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

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FRIDAY, 2 JULY, 1982

- 37 SALINITY COMMITTEE - The Honourable W.A. Landeryou moved, by leave, That the Honourables L.A. McArthur and J.W.S. Radford be members of the Salinity Committee.

Question - put and resolved in the affirmative.

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EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

---

THURSDAY, 1 JULY, 1982

- 37 COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the Legislative Council concurring with the Resolutions of this House dated 1 July 1982 establishing the respective Committees -  
(a) Mr Fogarty, Mr Hann, Mr Stirling and Mr Wood be appointed members of the Salinity Committee

\* \* \* \* \*  
(Mr Fordham) - put and agreed to.

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## TERMS OF REFERENCE

### JOINT RESOLUTION OF THE LEGISLATIVE COUNCIL AND LEGISLATIVE ASSEMBLY - 1 JULY 1982

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#### Parts 1 & 2

1. That a Joint Select Committee be appointed to inquire into and report upon the salinity of land and water with particular reference to -
  - (a) the social, environmental and economic effects of -
    - (i) dry land salinity;
    - (ii) salinity associated with irrigation; and
    - (iii) increased salinity in rivers and streams as a result of factors within Victorian control;
  - (b) opportunities for co-operative efforts in salinity control involving other State Governments and the Australian Government;
  - (c) methods of meeting the costs of salinity control; and
  - (d) administrative and other arrangements for salinity control, including integration with other aspects of land and water management.
2. That, in respect of the terms of reference, the Committee shall give priority to an inquiry into the Barr Creek catchment and the Mineral Reserve basin and Lake Tyrrell schemes and is required to report thereon to the Houses within 6 months.

## REPORT

The JOINT SELECT COMMITTEE ON SALINITY, appointed by resolution of the Legislative Council and the Legislative Assembly, has the honour to report as follows:

### INTRODUCTION

1 The Committee held its inaugural meeting on 3 August 1982. At this meeting familiarisation visits of the Kerang and Shepparton regions were planned. The Committee visited these regions and had preliminary discussions with the State Rivers and Water Supply Commission and the Department of Agriculture prior to the commencement of its formal inquiries in September 1982.

2 Part Two of the resolution appointing the Committee requires priority to be given to an inquiry into the Barr Creek catchment, Mineral Reserve Basin and Lake Tyrrell schemes and to report thereon to the Houses within six months.

3 As a result, the Committee has devoted much of its time over the past three months to an inquiry into these matters. Discussions have been held with the following Government Departments:

State Rivers and Water Supply Commission;  
Department of Agriculture;  
Soil Conservation Authority;  
Department of Minerals and Energy; and  
Forests Commission.

Evidence also has been received from officers of the State Rivers and Water Supply Commission.<sup>(1)</sup> The inquiry is still in progress and it is the Committee's intention to make a full report to the Parliament at the earliest opportunity. At this stage, the Committee desires to report progress on its investigations made to date. The Committee also wishes to draw the attention of the Parliament to the need for a Controlled Environment Facility for the salinity research programme which it believes requires prompt attention.

### BARR CREEK CATCHMENT

4 Initially the Committee held discussions with the State Rivers and Water Supply Commission and visited the Kerang Region to familiarise itself with the various aspects of the Barr Creek Catchment area.

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(1) Evidence given by the State Rivers and Water Supply Commission will be tabled with final report.

5 The Barr Creek, a tributary of the Lower Loddon River, is the main drainage outfall of the Kerang Region and contributes a significant salt load to the River Murray. Flow in the Creek is a mixture of groundwater and irrigation surface runoff, with groundwater comprising approximately 13% of the flow but contributing 90% of the salt load.

6 In 1968, the State Rivers and Water Supply Commission completed the construction of the Lake Tutchewop scheme. As a result, approximately 16% of the average annual salt load in the Barr Creek is diverted to Lake Tutchewop and three nearby smaller lakes for evaporation. This scheme is already used to its full capacity.

7 At present, on-farm measures, such as landforming and recycling of surface runoff water, are being undertaken by a number of irrigators to reduce the problem of salinity. This has been encouraged by the salinity loan programme. However, if an optimum solution to the salinity problem in the Kerang Irrigation region is to be attained, then an overall strategy for the future management of the Barr Creek and its catchment area must be developed.

8 Such a strategy would seek to control the remaining significant Barr Creek salt loads, whilst at the same time re-using the irrigation runoff water for the improvement of agricultural productivity within the catchment area.

9. In evidence given before the Committee the State Rivers and Water Supply Commission advised that it had engaged consultants Gutteridge Haskins and Davey Pty. Ltd., in conjunction with McColl Partners Pty. Ltd. and D. Naunton, to review all possible options for the future management of the Barr Creek and catchment area. The terms of reference for the study provide for the assessment of at least four on-farm strategies and five public scale schemes with respect to feasibility, cost, economic benefit both within the Kerang Region and along the River Murray, and social and environmental effects. The study is expected to be completed by July 1983.

10 The Salinity Committee was further advised that a consultative Committee, comprising landholders, municipalities, the Victorian Farmers and Graziers Association and Government departments, is associated with the Barr Creek catchment strategy study. The purpose of the consultative committee is to ensure that there is wide dissemination of the technical issues associated with the development of the strategy study before the report is finally completed.

11 With these arrangements in mind, the Committee believes there would be little purpose in undertaking a similar study,

nor would it be appropriate to reach a decision on the future management of the Barr Creek catchment area until the consultants' report is available.

12 The Committee will await the outcome of the consultants' strategy study for future management of the Barr Creek catchment area before making a final report to Parliament on the matter.

#### MINERAL RESERVE BASIN SCHEME

13 The Mineral Reserve Basin scheme, if completed, will extend the Lake Tutchewop evaporation scheme ten kilometres westwards to three additional evaporation basins. It is proposed that the combined Lake Tutchewop - Mineral Reserve Basin scheme would divert over 24% of the average annual Barr Creek flow and salt load.

14 Construction of the scheme by the State Rivers and Water Supply Commission has reached an advanced stage. Concrete structures for the Tutchewop pumping station, the pipeline connection to the channel, three bridges and three siphons have been completed. Pumps and equipment to the value of \$120,000 are on order and the Committee also understands that Notices to Treat have been served for the channel freehold strip, and two properties adjoining the basins.

15 The Committee is also aware of legal action underway in the Supreme Court of Victoria to prevent the State Rivers and Water Supply Commission from developing the Mineral Reserve Basin project. Legal Counsel for the plaintiff suggested to the Committee that its inquiry into the Mineral Reserve Basin scheme be curtailed until these actions had been determined.

16 After careful consideration, the Committee determined that its obligation to report to the Parliament as a matter of priority was paramount. The Committee elected to continue the inquiry with due caution and regard to the legal proceedings.

17 Following this decision, the Committee conducted a public hearing, wherein evidence was heard from the State Rivers and Water Supply Commission in relation to the Mineral Reserve Basin scheme. Submissions based on this evidence were then requested from the public. The Committee is currently considering these submissions and will hold further public hearings on the matter if appropriate.

18 It is the intention of the Committee to complete this inquiry as soon as possible so a final report on the Mineral Reserve Basin scheme can be made to the Parliament before June 1983.

## LAKE TYRRELL SCHEME

19 Lake Tyrrell is a salt lake situated some ninety kilometres west of Kerang. The proposed Lake Tyrrell scheme would involve a seventy five kilometre link between the Mineral Reserve Basin and this salt lake to allow a greater proportion of the Barr Creek water flow to be diverted for evaporation disposal.

20 Evidence has also been received from the State Rivers and Water Supply Commission in relation to this scheme and submissions have been invited from the public. As with the Mineral Reserve Basin inquiry, the Committee will hold further public hearings if necessary after consideration of submissions received.

21 The State Rivers and Water Supply Commission has advised the Committee that at this stage the Lake Tyrrell extension to the evaporation system is in abeyance because of poor estimated economic performance.

22 The Committee expects to make a final report to the Parliament on the Lake Tyrrell scheme in 1983.

## CONTROLLED ENVIRONMENT FACILITIES FOR THE SALINITY RESEARCH PROGRAMME

23 During its investigations the Committee has been informed by officers of the Department of Agriculture and the State Rivers and Water Supply Commission of the great potential for reducing salt loads to the River Murray by the re-use of irrigation runoff and groundwater for irrigation. This, however, would require the present pastures, crops and orchards to be irrigated with water of a higher saline content. The successful implementation of such a proposal therefore depends heavily on the outcome of research on how the increased salinity of irrigation water will interact with the soils and plants of Northern Victoria.

24 The Department of Agriculture informed the Committee that any current evaluation of the consequences to agricultural productivity of salinity and the extent to which drainage effluents can be used for irrigation is based on data collected overseas under conditions which are very different to those that prevail in Northern Victoria. The Department believes it is essential that research is undertaken to select and develop agricultural plants that are not only more salt tolerant but also highly productive under the environmental conditions of Northern Victoria.

25 The Committee was informed that the Department of Agriculture, through the Irrigation Research Institute at Tatura, has the largest group in Australia studying the re-use of saline groundwater and associated problems. However, detailed experimentation required to study these relationships can only be done satisfactorily in a controlled environment facility where complexities introduced by variable environmental and soil factors can be overcome or minimised. No such facility is available at the Irrigation Research Institute at this time due to funding difficulties.

26 The Committee understands that the provision of a controlled environment facility would require the erection of two temperature controlled glasshouses with ancillary laboratory facilities at an estimated cost of \$460,000.

27 At present a submission is before the Commonwealth Department of National Development and Energy for the above project to be considered for funding under the National Water Resources Programme. Should this submission be successful, the cost of the project would be shared equally by the Commonwealth and State Governments. A proposal has also been submitted to the Department of Agriculture by the Irrigation Research Institute to have the project considered for funding under the Victorian Development Fund Works Programme.

## CONCLUSIONS

28 Investigations to date have highlighted the need for urgent development of co-ordinated strategies and solutions to overcome the salinity problems facing widespread areas of Victoria. The Committee acknowledges that it has a responsibility to initiate the development of such co-ordinated strategies and to recommend the implementation of selected control programmes for the benefit of present and future generations of Victorians.

29 The Committee will not be in a position to make a recommendation on the future management of the Barr Creek catchment area until the consultants' <sup>(2)</sup> strategy report is available in July 1983.

30 The Committee believes that the conflict surrounding the Mineral Reserve Basin and Lake Tyrrell schemes should be resolved as soon as possible. Recommendations in relation to these two schemes will be made in the Committee's second report to Parliament next year.

31 The Committee has been advised that the extensive use of diluted groundwater for irrigation purposes could alleviate

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(2) Gutteridge Haskins and Davey Pty. Ltd., in conjunction with McColl Partners Pty. Ltd. and D. Naunton.

the salinity problems in Northern Victoria with minimal effect on River Murray salinity. However, the Committee believes that further locally based research is urgently required to evaluate the effect of how increased salinity of irrigation water will interact with the soils and plants of Northern Victoria.

32 There is a need for the construction of a controlled environment facility at the Tatura Irrigation Research Institute. The controlled environment facility is identified as essential for expediting research into salt tolerance of existing plants and the selection and development of additional salt tolerant plants.

33 Funding of the controlled environment facility on a joint State-Commonwealth basis would seem appropriate. The Committee supports the application by the Department of Agriculture for funding of the controlled environment facility under the Commonwealth National Water Resources Programme. However, the Committee believes that the Department should continue to seek State funding of the facility from the Victorian Development Fund Works Programme as a matter of urgency so that work can commence on the project as soon as possible.

#### RECOMMENDATIONS

34 The Committee recommends:

- (a) That the salinity research programme at the Tatura Irrigation Research Institute be expanded to include the selection and development of additional salt tolerant plants, and to permit investigation into the effects of increased salinity on the productivity of existing agricultural systems.
- (b) That priority be given to the construction of a controlled environment facility at the Tatura Irrigation Research Institute to enable the expansion of the salinity research programme.
- (c) That funds for the controlled environment facility should be instituted on a joint State-Commonwealth basis. Ideally such funding could be provided from the Commonwealth National Water Resources Programme and the Victorian Development Fund Works Programme.

Committee Room  
1 December 1982



SALINITY COMMITTEE

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*Second Report to the Parliament*

THE ACTIVITIES OF THE SALINITY COMMITTEE

October 1983

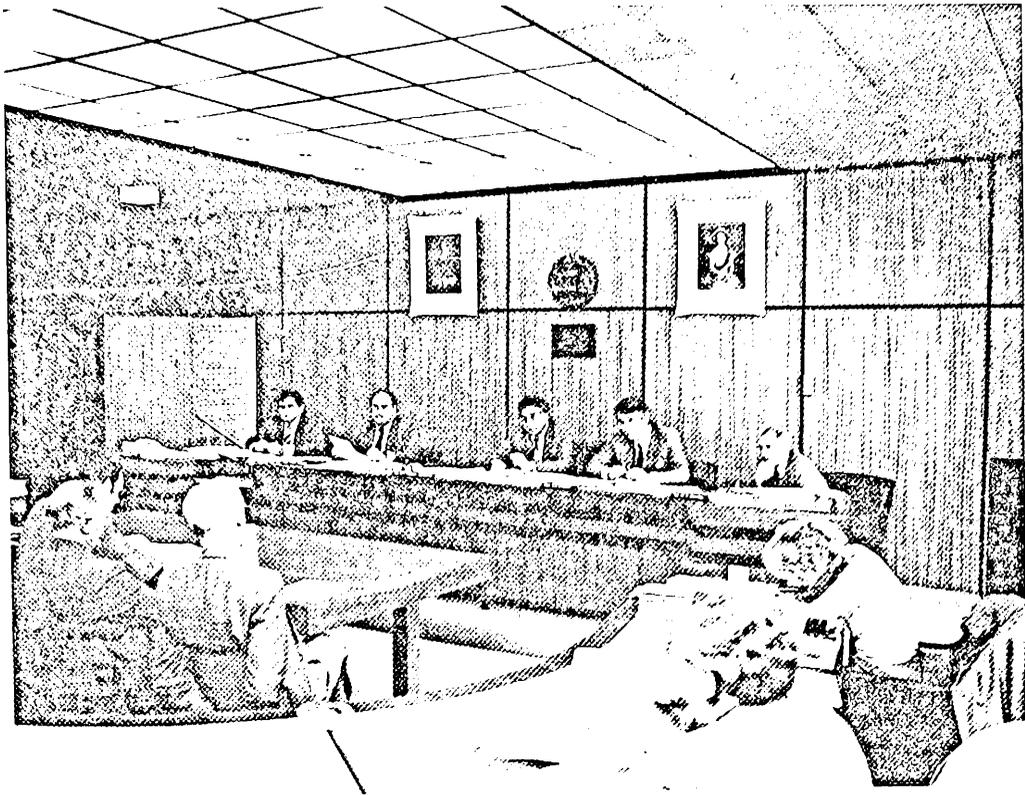
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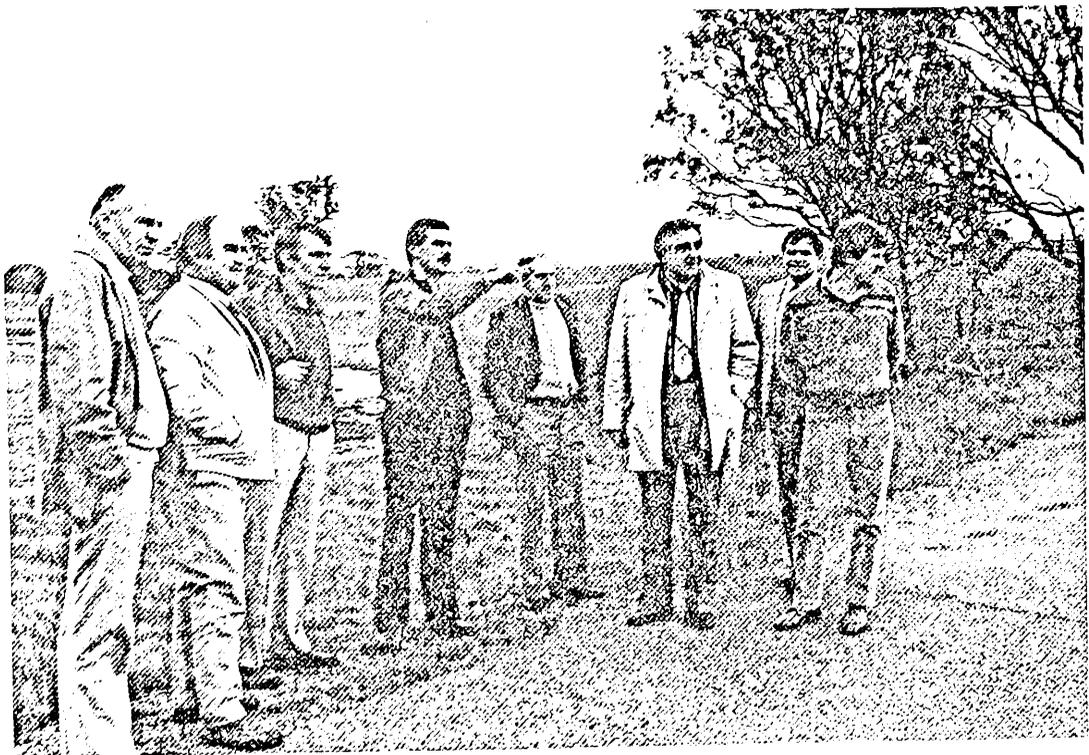
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D-No. 15/1982-83.





Members of the Salinity Committee taking evidence at the Sixth Regional Public Hearing, held at Shepparton. From left to right - Mr. E. Hann M.L.A. (Deputy Chairman), The Hon. J. Radford M.L.C., Mr. W. Fogarty M.L.A. (Chairman), The Hon. J. Ramsay M.L.A. and Mr. G. Stirling M.L.A. The Hon. L. McArthur M.L.C. was absent due to illness.



Members of the Salinity Committee, with officers of the Soil Conservation Authority and Forests Commission inspect salt-affected land on the Dundas Tableland in South-west Victoria.

## THE SALINITY COMMITTEE

### COMMITTEE MEMBERS

Mr. W. F. Fogarty, M.L.A. (Chairman)  
Mr. E. J. Hann, M.L.A. (Deputy Chairman)  
Mr. G. F. Stirling, M.L.A.  
The Hon. J. H. Ramsay, M.L.A.  
The Hon. L. A. McArthur, M.L.C.  
The Hon. J. W. S. Radford, M.L.C.

### COMMITTEE STAFF

Mr. G. M. Hunter, Director of Research.  
Mr. G. J. Senn, Secretary.  
Mrs. P. J. Hansson, Stenographer.  
Mr. Q. G. Farmer-Bowers, Research Officer,  
courtesy of State Rivers & Water Supply Commission.  
Mr. J. I. Day, Research Officer,  
courtesy of Department of Agriculture.

### CONSULTANTS TO THE COMMITTEE

ACIL Australia Pty. Ltd.  
Gutteridge, Haskins and Davey Pty. Ltd.  
Australian Groundwater Consultants Pty. Ltd.  
School of Agriculture and Forestry,  
University of Melbourne.

## TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
The Committee's Objective and Method of Operation	1
The Structure and Timetable of the Inquiries	2
Component Inquiries	2
Timetable	4
Barr Creek Catchment & the Mineral Reserve Basin & Lake Tyrell Schemes	6
Community Consultation	6
Visits and Inspections	6
Discussions and Meetings	7
Submissions	8
Public Hearings	8
Restricted Hearings	10
Community Conferences	10
Other Methods	10
Research and Advisory Programme	10
Consultant Studies	10
Background Papers	12
Discussion Papers	13
Reporting	13
Publicity	13
The Committee's Resources	14
Staff	14
Budget Estimate	14

### APPENDICES

1	Example of advertisement for a Regional Hearing	16
2	Membership of Research Advisory Group	17
3	Advertisement inviting Registration of Consultants	18
4	List of consultants registered with the Salinity Committee	19
5	Standard working arrangements and general conditions for consultancy engagements	22
6	Departmental Salinity Liaison Committee	24
7	Advertisement inviting applications for the position of Director of Research	25

EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

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FRIDAY, 2 JULY, 1982

- 37 SALINITY COMMITTEE - The Honourable W.A. Landeryou moved, by leave, That the Honourables L.A. McArthur and J.W.S. Radford be members of the Salinity Committee.  
Question - put and resolved in the affirmative.
- 

EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

---

THURSDAY, 1 JULY, 1982

- 37 COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the Legislative Council concurring with the Resolutions of this House dated 1 July 1982 establishing the respective Committees - (a) Mr. Fogarty, Mr. Hann, Mr. Stirling and Mr. Wood# be appointed members of the Salinity Committee.  
\* \* \* \* \*  
(Mr. Fordham) - put and agreed to.

TUESDAY, 24 MAY, 1983

- 14 SALINITY COMMITTEE - Motion made, by leave, and question - That Mr. Ramsay be appointed a member of the Salinity Committee (Mr. Fordham) - put and agreed to.
- 

# Mr Wood resigned from the Legislative Assembly on 29 March 1983.

TERMS OF REFERENCE

JOINT RESOLUTION OF THE LEGISLATIVE COUNCIL  
AND LEGISLATIVE ASSEMBLY

---

1 July 1982

- 1 That a joint Select Committee be appointed to inquire into and report upon the salinity of land and water with particular reference to -
  - (a) the social, environmental and economic effects of -
    - (i) dry land salinity;
    - (ii) salinity associated with irrigation; and
    - (iii) increased salinity in rivers and streams as a result of factors within Victorian control;
  - (b) opportunities for co-operative efforts in salinity control involving other State Governments and the Australian Government;
  - (c) methods of meeting the costs of salinity control; and
  - (d) administrative and other arrangements for salinity control, including integration with other aspects of land and water management.
- 2 That, in respect of the terms of reference, the Committee shall give priority to an inquiry into the Barr Creek catchment and the Mineral Reserve Basin and Lake Tyrell schemes and is required to report thereon to the Houses within 6 months.
- 3 That, subject to paragraph 2, the Committee shall give priority to such investigations referred to it by resolution of the Legislative Council and the Legislative Assembly.

8 December 1982

- 1 That the Joint Select Committee on Salinity inquire into and report by 31 December 1983 upon the undermentioned matters together with any other matters the Committee considers to be relevant thereto:
  - (a) The quantity of water available for use in Northern Victoria and the quantities that are expected to be available following

the completion of Dartmouth Reservoir,  
including water -

- (i) already allocated; and
  - (ii) available to be allocated.
- (b) The control of such water and the uses to which it should be allocated so as to best serve conjunctive economic, social and environmental objectives, including -
- (i) salinity control;
  - (ii) urban water supply;
  - (iii) rural water supply for domestic and stock use;
  - (iv) industrial water supply;
  - (v) irrigation;
  - (vi) recreation, both active and passive;
  - (vii) conservation of native flora and fauna and migratory fauna;
  - (viii) dilution of drainage water or effluents from any of the aforesaid uses, with a view to re-use in Victoria or to the maintenance of satisfactory water quality in the River Murray;
  - (ix) generation of hydro-electric energy; and
  - (x) flood mitigation.
- (c) With regard to the allocation of water for irrigation, the volume of water which should be allocated to -
- (i) existing constituted irrigation districts;
  - (ii) lands which might be included in irrigation districts; and
  - (iii) lands irrigated by private diversion.
- (d) In respect of the Goulburn-Murray Irrigation District the desirability of amending the Water Act 1958 in respect of matters affecting the apportionment of water rights including -
- (i) the adoption of an alternative water right formula of the type contained in Schedule 3B to the Act;
  - (ii) the recognition of holdings created by subdivision since 1 July 1959, and any future subdivision, for the purpose of applying the above mentioned water right formula; and
  - (iii) the transfer of water rights between holdings; the cancellation and reallocation of unused water rights and the attachment of conditions to any future allocations.

received by or produced by the former Public Works Committee in relation to the similar reference received by that Committee pursuant to the provisions of the Public Works Committee Act 1958 be referred to the Joint Select Committee on Salinity.

## ACTIVITIES OF THE SALINITY COMMITTEE

### INTRODUCTION

- 1 This report records the activities of the Salinity Committee to date, outlines the approach that the Committee is taking to its Terms of Reference, and describes the proposed programme for the rest of this year and for 1984.
- 2 The Committee was established as a Parliamentary Joint Select Committee in July, 1982, to inquire into the problems of salinised soil and water in Victoria and into the means by which the control of such salinity might be encouraged. In proposing the establishment of the Committee, the Government expressed concern about restoring and preserving the quality of soils and waters wherever they are threatened by salinity, and committed itself to giving the matter a high priority. It was noted that

*"Salinity has been a major problem, limiting and progressively reducing productivity of agricultural land, the quality of our soils, rivers and streams, and the environment in widespread areas of Victoria. Up to 200,000 hectares are at present affected. More than 100,000 hectares of irrigated land and much more than 80,000 hectares of other land are affected. Unless this major problem is tackled seriously, we face the prospect of huge areas of prime agricultural land becoming wasteland."*

- 3 In December, 1982, the Committee was given the additional, but related, task of inquiring into the allocation of water in Northern Victoria.
- 4 The Committee has already conducted preliminary hearings and inspections, received submissions and prepared a progress report relating to its inquiry into salinity. It has appointed research and administrative staff, established a Departmental Salinity Liaison Committee, conducted a series of regional public hearings, inspected salt-affected areas of the State, and is pursuing other initiatives as described later in this report.

### THE COMMITTEE'S OBJECTIVE AND METHOD OF OPERATION

- 5 The objectives of the Committee are to address the Terms of Reference effectively, comprehensively and efficiently.
- 6 To pursue these objectives, the Committee is instituting a set of parallel inquiries. Each inquiry will generally contain the following stages :
- (i) Preparation of reports or discussion papers

giving background information and, where appropriate, identifying options for overcoming problems.

- (ii) Concurrently with (i), calling for submissions which may be able to contribute to the reports under preparation.
- (iii) Following the release of the background reports or papers, calling for submissions which respond to the information and ideas they contain.
- (iv) Conducting public hearings, informal discussions, conferences, visits and inspections.
- (v) Analysing and considering the available information, and preparing progress and final reports.

7 The stages constitute a programme of community consultation, research and analysis, and reporting. It is supported by the necessary administration and publicity.

## THE STRUCTURE AND TIMETABLE OF THE INQUIRIES

### Component Inquiries

8 The two sets of Terms of Reference, covering the salinity issues and the allocation of water, are to be addressed by conducting the following four related inquiries:

- (i) Salinity Inquiry A: The effects of salinity and the effectiveness of existing counter measures

Subjects :

- (a) The social, environmental and economic effects of (i) dryland salinity, (ii) salinity associated with irrigation, and (iii) increased salinity in rivers and streams as a result of factors within Victorian control.
- (b) The effectiveness of existing techniques in controlling elevated levels of salt in soil, groundwater and surface water.

The Terms of Reference specifically require Subject (a) to be addressed. Subject (b) is not specifically included in the Terms of Reference. However, it must be considered in preparation for the Committee's assessment of the methods for facilitating salinity control. Both subjects have been included in the same inquiry to allow the related public hearings to be conducted efficiently. The Committee is including in this Inquiry the preparation of consultants' reports and a series of regional and Melbourne based public hearings on both subjects.

(ii) Salinity Inquiry B: Control of salinity

Subjects :

- (a) The suitability of salinity control techniques and impediments to their application.
- (b) Opportunities for co-operative efforts in salinity control involving other State Governments and the Australian Government.
- (c) Methods of meeting the costs of salinity control.
- (d) Administrative and other arrangements for salinity control, including integration with other aspects of land and water management.

Subject (a) is not specifically included in the Terms of Reference but must be considered in preparation for addressing (b), (c) and (d).

The Committee is including in this inquiry a consultant's study on Subject (a), the preparation of discussion papers on (b), (c) and (d), a community conference to discuss the issues raised, and a series of regional and Melbourne-based public hearings.

(iii) Water Allocation Inquiry A: The use of water for irrigation in Northern Victoria

Subjects :

- (a) The allocation of water for irrigation.
- (b) In respect of the Goulburn-Murray Irrigation District, the desirability of amending the Water Act 1958 in respect of matters affecting the apportionment of water rights.

The Terms of Reference specifically require both these subjects to be addressed. In the early stages of the inquiry, the Committee will seek submissions on the interim recommendations of the former Public Works Committee. Since information on the competing demands for water for several non-irrigation purposes is unlikely to become available until the end of 1983, the inquiry will initially focus on the principles associated with the allocation of the irrigation component and with the apportionment of water rights. Findings of the current inquiry of the Public Bodies Review Committee into the management of irrigation in

Victoria will be taken into account.

The Ministry of Water Resources and Water Supply, the State Rivers and Water Supply Commission, and others will be requested to prepare background and discussion papers for release before a community conference. Subsequent public hearings will then jointly address the subjects of Inquiry A and Inquiry B on water allocations.

- (iv) Water Allocation B: Allocation of water for non-irrigation purposes in Northern Victoria

Subjects :

- (a) The quantity of water available for use in Northern Victoria and the quantities that are expected to be available following the completion of Dartmouth Reservoir.
- (b) The control of such water and the uses to which it should be allocated so as to best serve conjunctive economic, social and environmental objectives.

Submissions on the interim recommendations of the former Public Works Committee may also be invited for this inquiry. The State Rivers and Water Supply Commission will be asked to provide any information that has become available since evidence for the Public Works Committee was prepared. Information from the State Rivers and Water Supply Commission, Forests Commission and River Murray Commission on the requirements for river dilution and forest watering is not expected until the end of 1983. The Committee is concerned about the long delay in the preparation of this information. Subsequent public hearings will then jointly address the subjects of Inquiry A and Inquiry B on water allocations.

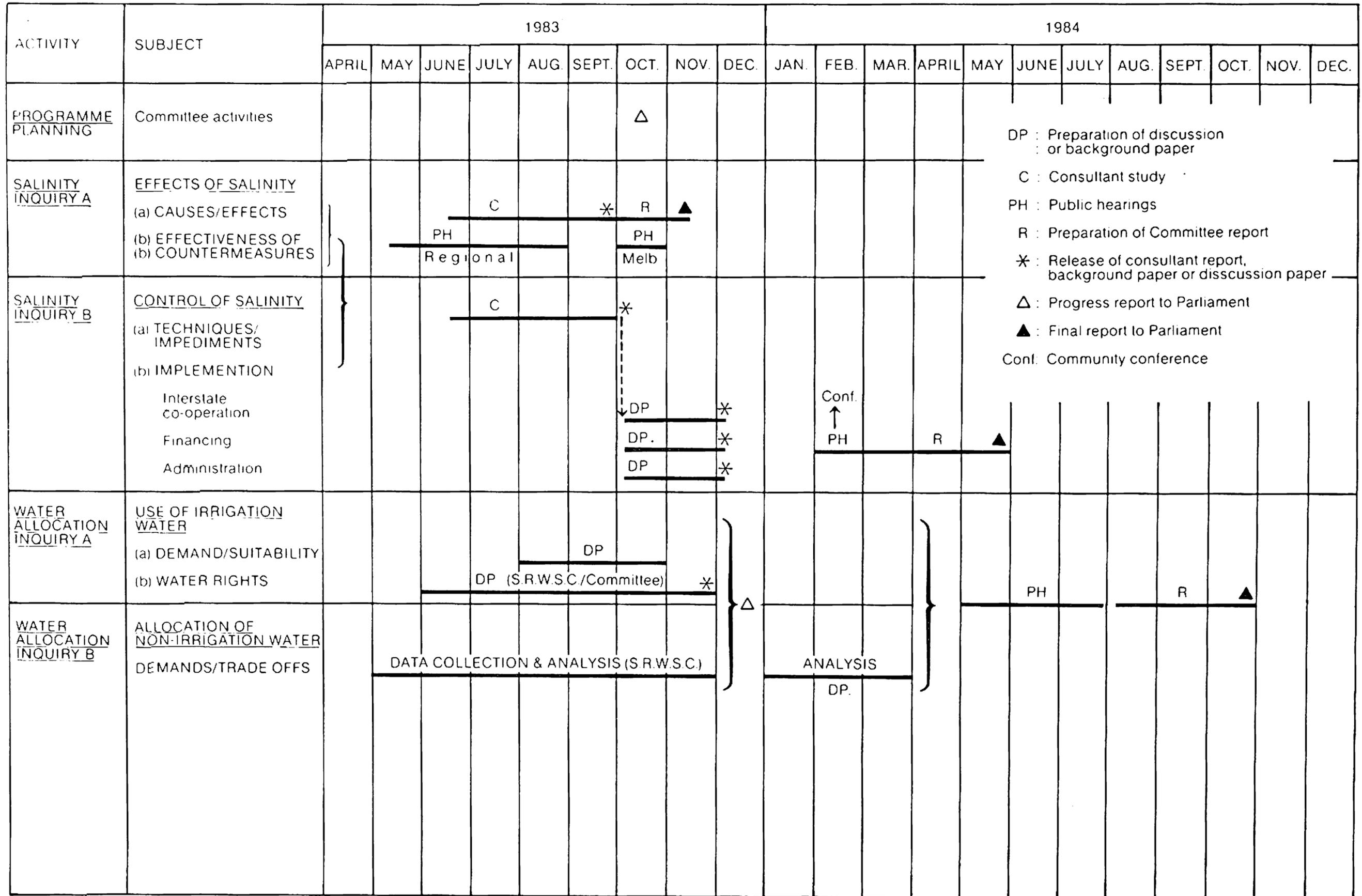
- 9 The community consultations, research programme and reporting associated with these inquiries are described in paragraphs 15 to 38.

#### Timetable

- 10 The timetable for the inquiries is shown diagrammatically in Figure 1 and is designed to allow the completion of a final report by December 1984. The research programme has commenced with priority being given to Salinity Inquiries A and B. Public hearings have been timed to follow the release of background documents. The Committee proposes to hold two community conferences in Bendigo and Shepparton

FIGURE 1

**SALINITY COMMITTEE PROGRAMME-IN-PRINCIPLE**



- refer paragraph 28.

Barr Creek Catchment and the Mineral Reserve Basin and Lake Tyrell Schemes

- 11 The Terms of Reference require the Committee to give priority in its Salinity Inquiry to the above aspects of salinity management in the Kerang region. The Committee responded by submitting a progress report to Parliament in December, 1982. The report noted that (a) the Mineral Reserve Basin project was under construction but the subject of litigation; (b) a comprehensive consultant report on the Barr Creek catchment was being prepared for the State Rivers and Water Supply Commission; and (c) the scheme to extend the Mineral Reserve Basin project to include disposal of saline water to Lake Tyrell was currently uneconomic.
- 12 Following discussions with the Minister of Water Supply earlier this year, the Committee has concluded that the inquiry into the Kerang region should be undertaken in the same manner as its inquiries into other salt-affected regions and should be integrated into its general programme for 1983 and 1984. Specifically, the Committee has advised the Minister that it would be impracticable to complete a thorough inquiry into the Mineral Reserve Basin Scheme within six months, and estimated that such an inquiry would require two years.

COMMUNITY CONSULTATION

- 13 Most of the information available to the Committee is obtained through consultation with government and non-government organisations and individual people. The Committee is pursuing several avenues of consultation in order to provide a focal point for consideration of the issues by the community at the regional and State level.

Visits and Inspections

- 14 The Committee, in association with officers of the State Rivers and Water Supply Commission, and the Department of Agriculture, inspected salt-affected areas and salinity control projects in the Kerang region in August, 1982, and in the Shepparton region in September, 1982. In February, 1983, it was guided by officers of the Soil Conservation Authority on an inspection of dryland salting in the Mallee, Maryborough, Bendigo and Benalla areas. In July this year, with officers of the Soil Conservation Authority and Forests Commission, it visited the Dundas Tableland and adjacent areas of the Western District affected by dryland salting and high salinity in rivers.
- 15 During these visits extensive opportunities were provided to discuss the salinity problem with land owners. The Committee will seek to co-ordinate further inspections of

salt-affected areas, salinity control schemes, and areas relevant to the Water Allocation Inquiries, with the regional public hearings outlined in Table 1.

- 16 Inter-state visits are also of importance. In June, 1983, the Committee visited Western Australia in which the severity of dryland and stream salinity has provided the incentive for major research and control programmes. Discussions were held with representatives from the Western Australia Department of Agriculture, Public Works Department and Department of Conservation and the Environment, and from the C.S.I.R.O. Division of Groundwater Research. A two-day inspection of salinity mitigation and research projects south-west of Perth was also undertaken.
- 17 The Committee intends to visit South Australia in October, 1983, and New South Wales early next year in order to inspect relevant areas and projects and to discuss salinity issues with appropriate authorities. The opportunities for further co-operation between Victoria and the Australian Government will be discussed with Federal authorities in Canberra next year.

#### Discussions and Meetings

- 18 The Committee held background discussions during August-November, 1982, with officers of the State Rivers and Water Supply Commission, Soil Conservation Authority, Department of Agriculture, Department of Minerals and Energy and Forests Commission. To assist the Committee in planning its programme, the Director of Research and Secretary conducted a round of discussions with officers of the seven government departments directly involved in salinity control and water management. The Director of Research visited Canberra for discussions with staff of the C.S.I.R.O., River Murray Commission, Federal Department of Energy and Resources, and Senate Standing Committee on Science and the Environment, and accepted invitations to outline the activities of the Committee to meetings of the Goulburn Irrigation Region Drainage Action Committee, the Victorian Irrigation Research and Promotion Organisation (VIRPO) and the Irrigators and Water Users Committee of the Victorian Farmers and Graziers Association. He also attended the annual meeting of the Murray Valley Development League, the conference of the Irrigation Advisory Boards and, during a private visit to the U.S.A. in July, the International Symposium on the State-of-the-Art Control of Salinity.
- 19 Members of the Committee attended a conference on "Irrigation - Its Relevance To The National Economy In A Modern Environment" conducted by VIRPO in July, 1983.
- 20 The Committee will continue to conduct informal discussions as appropriate. Invitations will also be extended to relevant Ministers of the Victorian Government to outline

to the Committee related developments in Government policy and to discuss the Committee's activities.

### Submissions

- 21 Written submissions to the Committee provide an important source of information and are a useful forerunner to the presentation of evidence at public hearings.
- 22 The Committee has sought access to submissions received by the former Public Works Committee during its inquiries into Water Allocation in Northern Victoria and into a number of salinity control projects. In August, 1982, the Salinity Committee invited submissions on any of the Terms of Reference for its Salinity Inquiry.
- 23 The Committee is seeking further submissions of relevance to each stage of its four inquiries. Invitations to submit will be advertised in the metropolitan and regional press, through the Committee's newsletter, and by letter to organisations of particular relevance.

### Public Hearings

- 24 Advertised hearings that are open to the public and the news media and for which a transcript of proceedings is made, are a key component in the Committee's programme. They are an important means of acquiring information and placing on public record the view of concerned organisations and individuals.
- 25 Public hearings have been held in Melbourne to enable the State Rivers and Water Supply Commission to outline the Shepparton Phase B Programme and schemes for Lake Charm and Karadoc Swamp (October, 1982) and to describe its plans for work relating to the Terms of Reference of the Water Allocation Inquiry (April, 1983). The State Rivers and Water Supply Commission was to provide the Committee with further evidence in early 1983 relating to the Shepparton Phase B Programme. The Committee is concerned that this has not eventuated. A further programme of hearings in Melbourne is being planned. Its principal purpose will be to obtain the views of government organisations and other Melbourne-based groups.
- 26 In addition, a programme of Regional Public Hearings has commenced. The subject, location and timing is shown in Table 1. The locations have been chosen on the basis of the major salt-affected regions in Victoria and irrigation areas in the Murray Valley. The hearings have been timed to derive greatest benefit from the preparation and release of the preliminary research reports and discussion papers. Priority is given to the Kerang region, as required by the Terms of Reference. An example of an advertisement for a Regional Hearing is given in Appendix 1.

Table 1: Timetable of Regional Public Hearings.

Subject* Region	Effects of Salinity & Effectiveness of Counter-Measures	Implementation of Salinity Control	Water Allocation & Management of Water Rights.
Kerang/Swan Hill	9 May, 1983 (Kerang)	} Early 1984	Mid-1984
Shepparton	1 September, 1983. (Shepparton)		Mid-1984
Sunraysia	4 July, 1983 (Mildura)		Mid-1984
Mallee	5 July, 1983 (Swan Hill)	} Early 1984	
North Central	20 July, 1983 (Bendigo)		
Western District	27 July, 1983 (Hamilton)		

\* At each hearing the subject given in the table will be the central subject on which evidence will be sought. However, the Committee may, at its discretion, accept evidence on any other of its Terms of Reference.

### Restricted hearings

- 27 While seeking to conduct as many as possible of its hearings in public, the Committee recognises that at times it may be necessary to hold some hearings in camera. A restricted hearing was held in September, 1982, in Melbourne, at which the State Rivers and Water Supply Commission outlined aspects of the litigation relating to the Mineral Reserve Basin Scheme.

### Community Conferences

- 28 Community conferences provide opportunities for information on relevant issues to be reported, ideas to be discussed and the Committee members to meet with participants in a less formal situation that can occur at public hearings. The Committee is seeking the assistance of appropriate organisations to plan and conduct a community conference on the control of salinity, which will be held at Bendigo in February 1984. A second conference, on the use of irrigation water and management of water rights, is proposed for 1984, at Shepparton.

### Other Methods

- 29 The Committee is encouraging community participation in its inquiries including the involvement of existing interested organisations that could respond both to the Committee's inquiries and to any other related planning for the use of water and land.

### RESEARCH AND ADVISORY PROGRAMME

- 30 To assist the Committee in the collation, independent analysis, and presentation of data, a research programme has been initiated. It is to be composed of consultant studies, the preparation of background papers and discussion papers, and contributions to the preparation of Committee reports. At the request of the Committee, advice is provided to it on various issues that may arise during the course of the inquiries. The programme is under the day-to-day management of the Director of Research. A Research Advisory Group comprising a number of non-government experts in land and water management has been formed to advise on the programme. The members of the Advisory Group are listed in Appendix 2.

### Consultant Studies

- 31 Subject to the approval of the Speaker of the Legislative Assembly and of the Treasurer, the Committee will commission studies by private consultants when the required collection and analysis of information cannot be adequately undertaken within the necessary time by staff of the Committee or by government agencies.
- 32 To ensure that all interested persons and groups will have

the opportunity to compete for work to be commissioned, the Committee decided to open a Register of Consultants. Press advertisements were placed during March, 1983, inviting consultants to register and to provide details of their relevant expertise and experience. A copy of the advertisement is given in Appendix 3. The currently registered consultants are listed in Appendix 4. When the Committee wishes to commission a study, it selects from this Register a number of consultants appropriate to the task, and invites proposals. Consultants commissioned by the Committee will be required to agree to a standard set of working arrangements and general conditions as prescribed by the Committee and shown in Appendix 5. Each study will be managed by the Committee and the Director of Research.

33 In June this year, the Committee commissioned consultants to undertake two related studies which will provide information for the Salinity Inquiries. The final reports will be available in October. Both studies require the systematic collation of data from government and non-government sources and a critical assessment and interpretation of the data. A Departmental Salinity Liaison Committee, comprising nominated representatives from government organisations, as shown in Appendix 6, has been formed to facilitate access by the consultants to relevant information located in these organisations.

34 The team of consultants who are contributing to both studies has been drawn from ACIL Australia Pty. Ltd., Gutteridge, Haskins and Davey Pty. Ltd., Australian Groundwater Consultants Pty. Ltd., and the School of Agriculture and Forestry, University of Melbourne. ACIL Australia Pty. Ltd. is leading a study of the causes, extent and effects of salinity, and Gutteridge, Haskins and Davey is leading the second study on the application of salinity control techniques in Victoria. The purpose and objectives of each study are as follows :

(i) The causes, extent and effects of salinity.

The purpose of the study is to provide the Committee with a comprehensive and systematic description of the causes and consequences of man-induced salinity so that the Committee can be confident that it has the most recent information on the problem and can reliably assign priorities to its subsequent inquiries into remedial measures.

The specific objectives are :

- (a) To collate existing information on the physical causes, the extent of severity, and the social, environmental and economic effects of land and water salinity that is associated with activities under Victorian control.

- (b) To assess the reliability of available information as a basis for policy decisions.
  - (c) To identify significant gaps in the understanding of the causes, extent and effects of salinity associated with activities under Victorian control.
- (ii) The application of salinity control techniques in Victoria

The purpose of the study is to provide the Committee with an understanding of the various physical and bio-physical techniques that are available to control salinity in the short and long term, and of the current impediments to their use. The results will assist the Committee in its subsequent inquiries into the means by which the implementation of the appropriate techniques can be encouraged.

The specific objectives are:

- (a) To assess the success of physical and bio-physical techniques that have already been implemented to control land and water salinity that is associated with activities under Victorian control.
- (b) To collate existing data on relevant characteristics of possible control techniques.
- (c) To assess the short-term and long-term advantages and disadvantages of implementing the possible control techniques in salt-affected regions of Victoria.
- (d) To identify the current impediments to the development of techniques and further application of the most advantageous techniques.
- (e) To identify significant data gaps of relevance to the above objectives.

#### Background papers

- 35 The Committee will encourage and request the preparation of papers, generally for public release, which provide background information of relevance to the inquiries. The Committee has already received background briefing from several government departments, and information on their research programmes and forward works programmes that are of relevance to the inquiries.

### Discussion papers

- 36 In order to promote community discussion and response, the Committee proposes to precede most of its public hearings with the release of discussion papers. These papers will identify the important problems and issues and suggest the options available for addressing them.
- 37 As shown in Figure 1, discussion papers on the implementation of salinity control, the use of irrigation water, the management of water rights, and the allocation of non-irrigation water, are planned. Also under consideration is the preparation of a paper outlining broadly based alternatives for regional development in the Murray Valley. These papers may be prepared by staff of the Committee, government organisations or consultants.

### REPORTING

- 38 The Committee will publish information through the release of consultants' reports, background papers and discussion papers, as noted above. In addition, transcripts of the proceedings of public hearings are available.

The following schedule of reports to Parliament has been adopted by the Committee.

### Salinity and Water Allocation Inquiries

The Activities of the Salinity Committee  
- October 1983.

#### Salinity Inquiry

<u>First Report</u>	Progress Report on the inquiry into the Barr Creek Catchment and Mineral Reserve Basin and Lake Tyrell Schemes - Tabled December 1982
<u>Second Report</u>	The Effects of Salinity - November 1983
<u>Third Report</u>	The Implementation of Salinity Control Measures - May 1984

#### Water Allocations Inquiry

<u>First Report</u>	Progress Report - November 1983
<u>Second Report</u>	The Allocation of Water in Northern Victoria - November 1984

### PUBLICITY

- 39 To ensure that the community, particularly in the Murray Valley and other salt-affected areas of Victoria, is aware of the activities of the Committee and is therefore ready to respond to the inquiries, the Committee is seeking to implement an effective publicity programme. It is grateful for the assistance it is receiving in this matter from the Publicity Unit of the Department of the Premier and Cabinet.

40 The Committee has already agreed that, as part of the publicity programme commencing in October, 1983. a Newsletter, outlining the progress and plans of the inquiries, will be sent to all relevant organisations and interested individuals.

41 A mailing list has been prepared which includes the following categories of organisations, segregated according to regions:

- \* Federal, State and Local government organisations
- \* farming associations
- \* soil conservation and irrigation advisory groups
- \* water, sewerage and drainage trusts
- \* salinity and irrigation action groups
- \* news media
- \* regional libraries.

#### THE COMMITTEE'S RESOURCES

##### Staff

42 The Salinity Committee is currently serviced by a full-time Secretary and Director of Research and a Stenographer. The Secretary, Mr. Gary Senn, is a permanent officer of the Parliament. The Director of Research, Mr. Graham Hunter, is a seconded public servant who was appointed in February 1983 after the vacancy was nationally advertised (see Appendix 7). The Committee interviewed fifteen applicants for the post. The term of Mr. Hunter's appointment is two years. The Committee's Stenographer is Mrs. Pamela Hansson.

43 While this level of staffing was adequate for the planning and early phases of the inquiries, the Committee's resources needed to be augmented as the programmes of public hearings and research grew from mid-1983. Accordingly, two positions of Research Officer were established and applications for secondment from government departments to these positions advertised in July, 1983. The positions have now been filled by officers seconded by courtesy of the Department of Agriculture and State Rivers and Water Supply Commission.

##### Budget Estimate

44 The budget estimate to cover expenses that are likely to be incurred by all the inquiries under the Committee's Terms of Reference, is summarised in Table 2.

TABLE 2: BUDGET ESTIMATE - 1983/84.

Summary of estimates submitted by the Salinity Committee  
for approval in the 1983/84 Budget.

<u>Item</u>	<u>Amount</u>
<u>Fixed expenditure</u> (Items for which there is already ongoing commitment for provision of funds).	
Committee meeting allowance	\$ 13,400
Staff salaries	76,000
Printing of Parliamentary Reports	<u>8,000</u>
Total fixed expenditure	97,400.
<u>Variable Expenditure</u> (Items requiring approval of Treasurer and Speaker).	
Advertising	\$ 11,200
Community conferences	2,000
Consultants	73,800
Incidental expenses	1,300
Office expenses (1)	65,000
Postage	3,000
Printing of consultant reports, discussion papers and transcripts	21,000
Research assistance (2)	20,000
Stationery	500
Travel and accommodation (3)	<u>13,500</u>
Total variable expenditure	211,300

(1) Allows for lease of office accommodation

(2) Minimal allowance for additional research assistance

(3) Provides for accommodation during regional hearings and travel to New South Wales, South Australia and Canberra.

Committee Room  
7th September, 1983

APPENDIX 1

Example of advertisement for a Regional Hearing



**SALINITY COMMITTEE**  
**How Does Salinity**  
**Affect You?**

**KERANG REGION PUBLIC HEARING**  
**9 MAY 1983**

The Parliamentary joint select committee on salinity has been established to inquire into:

The effects of land and water salinity throughout Victoria and the allocation of water in Northern Victoria.

The first of a series of regional public hearings will be held by the committee at the Kerang Shire Offices, Victoria St., Kerang, commencing at 9 a.m.

Organisations and individuals wishing to make submissions to the hearing on any of the committee terms of reference but particularly on the SOCIAL, ENVIRONMENTAL AND ECONOMIC EFFECTS OF SALINITY AND THE EFFECTIVENESS IN THE KERANG — SWAN HILL AREA should register their intent by sending a brief outline of their proposed submission to:

The Secretary,  
Salinity Committee,  
Parliament House,  
Melbourne 3002.

No later than Monday 2 May, 1983.

W. F. Fogarty, M.P.  
Chairman.

APPENDIX 2

Membership of Research Advisory Group

Professor Sandford Clark	Harrison Moore Professor of Law University of Melbourne
Dr. Geoffrey Downes	Consultant, formerly Chairman Soil Conservation Authority, and formerly Director of Ministry for Conservation
Dr. Bob Dumsday	Senior Lecturer in Agricultural Economics, School of Agriculture, Latrobe University
Mr. Neil Lawrance	Farmer, Gatum R.S.D, Balmoral
Professor Alan Lloyd	Professor of Agricultural Economics, Department of Agriculture and Forestry, University of Melbourne
Professor Tom McMahon	Professor of Agricultural Engineering, University of Melbourne
Dr. Adrian Peck	Principal Research Scientist, Division of Groundwater Research, C.S.I.R.O. Western Australia
Mr. Russell (F.R.) Smith	Farmer, Pyramid Hill
Mrs. Sharman Stone	Teacher, Rural Sociologist

APPENDIX 3

Advertisement inviting Registration of Consultants



**REGISTRATION OF  
CONSULTANTS  
SALINITY COMMITTEE**

The Victorian Parliament has appointed a Joint Select Committee to inquire into the salinity of land and water with particular reference to —

(a) the social, environmental and economic effects of:

- (i) dry land salinity;
  - (ii) salinity associated with irrigation; and
  - (iii) increased salinity in rivers and streams as a result of factors within Victorian control.
- (b) opportunities for co-operative efforts in salinity control involving other State Governments and the Australian Government;
- (c) methods of meeting the costs of salinity control; and
- (d) administrative and other arrangements for salinity control, including integration with other aspects of land and water management.

The Committee is required to give priority to an inquiry into the Barr Creek catchment, the Mineral Reserve Basin and Lake Tyrrell schemes, and to the allocation of water in Northern Victoria following the completion of the Dartmouth Reservoir.

The work of the Committee will be aided by consultancy studies when appropriate.

Consultants who may be able to undertake studies relevant to any of the terms of reference of the Committee are now invited to register their interest. Information forwarded by prospective consultants should include: sources available for consultancy work, including areas of special skill or expertise; previous experience in consultancy; and a statement of those topics under the terms of reference of the Committee for which consultancy work could be undertaken.

Registrations should be sent by Friday 8 April 1983 to:

**Secretary,  
Joint Select Committee on Salinity,  
Parliament House,  
Melbourne, 3000.**

*For further information, telephone (03) 6518 911  
Ext. 252.*

APPENDIX 4.

List of consultants registered with the  
Salinity Committee

ACIL Australia Pty. Ltd.  
Consultant in Agriculture and Natural Resource Management  
Adrian Davey  
Applied Natural Resource Management  
Australian Agricultural Consulting and  
Management Company Pty. Ltd.  
Australian Groundwater Consultants Pty. Ltd.  
Geohydrologists & Engineers  
Binnie & Partners Pty. Ltd.  
Consulting Engineers  
Hugh Caffrey  
Formerly Secretary, Public Works Committee  
Caldwell Connell Engineers Pty. Ltd.  
Cameron McNamara  
Consultants  
Catchment Education Trust  
Catchment River and Coastal Engineering Pty. Ltd.  
Coffey & Partners Pty. Ltd.  
Consulting Engineers  
Commonwealth Scientific & Industrial Research Organisation  
Institute of Energy & Earth Resources  
Consulting and Research Pty. Ltd.  
Strategic & Development Planning  
Control Data Australia Pty. Ltd.  
Engineering Technology Centre  
Coopers & Lybrand Services  
Management Consultants  
Croft & Associates Pty. Ltdd.  
Consultants in Environmental Sciences  
Dames & Moore  
Environmental, Geotechnical, Mining. Energy  
and Planning Consultants  
Collin C. Donges & Associates Pty. Ltd.  
Consultants  
Dwyer Leslie Pty. Ltd.  
Applied Economists and Agricultirists  
Effective Management Pty. Ltd.  
Consultants to Government and Industry

Fisher and Dowell Pty. Ltd.  
Consultant Engineers, Surveyors & Planners

Forestry Technical Services Pty. Ltd.  
Consultants in Natural Resources Management

Kevin J. Foley & Associates Pty. Ltd.  
Management Consultants

Garlick & Stewart  
Consulting Engineers & Surveyors

Geoterrex Pty. Ltd.  
Geophysicists

Golder Associates Pty. Ltd.  
Consulting Geotechnical & Mining Engineers

Gutteridge Haskins & Davey Pty. Ltd.  
Consulting Engineers, Planners, Surveyors

Hanly Consulting Pty. Ltd.  
Applied Psychologists

David John  
Environmental Engineer

Keith Mc Nicol Pty. Ltd.  
Irrigation Control Equipment

Kinhill Stearns  
Engineers

John E. Low  
Environmental Policy & Planning

McGowan International Pty. Ltd.  
Agricultural Consultants - Australia

J. D. McKinnon & Partners  
Agricultural & Civil Consulting Engineers

McLachlan Group Pty. Ltd.  
Management Consultants

Dr. J. W. Marchant  
Geochemist

Maunsell & Partners Pty. Ltd.  
Consulting Engineers and Planners

J. L. Maver  
Consulting Civil Engineer

Dr. I. Molnar  
Agricultural Scientist

Natural Systems Research Pty. Ltd.  
Environmental Consultants

D. Naunton & Co.  
Consultants in Agriculture and Management

Neilson Associates  
Consultants in Planning, Research and Government Liaison

K. D. Nelson & Associates  
Consulting Civil Engineers

P.A. International  
Management Consultants

Planning Workshop Pty. Ltd.

Michael Read and Associates  
Agricultural Economists

SARDD  
Swinburne Applied Research & Development Division

Geoffrey A. Sawyer  
Geographer

Scott & Furphy Engineers Pty. Ltd.  
Consulting Engineers & Planners

W. D. Scott & Co. Pty. Ltd.  
Management Consultants

Sinclair Knight & Partners Pty. Ltd.  
Consulting Engineers

Siromath Pty. Ltd.

Social & Ecological Assessment Pty. Ltd.

Task Consultants Pty. Ltd.  
Research & Consulting Services

Techsearch Inc.  
The South Australian Institute of Technology

R. Travers Morgan Pty. Ltd.  
Planning, Engineering, Economic & Environmental Consultants

University of Melbourne  
Institute of Applied Economic & Social Research

Urban & Environmental Planning Group

D. F. Walker  
Land Valuer

I. Wallis & Associates Pty. Ltd.  
Environmental Science, Water Resources and Civil Engineering

Wardrop, Humphries and Associates  
Agricultural, Mining and Financial Consultants

Water Science Laboratories Pty. Ltd.  
Environmental Scientists & Engineers

Willing & Partners Pty. Ltd.  
Consulting Engineers

Winders Barlow & Morrison Pty. Ltd.  
Consulting Engineers

## APPENDIX 5

### Standard working arrangements and general conditions for consultancy engagements

- 1 The Salinity Committee will invite several of those consultants registered with it to submit proposals to it outlining -
  - (a) personnel to be deployed by the consultant on the project; their qualifications and experience;
  - (b) proposed methodology;
  - (c) estimate of resources to be allocated to project;
  - (d) fees to be charged.
- 2 A Steering Committee will oversight the study and will be required to approve the work programme.
- 3 All consultant's staff associated with the study will be subject to the approval of the Steering Committee and no changes in consultant's staff will be made except under conditions approved by the Steering Committee.
- 4 All reports of the consultant will be submitted to the Steering Committee and the consultant will be solely responsible for each report.
- 5 The consultant will be responsible for typing the Committee's reports. However, the cost of publishing the reports will be borne by the Committee.
- 6 The consultant will be required to submit to the Steering Committee, on a prescribed basis, a written statement outlining -
  - (a) consultant days worked by each staff member associated with the study.
  - (b) matters requiring attention by the Steering Committee concerning the study;
  - (c) progress against target dates to meet the deadline.
- 7 The property and copyright in all contract material shall vest in the Government of Victoria. The consultant, its employees and agents shall not use any material produced for the purpose of the study for any purpose other than for the study without the prior approval in writing of the Salinity Committee.
- 8 The Salinity Committee at any time upon giving notice in writing to the consultant of its intention so to do may abrogate or constrict the contract or any part or further part thereof and upon such notice being given the consultant shall cease or reduce work according to the tenor of the notice and shall forthwith do everything possible to mitigate costs consequent thereto.

9 The contract shall be governed by and construed in accordance with the law for the time being in force in the State of Victoria.

## APPENDIX 6

### Departmental Salinity Liaison Committee

#### Role of Members

- 1 To identify and, where possible, collate relevant information in the member's organisation, in preparation for its use by consultants of the Salinity Committee.
- 2 To participate in the procedure for selecting the consultants.
- 3 To act as a liaison between the consultants and the member's organisation, with responsibility for ensuring that the consultants are aware of, and have access to, all relevant information.
- 4 To monitor the progress of the consultant studies, to contribute to the review of draft reports, and to advise the Salinity Committee as appropriate.

#### Membership

Mr. Dennis Cahill	Deputy Chairman Soil Conservation Authority
Mr. Keith Collett	Senior Designing Engineer State Rivers & Water Supply Commission
Mr. Dennis Monahan	Principal Water Quality Officer Environment Protection Authority
Mr. Peter Holbeach	Chief Planning & Assessment Officer, Resources & Planning Branch - Fisheries & Wildlife Division
Dr. John Langford	Co-ordinator of State Water Plan, Ministry for Water Resources
Dr. Charles Lawrence	Supervising Geologist, Groundwater Branch, Department of Minerals & Energy
Mr. Ian Norman	Salinity Co-ordinator, Department of Agriculture

APPENDIX 7

Advertisement inviting applications for the position of  
Director of Research

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**DIRECTOR OF RESEARCH  
SALINITY COMMITTEE**

The Salinity Committee was appointed by the Victorian Parliament to investigate and report upon the salinity of land and water in Victoria.

A Director of Research is required by the Committee to provide professional support in the design and conduct of studies and investigations, the selection and commissioning of consultants, liaison with public agencies and to prepare working papers and reports as directed.

The successful applicant must have a suitable tertiary qualification and have experience in the control of research programmes and demonstrated ability in the conduct of investigations and in the preparation of reports.

A salary in the range \$30,000 to \$40,000 will be negotiated according to qualifications and experience. The term of the appointment will be for 2 years and the conditions of employment will be similar to those applying in the Victorian Public Service.

The Committee will consider applications for secondment or fixed term appointment from public servants, academics and others. Applications should be sent, no later than 8th December, 1982, to:—

**The Chairman,  
Salinity Committee,  
Parliament House,  
MELBOURNE 3002.**

For further information, phone (03) 651 8911 ext 252.

**R. W. PURDEY,  
Secretary.**



PARLIAMENT OF VICTORIA

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SALINITY COMMITTEE

FOURTH REPORT TO PARLIAMENT

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FINAL REPORT ON:

WATER ALLOCATIONS IN NORTHERN VICTORIA.

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OCTOBER, 1984

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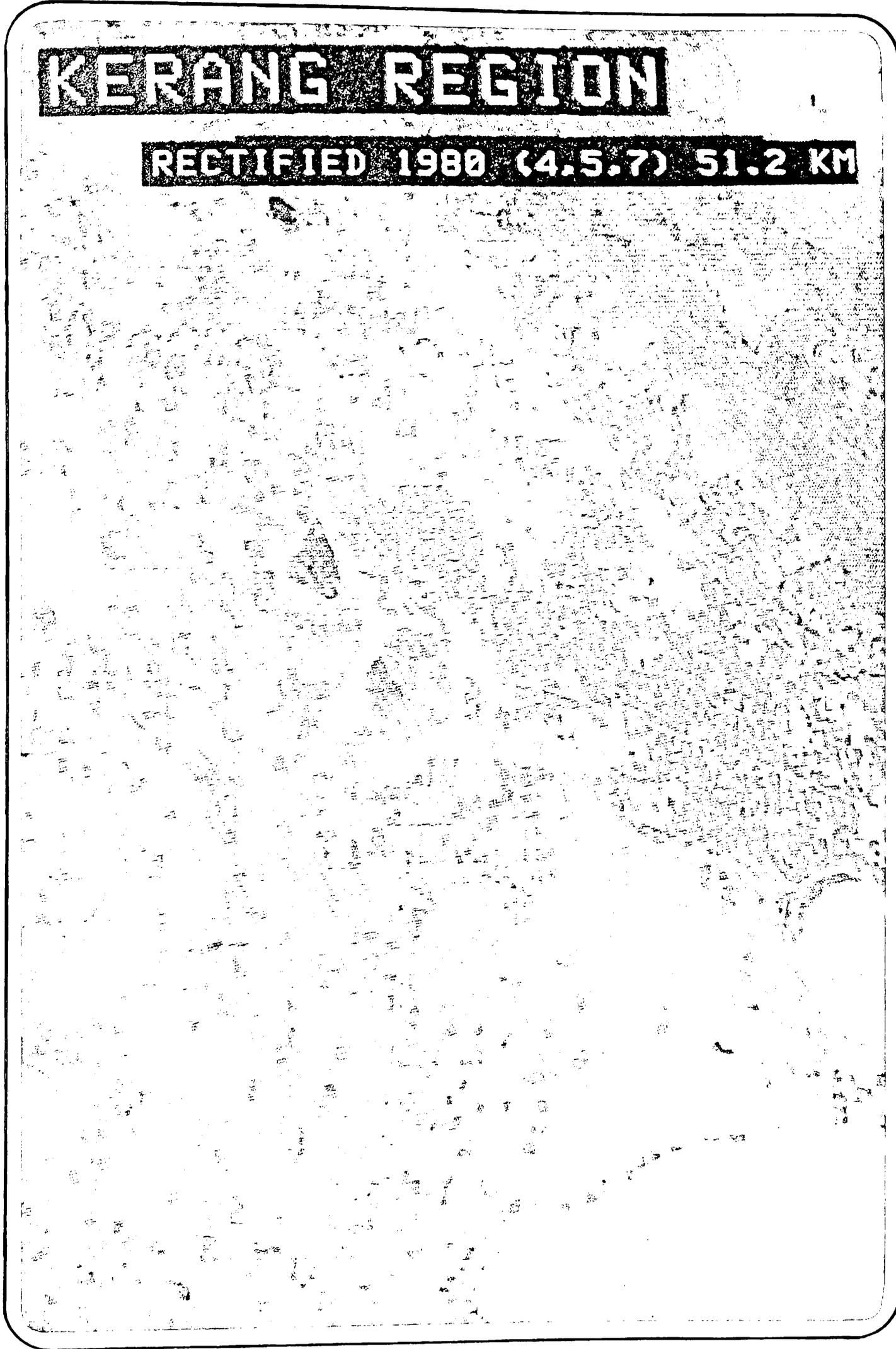
Ordered to be printed

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D-No. 48/1982-84

# KERANG REGION

RECTIFIED 1980 (4.5.7) 51.2 KM



Landsat (satellite) photograph of part of the Kerang Region. Irrigated areas are shown in pink. The River Murray is meandering through the Gunbower-Perricoota forest area.

# THE SALINITY COMMITTEE

## COMMITTEE MEMBERS

Mr. W.F. Fogarty, M.L.A. (Chairman)

Mr. E.J. Hann, M.L.A. (Deputy Chairman)

Mr. H.R. Dickinson, M.L.A.

Mr. G.F. Stirling, M.L.A.

The Hon. L.A. McArthur, M.L.C.

The Hon. J.W.S. Radford, M.L.C.

## COMMITTEE STAFF

Mr. G.M. Hunter, Director of Research.

Mr. G.J. Senn, Secretary.

Mrs P.J. Hansson, Stenographer.

Mr. D.F. Keary, Research Officer,

courtesy of Rural Water Commission of Victoria



## FOREWORD

The Parliamentary Joint Select Committee on Salinity (the Salinity Committee) was established by the Victorian Parliament in July 1982. Its initial purpose was to inquire into salinity in Victoria. On 8th December, 1982, the Salinity Committee was given an additional reference to inquire into water allocations in Northern Victoria; this Inquiry stems from an uncompleted Inquiry by the former Parliamentary Public Works Committee which began in 1975.

Accordingly, the Salinity Committee inquired principally into matters which were outstanding from the Parliamentary Public Works Committee Inquiry and these essentially related to the quantities of water to be allocated for forest watering and river dilution, the quantity of water to be allocated to existing irrigation districts and changes to the management of water rights in the Goulburn Murray Irrigation District.

Our hope is that the results of this Inquiry will provide a framework around which the allocation of water in Northern Victoria can be considered in the future. The Salinity Committee, during the course of its deliberations, had to make a number of difficult decisions particularly in relation to further allocations of water.

During the course of this Inquiry, the Salinity Committee was concurrently undertaking a major Inquiry into the Effects and Control of Salinity in Victoria.

The success of the Inquiry has depended upon the contributions of many people. Chief amongst them have been the people representing sectors of the rural community, government departments and private interest groups who prepared submissions of such high quality for our consideration.

I would like to pay special tribute to the staff of our Committee upon whom so much of our work has depended. The administrative function of this Inquiry and our concurrent one into salinity has been expertly borne by the Secretaries of the Committee who were, first, Mr. Ray Purdey and, later, Mr. Gary Senn and Mrs Pamela Hansson, our stenographer.

In February, 1983, the Committee appointed Mr. Graham Hunter as its Director of Research. Assisted by a Research Officer, Mr. Dominic Keary, seconded by courtesy of the Rural Water Commission, they have guided the planning of our Inquiry and the collection of information with skill.

Finally, I particularly wish to thank my fellow members of the Committee for their co-operation and rapport throughout the Inquiry and for the skills that they brought to it.

Allocating such a limited natural resource in Northern Victoria as water amongst competing uses is a difficult task and the need for flexibility is paramount. We trust the results of our work will assist the task and commend consideration of this report to the Parliament and the people of Victoria.

W.F. FOGARTY, M.L.A.

Chairman.

Parliament House,  
Melbourne.

25 October 1984.

## CONTENTS

COMMITTEE MEMBERS AND STAFF	..	..	..	..	..	..	..	(iii)
FOREWORD	..	..	..	..	..	..	..	(v)
ABBREVIATIONS	..	..	..	..	..	..	..	(xi)
KEY FINDINGS	..	..	..	..	..	..	..	(xiii)
CONCLUSIONS AND RECOMMENDATIONS	..	..	..	..	..	..	..	(xv)
1.	THE INQUIRY	..	..	..	..	..	..	1
	1.1	Terms of Reference	..	..	..	..	..	1
	1.2	Members and Officers of the Committee	..	..	..	..	..	4
	1.3	Conduct of the Inquiry	..	..	..	..	..	4
	1.4	Related Inquiries	..	..	..	..	..	6
		1.4.1	Earlier Inquiries	..	..	..	..	6
		1.4.2	Concurrent Inquiries	..	..	..	..	8
2.	THE WATER SUPPLY SYSTEM IN NORTHERN VICTORIA	..	..	..	..	..	..	10
	2.1	Historical Perspective	..	..	..	..	..	10
	2.2	The Distribution System in Goulburn Murray Irrigation District	..	..	..	..	..	11
3.	AVAILABILITY OF WATER	..	..	..	..	..	..	14
4.	DEMANDS FOR WATER	..	..	..	..	..	..	16
	4.1	Parliamentary Public Works Committee Recommendations	..	..	..	..	..	16
	4.2	Irrigation Demand in Goulburn Murray Irrigation District	..	..	..	..	..	19
	4.3	Flora and Fauna Demand	..	..	..	..	..	25
	4.4	Red Gum Forest Watering Demand	..	..	..	..	..	31
	4.5	River Dilution Demand	..	..	..	..	..	38

## CONTENTS Cont.

5.	THE WATER RIGHTS FORMULA IN GOULBURN MURRAY IRRIGATION DISTRICT .. .. .	43
	5.1 The Existing Water Rights Formula .. ..	43
	5.2 Appraisal of the Water Rights Formula .. ..	48
6.	SUBDIVISIONS .. .. .	52
	6.1 General .. .. .	52
	6.2 Date of Subdivision .. .. .	52
	6.3 Unviable Holdings Resulting from Subdivision ..	54
7.	TRANSFERABILITY OF WATER ENTITLEMENTS ..	57
	7.1 Introduction .. .. .	57
	7.2 Recent Australian Studies on Water Transfer ..	57
	7.3 Transferability of Water Entitlement Schemes in S.A. & N.S.W. .. .. .	58
	7.4 Report by ACIL on Transferability of Water Entitlement.. .. .	59
	7.5 Desirability of a Transferability of Water Entitlement Policy .. .. .	62
	7.6 Conclusions & Recommendations .. .. .	65
8.	CAPITAL LEVY .. .. .	67
9.	ANOMALIES IN RELATION TO THE EXISTING WATER ALLOCATIONS .. .. .	69
10.	OTHER REQUESTS FOR WATER ALLOCATIONS ..	76
	BIBLIOGRAPHY .. .. .	81

## CONTENTS Cont.

### APPENDICES

I	Appointment of Committee Members, Extracts From Minutes of Proceedings, Legislative Council and Legislative Assembly .. .. .	85
II	List of Written Submissions .. .. .	87
III	List of witnesses appearing before the Committee ..	89
IV	Parliamentary Public Works Committee Findings and Recommendations .. .. .	93
V	Historical Development of Water Right Formulae ..	97
VI	Extract from Schedule 3B of <u>Water Act</u> 1958 on the determination of water rights in Goulburn Murray Irrigation District .. .. .	105
VII	Summary of Report by ACIL Australia for Department of Water Resources on "Transferability of Water Entitlements". .. .. .	111

### TABLES

1.	Effect of Dilution Flows on Shepparton Salt Loads ..	39
2.	Goulburn Murray Irrigation District Holdings as at 1 July 1959 and Applicable Water Rights .. .. .	47

### FIGURES

1.	Goulburn Murray Irrigation District Water Usage 1970-83 .. .. .	20
2.	Goulburn Murray Irrigation District 1964 Water Rights Formula .. .. .	45

### MAPS

1.	Victorian Irrigation Supply Systems .. .. .	13
2.	Forest Blocks of the Murray System .. .. .	33



## ABBREVIATIONS

Committee	-	Salinity Committee.
DAV	-	Department of Agriculture, Victoria.
EWSD	-	Engineering & Water Supply Department, South Australia.
GL	-	Gigalitre (equivalent to 1000 megalitres).
GMID	-	Goulburn Murray Irrigation District.
ML	-	Megalitre.
PPWC	-	Parliamentary Public Works Committee (under <u>Public Works Committee Act 1958</u> )
RMC	-	River Murray Commission.
RWC	-	Rural Water Commission (refer note on SRWSC below).
SRWSC	-	State Rivers and Water Supply Commission (on 1st July 1984 in accordance with the provisions of the <u>Water (Central Management Restructuring) Act 1984</u> , this body ceased to exist. The functions of the former SRWSC are currently the responsibility of the Rural Water Commission).
TWE	-	Transferability of Water Entitlement.
WWMC	-	Waranga Western Main Channel.



## KEY FINDINGS

### FLEXIBILITY ESSENTIAL -

- \* In Northern Victoria, new requirements for water have emerged in the last decade and the lack of knowledge about future demands for water dictates the need for a flexible approach to allocations.
- \* Victoria is in fact fortunate in not having already fully committed its additional water resources in Northern Victoria resulting from the construction of Dartmouth Dam. The State should capitalise on the flexibility in water allocation that is now available.

### SUBSTANTIAL NON-IRRIGATION REQUIREMENTS FORESEEN -

- \* Of particular significance is the uncertainty in the demand for red gum forest watering and river dilution. It is evident that to sustain the valuable red gum forests and to protect agricultural productivity and the environment through the disposal of saline wastes, substantial allocation of water for these purposes will be necessary.

### FURTHER FIXED ALLOCATIONS SHOULD BE LIMITED -

- \* Apart from the following recommendations by the former Parliamentary Public Works Committee of:-

- Urban and Industrial Usage	45,450 megalitres
- Conservation of native flora and fauna	25,000 megalitres

and the revised recommendation by this Committee for:-

- Irrigation by private diversion	35,000 megalitres
-----------------------------------	-------------------

no further fixed allocation of water is desirable.

- \* However maximum use should be made of any surplus flows in streams or distribution systems for nature conservation (highest priority) and for the enhancement of recreational attributes of natural lakes.

- \* The irrigation community in constituted irrigation districts in Northern Victoria should not expect further fixed allocations of water. Over the medium to long term period (nominal 10 years) the expectation in the Goulburn Murray Irrigation District may be of a real reduction in available water in any season.

**WATER RIGHTS FORMULA IN THE GOULBURN MURRAY IRRIGATION DISTRICT SHOULD BE RETAINED BUT TRANSFER OF ENTITLEMENTS FACILITATED -**

- \* No changes to the current water right formula or date of subdivision in the Goulburn Murray Irrigation District (GMID) are recommended.
- \* However, a system of transferability of water entitlements is recommended for introduction in the GMID, subject to adequate safeguards.
- \* To review anomalies with the administration of water allocations in the GMID, a GMID Anomalies Appeals Board should be established.

## CONCLUSIONS AND RECOMMENDATIONS

### **QUANTITY OF WATER AVAILABLE FOR USE IN NORTHERN VICTORIA.**

(Term of Reference 1(a))

- The annual safe yield of water available to Victoria from the construction of Dartmouth Dam is about 600,000 megalitres.
- The Committee supports the PPWC recommendation that the necessary diversion works should be constructed for injecting an average annual volume of 60,000 megalitres of Broken River water from Lake Mokoan via the Broken River into the East Goulburn Main Channel to support the Goulburn segment of the GMID. This annual injection of water will provide for further flexibility and security of the irrigation system in the GMID and enable an additional quantity of water to be used in the Goulburn system. These diversion works are considered to have a high priority for construction.

#### **Recommendation**

The Committee recommends that:

- R1 To support the Goulburn system of the GMID, the necessary diversion works should be constructed (as a high priority) to inject an average annual volume of 60,000 megalitres of Broken River water from Lake Mokoan via the East Goulburn Main Channel.

## **CONTROL OF WATER AND THE USES TO WHICH IT SHOULD BE ALLOCATED INCLUDING THE ALLOCATION OF WATER FOR IRRIGATION**

(Terms of Reference 1(b) and 1(c)).

### **Urban and Private Diversion Demands**

- An annual quantity of 270,000 megalitres is required to meet existing commitments as a consequence of the introduction of the current water rights formula in the GMID.
- Based on the PPWC recommendations, the annual volume remaining to be allocated would be about 195,000 megalitres.
- The recommendation by PPWC of 45,450 ML for the requirements for urban and industrial usage in Northern Victoria is still appropriate although a reassessment should occur of the projected demands into the 21st Century. The original estimates of urban and industrial usage, upon which the PPWC recommendation was based, was prepared more than eight years ago and allowed for projected demands to the year 2000.
- The PPWC recommended that an allocation of 65,000 megalitres be granted for irrigation by private diversion. As only a few thousand megalitres of this volume have been allocated, the Committee considers that it would be prudent to reduce this allocation to 35,000 megalitres due to potential likely requirements for forest watering and river dilution.
- The reduction in the allocation of water for irrigation by private diversion as recommended by PPWC, should be made substantially in the intended volume to be allocated for private diversion below Swan Hill, if it is apparent that the allocation of additional quantities of water in this reach of the River Murray will cause salinity problems in the river.

### **Recommendations**

The Committee recommends that:

R2 The following annual allocations should be made:

- |   |   |           |
|---|---|-----------|
| - | Urban and Industrial Usage (Interim)    | 45,450 ML |
| - | Irrigation by Private Diversion (final) | 35,000 ML |

R3 A further assessment should be made of the requirements for urban and industrial usage in northern towns supplied from the River Murray and tributaries.

R4 The reduction in the private diversion allocation as recommended by PPWC should be made substantially in the intended volume to be allocated for irrigation by private diversion below Swan Hill, if it is apparent that the allocation be of additional quantities of water in this reach of the River Murray will cause salinity problems in the river.

#### **Irrigation Demand in the Goulburn Murray Irrigation District**

- The additional water that was identified as being available in the post Dartmouth situation is in fact largely being used by irrigators as sales quota.
- As other allocations of water are taken up, water which was previously available to irrigators in the GMID will no longer be available, i.e. there will be a reduction in the level of seasonal allocations. The medium to long term expectation is that the average level of sales water which is currently available in a season will decrease because of the requirements for forest watering and river dilution.
- The irrigation community must expect no further fixed allocations of water. Over the medium to long term period (nominal 10 years) the expectation in the GMID may be of a real reduction in available water in a season.
- There is scope for increases in agricultural productivity by the availability of extra water allocations in the GMID in conjunction with modern irrigation techniques.
- Irrigated agriculture has the medium to long term potential to adapt to changing agricultural demands and economic conditions.

## **Flora and Fauna Demand**

- Management strategies need to be developed for each wetland area by the Department of Conservation, Forests and Lands in consultation with other Government Departments and interested communities. These strategies should be undertaken only after a community based regional management strategy has been developed and should take account of potential problems such as salinity and flooding.
- The recommended interim allocation by PPWC of 25,000 megalitres is deemed adequate for the conservation of flora and fauna.
- Once appropriate management strategies for the wetlands in Northern Victoria have been developed and implemented, a further assessment should occur of total water requirements for flora and fauna.
- It is desirable that the maximum use be made of surplus flows of water for nature conservation in preference to regulated flows. Therefore high priority for surplus flows in the river or distribution systems in Northern Victoria should be given to nature conservation requirements.
- The Committee has not had time to explore the matter of who should pay for water used for conservation of flora and fauna, forest watering and river dilution but advocates that further community discussion and consultation should occur on this matter. The Department of Water Resources should be responsible for co-ordinating this discussion and consultation.

## **Recommendations**

The Committee recommends that:

- R5 A management strategy should be developed for each wetland in Northern Victoria by the Department of Conservation, Forests and Lands in consultation with other Government Departments and interested communities, including taking account of potential flooding and salinity problems, after a community based regional strategy has been developed.

- R6 The annual allocation for the conservation of flora and fauna should be 25,000 megalitres.
- R7 The water requirements for nature conservation should receive high priority for any surplus flows in the river or distribution systems in Northern Victoria.
- R8 The Department of Water Resources should co-ordinate community discussion and consultation on who should pay for water used for conservation of flora and fauna, forest watering and river dilution.

### **Red Gum Forest Water Demand**

- Studies are currently being undertaken into red gum forest watering and it may be some years before the results are available, including annual water requirements, and suitable strategies developed.
- The Committee is concerned that it cannot report on a specific water allocation for red gum forest watering until studies in progress are completed, particularly as the PPWC obtained the same finding.
- There should be an acceleration of effort by the State Working Group on River Murray Water and Forest Management to resolve the water requirements for red gum forest watering and determination of an appropriate strategy for forest management which would include the commitment of further departmental resources.
- The annual water requirements for red gum forests watering are likely to be substantial and one should probably be considering volumes of the order of hundreds of thousands of megalitres.
- In the interim, until a firm water requirement is known for forest watering in Northern Victoria, any surplus river flows should, where possible, and appropriate be used for watering of forests such as the Barmah Forest.

## **Recommendations**

The Committee recommends that:

- R9 There should be increased departmental resources allocated on a permanent basis to the State Working Group on River Murray Water and Forest Management to expedite the matter of the annual water requirements of red gum forests along the River Murray and its tributaries and the associated management strategy.
- R10 In the interim period, until water requirements are known for forest watering in Northern Victoria, any surplus river flows should where possible and appropriate be used for watering of these red gum forests.

## **River Dilution Demand**

- Dilution flows are an attractive means of managing saline wastes in the short term due to their costs and flexibility.
- In the long term, dilution flows may not be able to be sustained without a significant penalty to other water users, particularly irrigators.
- There is a requirement to examine a policy of flows by the River Murray Commission but with an expectation that long-term salinity problems will require alternate disposal means. Investigations are currently in progress within the River Murray Commission on river dilution and these should be continued and expanded upon.

## **Recommendations**

The Committee recommends that:

- R11 River dilution be used as a short term solution to overcome particular problems pending the introduction of a long term strategy for disposal of saline wastes.

R12 The investigations currently being undertaken by the River Murray Commission into river dilution be continued but with an expectation that long term salinity problems will require alternate disposal means.

### **Other Requests for Water Allocations**

- The Committee finds it difficult to suggest further fixed allocations of water and therefore generally supports the PPWC recommendations in respect of further allocations of water for irrigation development and recreational usage, viz:
  - (a) no allocation to lands outside existing irrigation districts which would involve public expenditure on distribution and drainage works;
  - (b) no specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However, in instances where it is convenient and practicable surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.
  
- At Lake Boga there is a problem of water quality due to the Lake being part of the terminal system of the Avoca River. It would be desirable if the RWC and Shire of Swan Hill could undertake investigations into methods of improving the water quality of the Lake particularly whether surplus flows in the River Murray could be utilised for this purpose. These investigations may indicate that some nominal water allocation be granted and a volume of up to 3000 megalitres should be available for this purpose from the allocation for irrigation by private diversion.

### **Recommendations**

The Committee recommends that:

R26 There should be no further allocation of water to land outside existing irrigation districts for irrigation development except for purposes of irrigation by private diversion as contained in Recommendations R2 and R4.

- R27 No specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However, in instances where it is convenient and practicable surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.
- R28 The RWC and Shire of Swan Hill should undertake investigations into a strategy to improve the water quality of Lake Boga and, if required, a volume of up to 3000 megalitres should be available for this purpose from the allocation for irrigation by private diversion.

# MANAGEMENT OF THE GOULBURN-MURRAY IRRIGATION DISTRICT

(Term of Reference 1(d))

## Water Rights Formula

- The requirements for river dilution and forest watering have yet to be determined but could exceed the volume yet to be allocated as a consequence of the construction of Dartmouth Dam. Therefore the Committee finds it difficult to recommend further fixed allocations of water. As a result it is not consistent to change the existing water right formula in the GMID in ways which would require the commitment of further water allocations.

In these circumstances and with the limited water resources available, flexibility is required to be built in allocation policies to allow for changing present and future circumstances.

## Recommendation

The Committee recommends that:

- R13 No change should be made to the existing water right formula for the GMID as shown in Schedule 3B of the Water Act 1958.

## Subdivisions

- As stated previously, the Committee finds it difficult to recommend further fixed allocations of water. In this context, it would not be appropriate to recommend the advancement of the date of subdivision which in turn requires a further commitment of water.

## Recommendation

The Committee recommends that:

- R14 In respect of the GMID that the date for recognition of holdings created by subdivision should remain at 1st July, 1959.

- Subdivision of larger viable holdings into smaller holdings which are unviable enterprises is of concern to the Committee. The RWC and the Department of Agriculture have services available which advise prospective purchasers on the status of properties and the public should be encouraged to use them. It would therefore be desirable if the RWC and Department of Agriculture could increase the public's awareness of these advisory services by suitable publicity.
- The Committee is concerned over the type of services which should be provided to "hobby" type properties in the GMID. The provision of an appropriate water supply system for "hobby" type farms in the GMID should be examined by the Department of Water Resources or Rural Water Commission in consultation with affected landholders, municipalities and relevant Government authorities.

### **Recommendations**

The Committee recommends that:

- R15 The Department of Agriculture and the Rural Water Commission should implement a publicity programme to increase the public's awareness of the advisory services which are available to prospective purchasers of irrigation properties.
- R16 The provision of an appropriate water supply system for "hobby" type farms in the GMID should be examined by the Department of Water Resources or Rural Water Commission in consultation with affected landholders, municipalities and relevant Government authorities.

### **Transferability of Water Entitlements**

- With the limited water resources available to the GMID, the most effective and efficient method of utilising these resources is of extreme importance to the community in conjunction with other social and environmental factors. When requirements are identified for forest watering and river dilution the level of water available for irrigation in the GMID is likely to be reduced. This will be reflected in reduced seasonal allocations.

The introduction of a TWE policy with adequate safeguards does provide for flexibility with the use of these resources. It could be possible that in the future water entitlement may be acquired from the GMID for non-agricultural uses such as salinity control, River Murray water quality and environmental uses.

A TWE policy can also provide irrigators with a means of further increasing their marginal returns and adapting to changing economic conditions.

At this stage, it cannot be said that all aspects of the implementation of a TWE policy have been fully evaluated or that the community has had time to consider all the implications of such a policy. However, the Committee is of the view that a TWE policy is desirable but further assessment and community evaluation is required on implementation aspects of such a policy.

#### **Recommendation:**

The Committee recommends that:

- R17 The Water Act 1958 should be amended to include provision for the transferability of water entitlements in the GMID.
- R18 Further community discussion should occur on the implementation aspects of the TWE policy in the GMID before any action be taken.

#### **Capital Levy**

- The desirability of introducing a capital levy policy is consistent with the introduction of a TWE policy and it is considered that both policies should be implemented concurrently.

#### **Recommendation**

The Committee recommends that:

R19 The Water Act 1958 should be amended to enable the charging of a capital levy at the time of new or increased water entitlements and further that the capital levy policy should be implemented concurrently with a TWE policy.

### **Anomalies in Relation to Existing Water Allocations**

- It appears that there may exist a number of irregularities and inequalities with the past administration of water allocations in the GMID by the Water Commission and there is merit in resolving these.
- The Committee proposes that a GMID Anomalies Appeals Board be established to deal with anomalies with the administration of water allocations in the GMID.

This Board should comprise:

- an independent chairperson.
- an irrigator representative.
- a representative from RWC.

These members of the Appeals Board would be appointed by the Minister for Water Resources. The Appeals Board would report their recommendations directly to the Minister for Water Resources and the Minister should be able to make prescriptions to the Appeals Board which affect the GMID as an entity.

If a TWE policy is introduced, irrigators should have a period of twelve months to lodge their appeals prior to the commencement of the policy and after this period of time has elapsed, no further appeals should be accepted.

- The Committee considered the case of the six landholders at Fernihurst and is of the view that three of the landholders:

Register Entries      195N (A.M. Coutts and Son)  
                                 210H (R.G. & M.R. Brown), and  
                                 210H1 (K.W. & G.R. Pattison).

should be granted a water allocation in accordance with Schedule 3B of the Water Act 1958 on the basis that their properties have a prior history of irrigation and were irrigated in the base years 1957/58 and 1959/60, from the Water Commission's distribution system, i.e. the Loddon River which was part of the system until 1962.

- The Committee has not had time to arrive at a decision in relation to the remaining three Fernihurst landholders nor the West Boort irrigators, and suggests that these be the first cases to be considered by the GMID Anomalies Appeals Board.

### **Recommendations**

The Committee recommends that:

R20 A GMID Anomalies Appeals Board should be established to deal with anomalies that may exist with the administration of water allocations in the GMID.

R21 The Appeals Board should comprise:

- an independent chairperson;
- an irrigator representative;
- a representative from the RWC.

and be appointed by the Minister for Water Resources.

R22 The GMID Anomalies Appeals should report its recommendations to the Minister for Water Resources. The Minister should be able to make prescriptions to the Appeals Board which affect the GMID as an entity.

R23 Landholders should have a period of twelve months prior to the commencement of any TWE policy to lodge their appeals on anomalies with water allocations and after this period of time has elapsed, no further appeals should be accepted.

- R24 Register Entries 195N (A.M. Coutts and Son), 210H (R.G. & M.R. Brown) and 210H1 (K.W. & G.R. Pattison) of the Boort Irrigation Area should be granted a water right in accordance with Schedule 3B of the Water Act 1958.
- R25 The remaining three Fernihurst properties and the West Boort properties should be referred to the GMID Anomalies Appeals Board as the first cases for review.

## CHAPTER ONE

### THE INQUIRY

#### 1.1 Terms of Reference

The terms of reference for the Committee as laid down by joint resolution of the Legislative Council and the Legislative Assembly on 8th December, 1982 are:

- "1. That the Joint Select Committee on Salinity inquire into and report by 31 December 1983 upon the undermentioned matters together with any other matters the Committee considers to be relevant thereto:
  - (a) The quantity of water available for use in Northern Victoria and the quantities that are expected to be available following the completion of Dartmouth Reservoir, including water -
    - (i) already allocated; and
    - (ii) available to be allocated.
  - (b) The control of such water and the uses to which it should be allocated so as to best serve conjunctive economic, social and environmental objectives, including -
    - (i) salinity control;
    - (ii) urban water supply;
    - (iii) rural water supply for domestic and stock use;
    - (iv) industrial water supply;
    - (v) irrigation;
    - (vi) recreation, both active and passive;
    - (vii) conservation of native flora and fauna and migratory fauna;

- (viii) dilution of drainage water or effluents from any of the aforesaid uses, with a view to re-use in Victoria or to the maintenance of satisfactory water quality in the River Murray;
  - (ix) generation of hydro-electric energy; and
  - (x) flood mitigation.
- (c) With regard to the allocation of water for irrigation, the volume of water which should be allocated to -
- (i) existing constituted irrigation districts;
  - (ii) lands which might be included in irrigation districts; and
  - (iii) lands irrigated by private diversion.
- (d) In respect of the Goulburn-Murray Irrigation District the desirability of amending the Water Act 1958 in respect of matters affecting the apportionment of water rights including -
- (i) the adoption of an alternative water right formula of the type contained in Schedule 3B to the Act;
  - (ii) the recognition of holdings created by the subdivision since 1 July 1959, and any future subdivisions, for the purpose of applying the above-mentioned water right formula; and
  - (iii) the transfer of water rights between holdings; the cancellation and reallocation of unused water rights and the attachment of conditions to any future allocations.

2. That all documents, evidence and other matter received by or produced by the former Public Works Committee in relation to the similar reference received by that Committee pursuant to

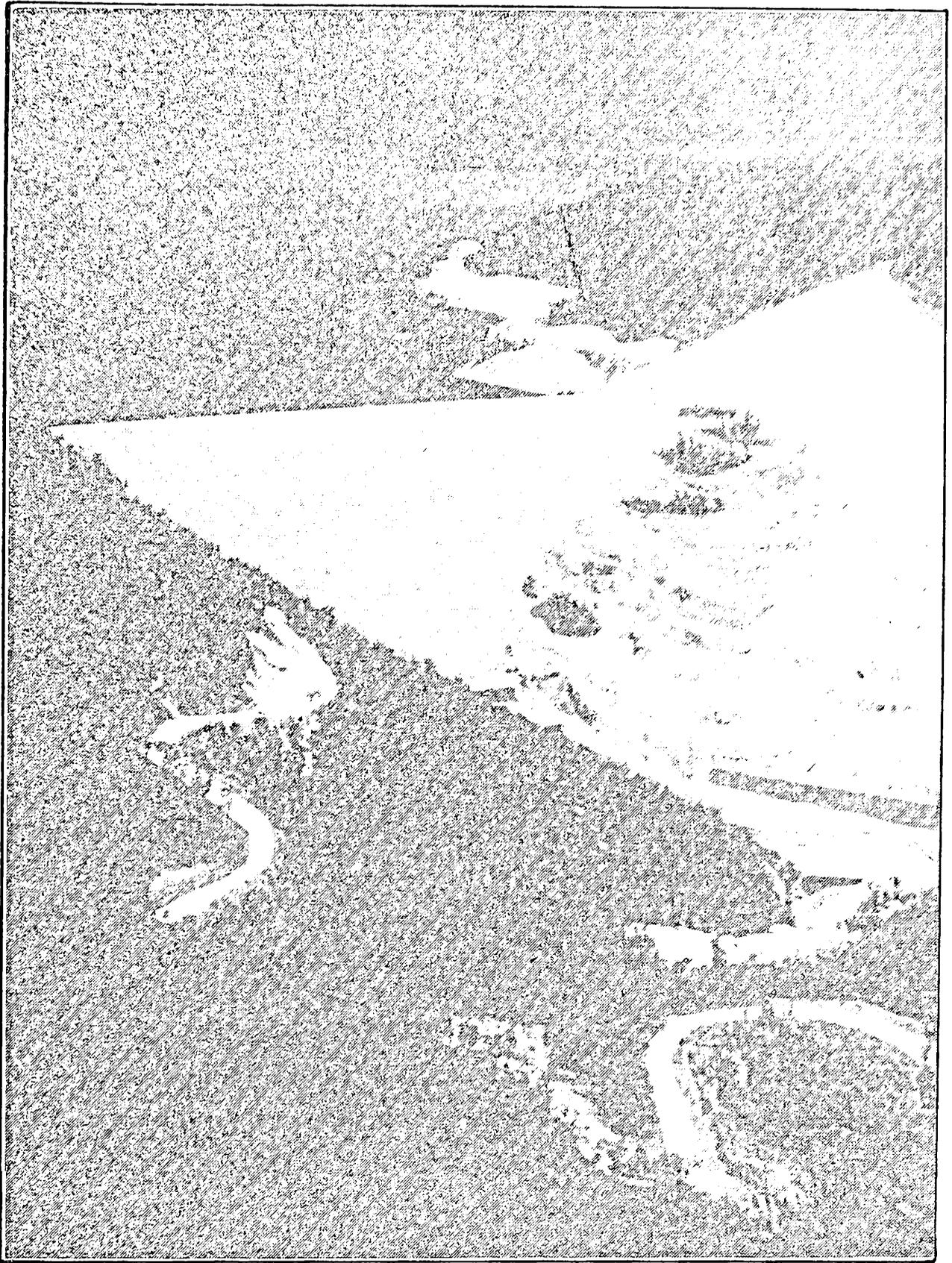


PHOTO 1: Dartmouth Dam on the Mitta Mitta River,  
capacity 4,000,000 megalitres.

the provisions of the Public Works Committee Act 1958 be referred to the Joint Select Committee on Salinity."

## **1.2 Members and Officers of the Committee**

In July 1982, Messrs. W.F. Fogarty, E.J. Hann, G.F. Stirling and the Hon. A. Wood from the Legislative Assembly and the Honourables L.A. McArthur and J.W.S. Radford from the Legislative Council were appointed to the Committee (see Extracts from Minutes, Appendix 1). At its first meeting on 3 August 1982, Mr. Fogarty was elected Chairman and Mr. Hann Deputy Chairman. In March 1983, Mr Wood resigned from the Legislative Assembly and his position on the Committee was filled by the Hon. J.H. Ramsay, M.L.A., in May 1983. In March 1984, Mr. Ramsay was discharged from attendance on the Committee to enable him to join another Parliamentary Committee and Mr. H.R. Dickinson, M.L.A., was appointed in his stead.

The Secretary of the Committee was Mr. R.W. Purdey until August 1983, and then Mr. G.J. Senn. In February 1983 the Committee appointed Mr. G.M. Hunter as its Director of Research. Mr. D.F. Keary was seconded through the courtesy of the Rural Water Commission of Victoria to assist in the Water Allocations Inquiry in early September 1984.

## **1.3 Conduct of the Inquiry**

The current Inquiry by the Salinity Committee stems from an uncompleted Inquiry by the former Parliamentary Public Works Committee (PPWC). The PPWC commenced inquiring into water allocations in 1975 and issued one progress report, dated 23rd February 1982.

The Terms of Reference for the Salinity Committee to inquire into Water Allocations in Northern Victoria were resolved by joint resolution of both Houses of Parliament on 8th December 1982 and are identical with those of the PPWC Inquiry.

The Committee determined that it would note the findings and recommendations of the PPWC and principally examine matters which were still outstanding. These essentially related to:

- the quantities of water to be allocated to -
  - (a) forest watering, and
  - (b) river dilution.
- the existing quantity of water to be allocated to existing irrigation districts.
- changes to the management of water rights in the Goulburn Murray Irrigation District (GMID).

The Committee advertised the commencement of the Inquiry in mid April 1983 and took preliminary evidence from the State Rivers and Water Supply Commission (SRWSC) on 21 April 1983. It was apparent at that time that a number of studies on forest watering and river dilution were in progress and that it would be preferable to delay the Inquiry until these had progressed further.

The date for reporting to Parliament was extended by joint resolution of the Legislative Assembly and the Legislative Council on 18th October 1983 to 31st December 1984.

In March 1984, the SRWSC presented further evidence on a number of aspects to the Committee including the progress with the river dilution and forest watering studies.

At a hearing on 25 July 1984 the Rural Water Commission (RWC) presented evidence to the Committee on Term of Reference 1(d) of the Water Allocations Inquiry, which essentially relates to irrigation management in the GMID. At the same time a discussion document on the same matter was provided to the Committee. Subsequently, this discussion document was distributed by the Committee to interested organisations in Northern Victoria as well as Government Departments, both in Victoria and interstate, for comment.

Evidence was also obtained from representatives of the State Working Group on River Murray Water and Forest Management at a hearing on 1st August 1984 on the progress with their studies into red

gum forest watering. A further hearing was held in Shepparton on 10 September 1984 to take evidence from local organisations.

In mid-September 1984, the Committee received a Consultants Report from the Department of Water Resources on the "Transferability of Water Entitlements in Victoria", which had been prepared as part of the State Water Plan. The Committee decided that to obtain the maximum community response to the proposal of "Transferability of Water Entitlement (TWE)" in the short time available, it would conduct a hearing where the concept would be explained by the Consultants, ACIL Australia. This was followed by an open forum where comment was received from the public and representatives of various organisations. Approximately 30 persons attended this hearing.

The submissions received during the course of this Inquiry are listed in Appendix II while the witnesses who appeared before the Committee are listed in Appendix III.

## 1.4 Related Inquiries

### 1.4.1 Earlier Inquiries

The former Parliamentary Public Works Committee (PPWC) began inquiring into water allocations in Northern Victoria in 1975. The terms of reference for this Committee are identical to those of the Salinity Committee.

It should be noted that under the terms of the Public Works Committee Act 1958, the PPWC reported to the Governor-in-Council as opposed to the Committee being a Joint Select Committee, reporting to Parliament.

The Salinity Committee notes Progress Report No.1 of the PPWC together with its findings and recommendations. A copy of the full PPWC findings and recommendations are contained in Appendix IV. In summary, the main findings and recommendations of the PPWC were:

- There is a further volume of 600,000 megalitres of water available as a consequence of the construction of Dartmouth Reservoir;
- Necessary works for injecting 60,000 megalitres of Broken River water from Lake Mokoan into East Goulburn Main Channel to support the Goulburn Irrigation System should be constructed;
- An annual average allocation of 270,000 megalitres is required for commitments to irrigation made pre-Dartmouth as a consequence of the Water Rights formula adopted in 1964;
- Additional annual allocations be made:

Urban and Industrial	45,450 megalitres
Fauna and flora (Interim)	25,000 maglitres
Irrigation by Private	
Diversion (Interim)	<u>65,000</u> megalitres
TOTAL	<u>135,000</u> megalitres

- The PPWC will await the outcome of studies being undertaken by the River Murray Commission in regard to operation strategies for the management of River Murray water quality before making a recommendation concerning dilution requirements;
- The PPWC will await the outcome of studies in progress concerning dilution flows and forest watering before making recommendations concerning Water Rights in existing constituted irrigation districts;
- There should be no allocation to lands outside existing irrigation districts which would involve public expenditure on distribution and drainage works.

- Interested parties requiring new or additional allocations for irrigation purposes are requested to give consideration to the question of a capital levy per megalitre. The PPWC will be pleased to take evidence on this aspect.
- The SRWSC should bear in mind the request for irrigation water by the Northern Excised Area Committee during its investigations with the River Murray Commission and the Forests Commission concerning regulation of flow through the Barmah Forest;
- With regard to the desirability of amending the Water Act in order to recognise holdings created by subdivision since 1st July 1959, as being eligible for Water Rights, the Committee considers there should be no advancement of the date beyond the 1st July, 1964. As to whether the date should be advanced to 1st July, 1964, the PPWC reserves its judgement at this stage.

#### 1.4.2 Concurrent Inquiries

During the course of the Inquiry by the Salinity Committee a number of other Inquiries were proceeding concurrently which have related areas of reference. These included:

- Salinity Committee which is inquiring into the effects of salinity, the effectiveness of existing counter measures and the control of salinity;
- Public Bodies Review Committee which is currently reviewing irrigation management in Victoria as part of its reference to review the efficiency and effectiveness of the SRWSC and each constituted water, sewerage, drainage and river improvement trust in Victoria;

- Natural Resources and Environment Committee which is examining water resources management in Victoria on a regional basis;
- Project Team in the Department of Water Resources which is examining irrigation in Victoria as one facet of the State Water Plan.
- Task Force on Environmental Use and Allocation of Water which is examining the various needs for allocating and using water for environmental purposes, e.g. maintenance of instream flows and supply of water to wetlands, as part of the State Water Plan.

In conducting this Inquiry and defining its scope the Committee has noted these concurrent activities.

## CHAPTER TWO

### THE WATER SUPPLY SYSTEM IN NORTHERN VICTORIA

#### 2.1 Historical Perspective

The northern plains of Victoria were settled originally as large pastoral holdings. One of the early realisations of these first settlers was that rainfall and natural stream flows were erratic and unreliable and that drought was a recurring disaster.

Diversion of stream flow was, therefore, one of the earliest priorities of settlement, initially for domestic and stock purposes and sporadic irrigation use.

With the subdivision of these large pastoral holdings and the extreme variability of rainfall and risks associated with dryland farming, irrigation development was provided with an impetus. These early developments were controlled by a large number of independent irrigation trusts, established under the legislative provisions of the Irrigation Acts of 1883 and 1886. By 1899, 25 Trusts had been constituted in Northern Victoria.

The Act of 1886, among other things, provided for the nationalisation of surface water resources by vesting "the right to the use and flow and the control of water at any time in any river ... and ... lake" in the Crown. The construction of certain National Works was also authorised under this Act, of which Goulburn Weir near Nagambie and the first section of the channel now known as the Stuart Murray Canal are notable examples. These latter works marked the beginning of the use of Goulburn River waters for irrigation, in an area which now extends across the face of Northern Victoria for 160 kilometres from Shepparton to Boort.

By the turn of the century most of the Trusts were experiencing financial and operational difficulties, of which the extreme variability of stream flows, lack of sufficient water storage to

provide drought security and their limited irrigation management expertise were the most common.

In 1905, the State Rivers and Water Supply Commission was constituted to take over the works and functions of the Trusts and construct and manage irrigation development within Victoria. Of those early Trusts, the First Mildura Irrigation Trust is the only one which retains its entity.

During the early part of this century, expansion of primary production by means of irrigation based closer settlement schemes was an important government policy. Further impetus was given to this development by soldier settlement schemes which were implemented after each of the two World Wars.

In 1950 an extensive channel enlargement and remodelling programme was commenced to provide for distribution of the additional water, which would be available after completion of the Big Eildon Dam. These works have included the construction of the William Cattanach Canal, enlargement of parts of the East Goulburn Main Channel and Waranga Western Main Channel, construction of pumping stations, and extension, enlargement and remodelling of main supply and drainage channels in all districts.

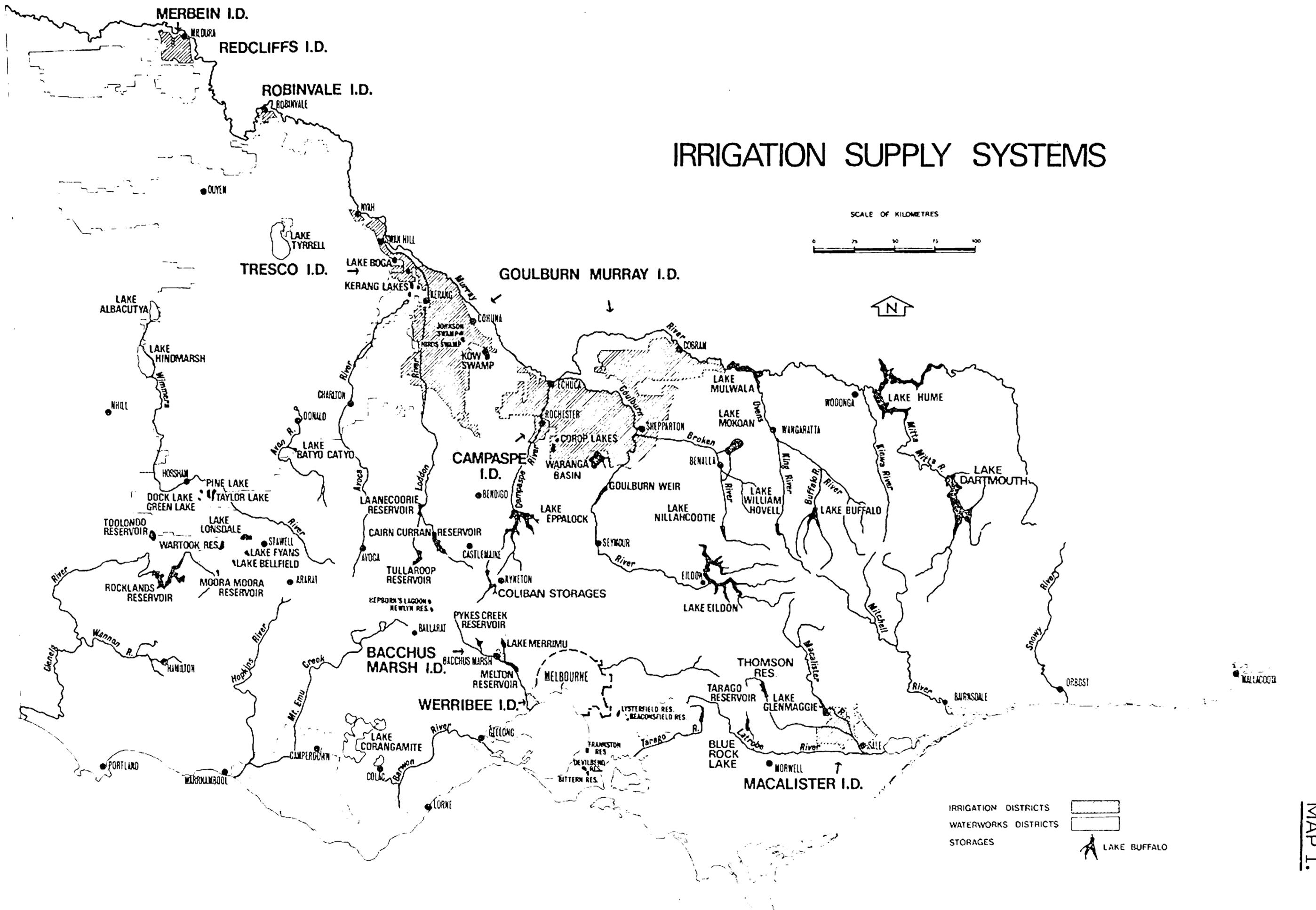
The Goulburn Murray Irrigation District (GMID) was formed in 1959 by the amalgamation of 20 existing Irrigation Districts and now comprises Australia's largest irrigation district covering 800,000 ha and consisting of over 10,000 farm holdings.

## **2.2 The Distribution System in Goulburn Murray Irrigation District**

The GMID is supplied by 17 storages with a total capacity of 6.5 million megalitres, including Victoria's share of the River Murray Commission (RMC) works. There is an extensive network of artificial and natural carriers, many of which are based on the early Irrigation Trust systems, forming two distinct supply systems.

- (i) The Goulburn-Campaspe-Loddon System supplies the southern part of the District. The major storage is Lake Eildon and water released from this storage is diverted into the supply system at Goulburn Weir. Smaller but significant inputs to this system are made from the Campaspe River at Rochester to supplement peak demand flows and the Loddon River at Boort. These river systems are interconnected by the Waranga Western Main Channel.
- (ii) The River Murray System supplies the northern part of the GMID from large gravity diversion weirs at Yarrawonga and Torrumbarry and two pumping stations near Swan Hill. River Murray regulation is under the control of the River Murray Commission and supplies are shared between New South Wales, Victoria and South Australia in accordance with the provisions of the River Murray Waters Agreement. The major storages are Lake Hume on the Murray near Albury, Dartmouth Dam on the Mitta Mitta River, Lake Victoria in South Australia and Menindee Lakes in New South Wales. This system is also supplemented by releases averaging one million megalitres per year from the Snowy Mountains hydro-electric scheme into the Murray upstream of Lake Hume.

# IRRIGATION SUPPLY SYSTEMS



13

IRRIGATION DISTRICTS  
 WATERWORKS DISTRICTS  
 STORAGES  
 LAKE BUFFALO

MAP 1.

## CHAPTER THREE

### AVAILABILITY OF WATER

The PPWC in its deliberations concluded that the safe regulated annual output to Victoria would increase by about 600,000 megalitres as a result of Victoria sharing in the available water from the construction of Dartmouth Dam. The PPWC indicated that this would increase the annual safe yield to Victoria from Northern Victorian streams and RMC works to 3,400,000 megalitres.

The Committee, during the conduct of this Inquiry, heard no evidence which suggested that the annual safe yield resulting from the construction of Dartmouth Dam, as found by PPWC, was inappropriate. Therefore, the Committee considers that the PPWC finding is still the relevant quantity.

At the present time, water from Lake Mokoan in the Broken River catchment cannot be diverted into the Goulburn component of the system. This storage was built to supplement the Goulburn system in conjunction with Lake Eildon. It has been used up to now to safeguard the River Murray system pending the construction of Dartmouth Dam. It was intended that diversion works would be eventually constructed into the East Goulburn Main Channel from the Broken River so that water from Lake Mokoan could be utilised in the GMID. The PPWC recommended that these diversion works be constructed and that an average annual volume of 60,000 megalitres of Broken River water be injected from Lake Mokoan via the Broken River to the East Goulburn Main Channel to support the Goulburn Irrigation System.

With the pending commitments of water for forest watering and river dilution and a need for flexibility with existing allocations, the injection of an average annual volume of 60,000 megalitres does provide for further flexibility and security of the whole irrigation system in the GMID. It also enables an additional quantity of water to be used in the Goulburn system of the GMID. The Committee supports the PPWC recommendation and considers the construction of the diversion works to be a high priority.

## **Conclusion**

- The annual safe yield of water available to Victoria from the construction of Dartmouth Dam is about 600,000 megalitres.
- The Committee supports the PPWC recommendation that the necessary diversion works should be constructed for injecting an average annual volume of 60,000 megalitres of Broken River water from Lake Mokoan via the Broken River into the East Goulburn Main Channel to support the Goulburn segment of the GMID. This annual injection of water will provide for further flexibility and security of the irrigation system in the GMID and enable an additional quantity of water to be used in the Goulburn system. These diversion works are considered to have a high priority for construction.

## **Recommendation**

The Committee recommends that:

- R1 To support the Goulburn System of the GMID, the necessary diversion works should be constructed (as a high priority) to inject an average annual volume of 60,000 megalitres of Broken River water from Lake Mokoan via the East Goulburn Main Channel.

## CHAPTER FOUR

### DEMANDS FOR WATER

#### 4.1 Parliamentary Public Works Committee Recommendations

The PPWC found that of this annual volume of 600,000 megalitres available from Dartmouth, 270,000 megalitres would be required to meet commitments made with the adoption of the 1964 Water Rights Formula in the GMID. Thus it was concluded that 330,000 megalitres were available for further allocation.

The PPWC recommended annual allocations totalling a further 135,450 megalitres comprising:

- urban and industrial           45,450 ML
- flora and fauna (interim)   25,000 ML
- irrigation by private  
  diversion (interim)   65,000 ML

As a result, an annual quantity of 194,550 megalitres remains to be allocated.

During the conduct of the present Inquiry there was no evidence presented to the Committee, which in any way questioned or contradicted the PPWC finding, that a quantity of 270,000 megalitres was required to meet existing commitments in the GMID from the introduction of the 1964 formula.

With requirements for river dilution and forest watering not yet determined, it is difficult for the Committee to recommend further fixed allocations of water. At the same time it is prudent for the Committee to review existing allocations and the recommendations of the PPWC in respect of fixed allocations of water.

It would appear that the additional allocation of 45,450 megalitres for urban and industrial usage may now be insufficient to meet these

requirements into the 21st Century. It is more than eight years since the original submission was presented to the PPWC by the SRWSC requesting that this amount be set aside for urban usage to the year 2000 and it would seem appropriate for a reassessment to occur of these requirements in Northern Victoria.

Likewise, the interim allocation of 25,000 megalitres for flora and fauna should be reassessed. This matter is dealt with in more detail later in this report (Section 4.3).

The 65,000 megalitres recommended by PPWC for irrigation by private diversion is proposed by the Water Commission to be allocated in two parts - approximately 32,000 ML for diversion from Murray below Swan Hill and a volume of about 33,000 ML for allocation from the Murray but principally from its tributaries, the Loddon, Goulburn, Broken and Mitta upstream of Swan Hill.

The River Murray Commission (RMC) have concluded that the proposed allocations above Swan Hill will have no significant implications on water quality and there would be no objection to this proposal proceeding. So far as allocations below Swan Hill, the RMC has not yet formulated its view and has identified a potential concern that those allocations could in the long term result in the displacement of saline groundwater to the river.

The allocation of 65,000 megalitres to individual private diverters recommended by PPWC for irrigation by private diversion has, except for a few thousand megalitres, not yet been undertaken. Although there may be an expectation in some sections of the community of the availability of this water for allocation, the Committee considers that due to the potential likely requirements for forest watering and river dilution, it would be more prudent to use part of this allocation for river dilution. Therefore, the Committee concludes that the allocation for irrigation by private diversion should be reduced to 35,000 megalitres.

The Committee is also of the view, that this reduction should substantially be from the intended volume to be allocated for

irrigation by private diversion below Swan Hill, if it is apparent that this will cause possible salinity problems in the River Murray.

## Conclusions

- An annual quantity of 270,000 megalitres is required to meet existing commitments as a consequence of the introduction of the current water rights formula in the GMID.
- Based on the PPWC recommendations the annual volume remaining to be allocated would be about 195,000 megalitres.
- The recommendation by PPWC of 45,450 megalitres for requirements for urban and industrial usage in Northern Victoria is still appropriate although a reassessment should occur of the projected demands into the 21st Century. The original estimates of urban and industrial usage upon which the PPWC recommendation was based were prepared more than eight years ago and allowed for projected demands to the year 2000.
- The PPWC recommended that an allocation of 65,000 megalitres be granted for irrigation by private diversion. As only a few thousand megalitres of this volume have been allocated, the Committee considers that it would be prudent to reduce this allocation to 35,000 megalitres due to potential likely requirements for forest watering and river dilution.
- The reduction in the allocation of water for irrigation by private diversion, as recommended by PPWC, should be made substantially in the intended volume to be allocated for private diversion below Swan Hill, if it is apparent that the allocation of additional quantities of water in this reach of the River Murray will cause salinity problems in the river.

## Recommendations

The Committee recommends that:

R2 The following annual allocations should be made:

- Urban and Industrial Usage (interim) 45,450 ML
- Irrigation by Private Diversion (final) 35,000 ML

R3 A further assessment should be made of the requirements for urban and industrial usage in northern towns supplied from the River Murray and tributaries.

R4 The reduction in the private diversion allocation as recommended by PPWC should be made substantially in the intended volume to be allocated for irrigation by private diversion below Swan Hill, if it is apparent that the allocation of additional quantities of water in this reach of the River Murray will cause salinity problems in the river.

#### 4.2 Irrigation Demand in Goulburn Murray Irrigation District

The Water Commission in evidence to the Committee indicated that growth in irrigation development as indicated by water usage, since 1970 was 1.78% per annum (based on a five year rolling average to diminish seasonal variations). This is shown graphically in Figure 1. This represents an increase in the demand for water on the land of some 400,000 ML.

The application rate has increased at a rate of 1.38% per annum indicating that the total area irrigated has increased only slightly whilst the existing development has progressively been intensified. The increase in usage expressed as annual average since 1975 has been 260,000 ML.

The Water Commission indicated that the irrigation supply system cannot continue to support an increase of this magnitude without unacceptable risks of failure of supply, during a drought sequence and that action is now required to moderate the growth in irrigation demand. There is only a finite volume of water available which cannot be increased without:

- (i) the construction of additional storages, e.g. Murray Gates;
- (ii) reduction in transmission and distribution losses.

Significant changes in either of these areas appears remote for the short to medium term.

# WATER USAGE 1970 - 83

## GOULBURN MURRAY IRRIGATION DISTRICT

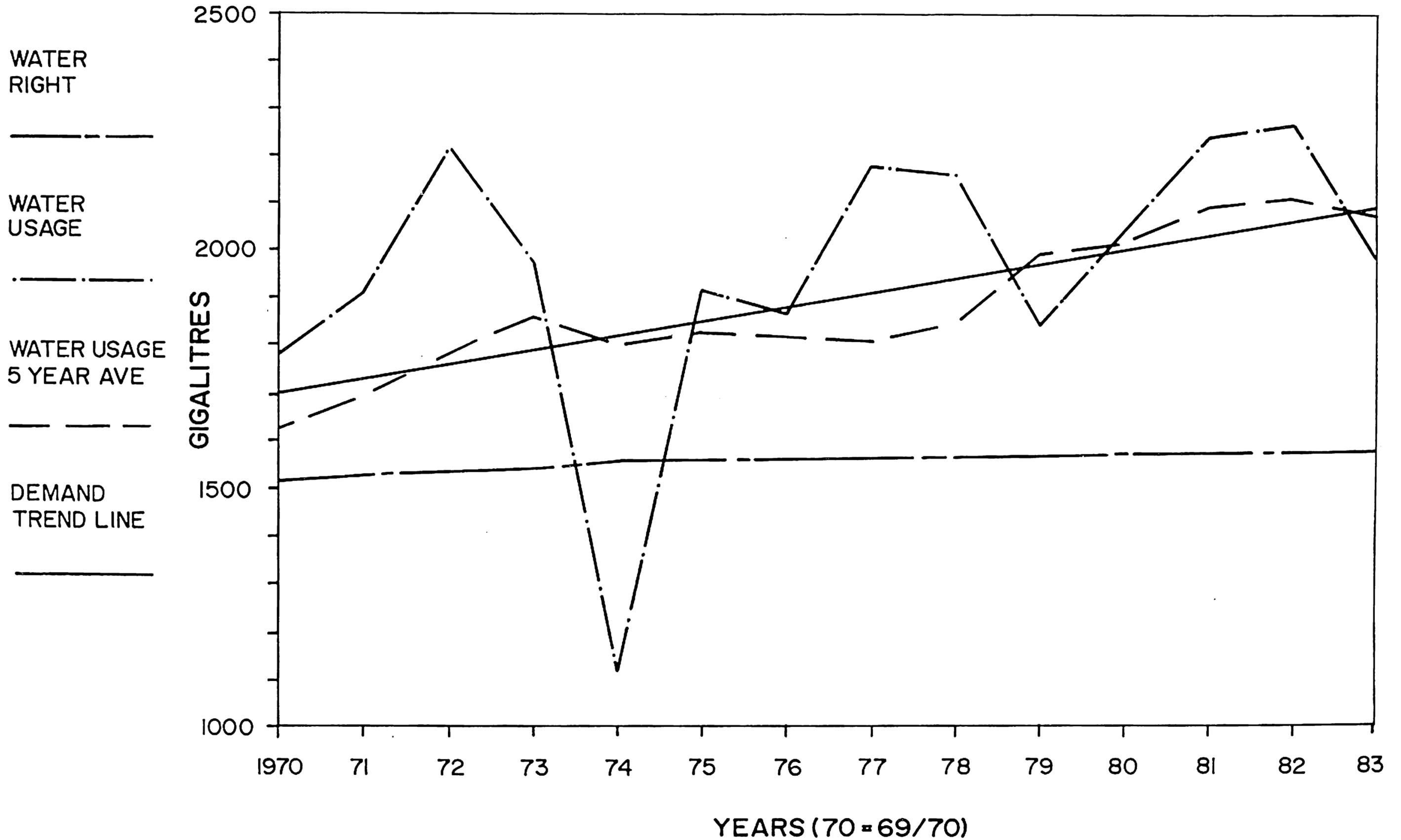


FIGURE 1.

The additional water that was identified as being available in the post Dartmouth situation is in fact largely being used by irrigators as "sales".

As requirements become known for river dilution and forest watering, water will be allocated for these purposes. These new allocations of water will result in a reduction in the maximum level of sales in the GMID. Irrigators must therefore adopt an expectation that in the medium to long term the amount of water available for sales will decrease.

In general terms, the irrigation community in Northern Victoria must expect no further fixed allocations of water and in the GMID a medium to long term expectation of a real reduction in available water in any season.

Evidence presented to the Committee by the Department of Agriculture (DAV) indicated there was scope for increases in agricultural productivity by the availability of extra water allocations in conjunction with modern irrigation techniques such as land layout, drainage re-use and the use of groundwater in selected areas. The extra productivity to be gained from using more water per hectare would be vital in maintaining economic viability. The Department of Agriculture suggested that this extra water should not necessarily result in extra drainage, increased groundwater levels or salinity problems - it is reflected in more efficient and higher productivity.

1. "Sales" water: In simple terms, the quantity of water available for irrigation use during a season (from 15th August to 15th May) varies from season to season depending upon the volume held in the storages. A carryover volume is retained in storage to allow irrigators to receive their water right entitlements in the following year if minimum historical inflows into the storages occur. In any season there may be available for irrigation purposes a quantity of water greater than the total allocated water right entitlements, for example 140 percent of water right entitlements. The seasonal allocation in this example is 140% and the "sales" volume is 40%, i.e. the amount of "sales" is the difference between the seasonal allocation (140%) and the total water right entitlement (100%).

Improved techniques are being adopted rapidly by farmers. However, they require large inputs of capital. The improved control of water, for both irrigation and drainage enables higher productivity of crops and pastures. To achieve these increased plant yields, a greater total amount of irrigation water per hectare will be needed. Farmers at present are often applying only 75% of the requirements on perennial pastures. For example, perennial pastures grown under irrigation in the GMID require about 10 ML per hectare for maximum production in an average year whilst the maximum water right available is up to 6 ML per hectare - hence either the whole area cannot be watered to full intensity or the balance must be made up through sales water.

It has been suggested that irrigated agriculture has the medium and long term potential to adapt to any foreseeable changes in demand for a wide range of agricultural products, to produce new products that may be required in the future, and to intensify productivity to meet changing economic conditions.

## **Conclusions**

- The additional water that was identified as being available in the post Dartmouth situation is in fact largely being used by irrigators as sales water quota.
- As other allocations of water are taken up, water which was previously available to irrigators in the GMID will no longer be available, i.e. there will be a reduction in the level of seasonal allocations. The medium to long term expectation is that the average level of sales water which is currently available in a season will decrease because of the requirements for forest watering and river dilution.
- The irrigation community must expect no further fixed allocations of water. Over the medium to long term period (nominal 10 years) the expectation in the GMID must be of a real reduction in available water in a season.

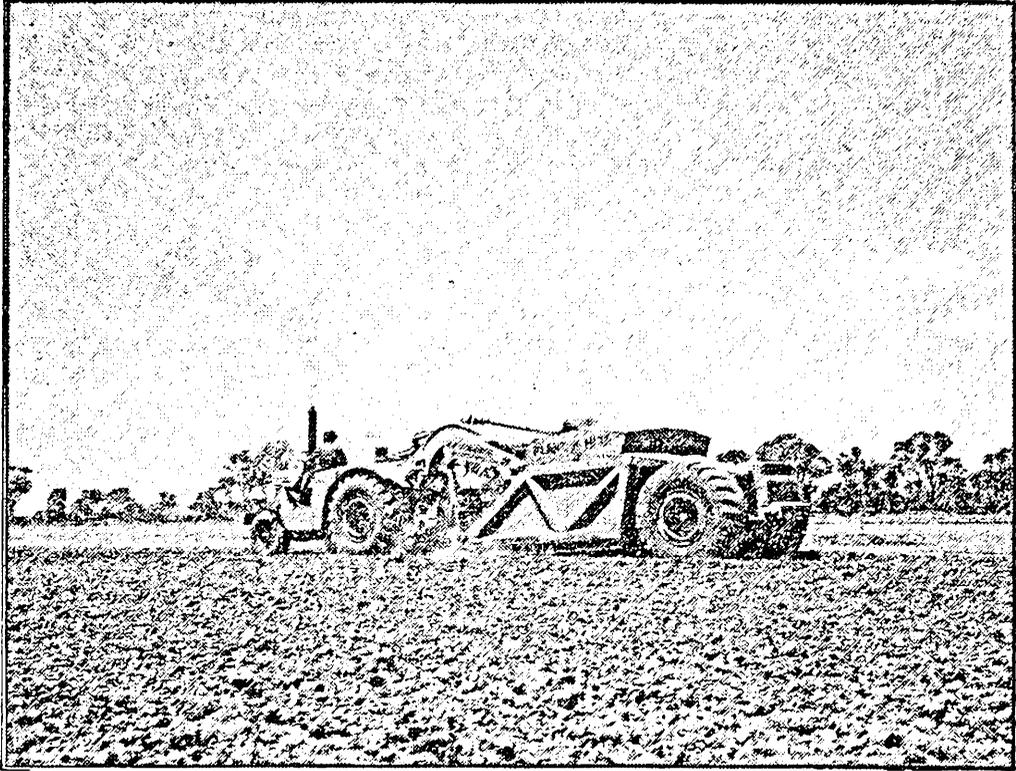


PHOTO 2: Land forming for irrigation.

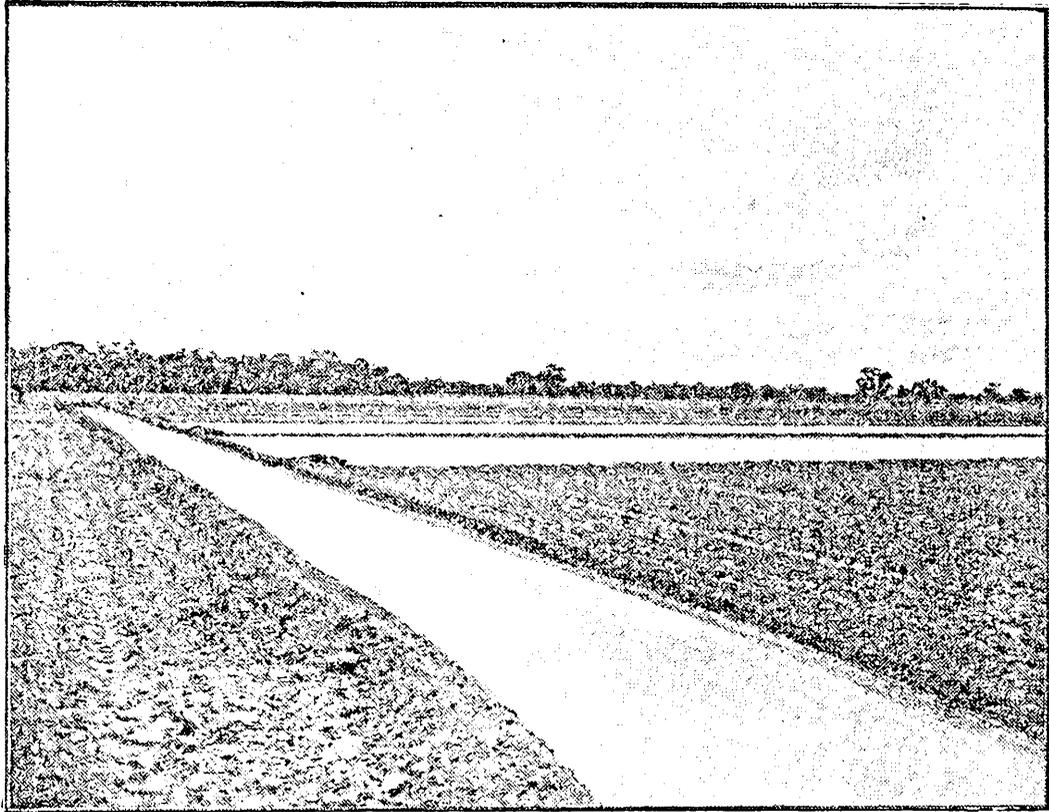


PHOTO 3: Newly laid out land being irrigated.  
Water carried to spur channel via  
fill bank channel.

- There is scope for increases in agricultural productivity by the availability of extra water allocations in the GMID in conjunction with modern irrigation techniques.
- Irrigated agriculture has the medium to long term potential to adapt to changing agricultural demands and economic conditions.

#### 4.3 Flora and Fauna Demand

As previously mentioned in this Report, the PPWC recommended that an interim allocation of 25,000 megalitres should be set aside in the interests of conservation of native flora and fauna. The intention was that this water be used generally by the Department of Conservation, Forests and Lands for various wetlands to restore the natural water supply regime which has been modified by water diversion and regulation for rural and urban purposes.

The Department has requested that this volume be increased to 37,000 megalitres and that this allocation be flexible to enable it to provide water to the wetlands which are perceived to have the greatest need. For example, water could be used in the Barmah Forest pending the outcome of the forest watering studies or at Hird or Johnson's Swamps.

The use of water for these wetlands has been hindered by a number of constraints and problems which have included:

- constraints imposed by the existing supply and distribution systems;
- possible flooding or seepage objections;
- legal liability for possible damage to neighbouring freehold land (it is understood a Bill will be presented to Parliament shortly to transfer responsibility from the Minister for Water Resources to the Minister for Conservation, Forests and Lands).



PHOTO 4: Typical Wetland in Northern Victoria  
with fringe of black box.

To a large extent, the resolution of these type of matters will require the development of an appropriate management strategy for each wetland after development of a community based regional management strategy. This will essentially require co-operation between the Department of Conservation, Forest and Lands and RWC. The RWC would provide essential inputs by way of water management and engineering expertise. However it is unlikely in the short-term that suitable management strategies can be developed and implemented for all public land wetlands, due to the time taken to investigate suitable strategies and the likely requirement for the construction of works such as diversion structures and channels.

Another more serious problem which is appearing with wetlands in the Kerang Marshes is the death of trees due principally to high groundwater levels. However, as yet, there is no agreement on the cause - whether it is a local or regional groundwater problem. Therefore, in evaluating a management strategy for this particular area, as well as for all others, the consequences of salinity problems occurring will need to be fully evaluated. Of course, any potential salinity problem could be exacerbated if water is retained in some of these wetlands in all years. It is understood that the intention of the Fisheries and Wildlife Service is not to retain water in wetlands in all years but to restore the regime to conditions akin to the natural state.

Due to these reasons the interim allocation of 25,000 megalitres is considered adequate. Once appropriate management strategies are developed and implemented, a further assessment should occur of total water requirements, but this will be in the medium to long term.

The Department of Conservation, Forests and Lands also requested that the Committee:

- recommend that water requirements for nature conservation receive priority for surplus water flows; and

- endorse the Department's recommendation that the cost of restoring acceptable water regimes to wetlands should not be a charge against this Department's current allocation of funds but rather an additional allocation of funds.

Firstly, it is highly desirable that the maximum use be made of surplus flows of water for nature conservation in preference to regulated flows. The Department is after an absolute priority for these flows while the RWC argued, in evidence to PPWC, that although the demand for alternative uses of surplus flows (eg irrigation) is generally low during periods of surplus flow, the major constraints foreseen to the use of surplus water flows are the capacity of the supply or diversion works and the ability to bring them into operation to take advantage of surplus flows.

It appears to the Committee that this matter can be resolved if each wetland receiving surplus flows has an appropriate management strategy which is developed in consultation with other Government Departments and interested parties. The Committee is of the view that it would be difficult to recommend that wetlands receive absolute priority for surplus flows as there may be individual circumstances where this is inappropriate or that changed circumstances in the future with such matters as River Murray water quality may require altering of the current priority. In any event, the maximum usage must be made of surplus flows for nature conservation.

In regard to the second matter, there has been a number of views put forward on who should pay for the water supplied for purposes such as the conservation of flora and fauna. Amongst these views are:

- (i) general public: as all members of the community should share in maintaining our native flora and fauna.
- (ii) water users: as they created the need for water for the conservation of flora and fauna by altering the natural regime of streams by regulating flows.

- (iii) users of wetlands, e.g. hunters, fishermen, bird watchers.

The Committee has not had time to explore this matter but advocates that further community consultation and discussion should occur on who should pay for water used for these purposes. It would be appropriate for any discussion to simultaneously embrace all three purposes - flora and fauna, forest watering and river dilution - and not for each issue to be undertaken in a singular manner. The appropriate organisation to co-ordinate this discussion and consultation would be the Department of Water Resources.

## Conclusions

- Management strategies need to be developed for each wetland area by the Department of Conservation, Forests and Lands in consultation with other Government Departments and interested communities. These strategies should be undertaken only after a community based regional management strategy has been developed and should take account of potential problems such as salinity and flooding.
- The recommended interim allocation by PPWC of 25,000 megalitres is deemed adequate for the conservation of flora and fauna
- Once appropriate management strategies for the wetlands in Northern Victoria have been developed and implemented, a further assessment should occur of total water requirements for flora and fauna.
- It is desirable that the maximum use be made of surplus flows of water for nature conservation in preference to regulated flows. Therefore high priority for surplus flows in the river or distribution systems in Northern Victoria should be given to nature conservation requirements.
- The Committee has not had time to explore the matter of who should pay for water used for conservation of flora and fauna, forest



PHOTO 5: Brolgas - a bird, which is now declining in population, often found in shallow wetland areas.

watering and river dilution but advocates that further community discussion and consultation should occur on this matter. The Department of Water Resources should be responsible for co-ordinating this discussion and consultation.

## **Recommendations**

The Committee recommends that:

- R5 A management strategy should be developed for each wetland area in Northern Victoria by the Department of Conservation, Forests and Lands in consultation with other Government Departments and interested parties including taking account of potential flooding and salinity problems after a community based regional strategy has been developed.
- R6 The annual allocation for the conservation of flora and fauna should be 25,000 megalitres.
- R7 The water requirements for nature conservation should receive high priority for any surplus flows in the river or distribution systems in Northern Victoria.
- R8 The Department of Water Resources should co-ordinate community discussion and consultation on who should pay for water used for conservation of flora and fauna, forest watering and river dilution.

### **4.4 Red Gum Forest Watering Demand**

One of the emerging issues over the past decade has been the effect of river regulation on the water regime of the riverine red gum forest. Detailed studies of this matter have been in progress for some years but it appears that resolution of a strategy to alleviate problems including the specific annual quantity of water required may be some years hence.

River red gum forests form a unique and extremely important forest ecotype along the River Murray and some of its tributaries. These forests, the location of which are shown in Map 2, are an important source of durable timbers and provide a unique range of habitat for plant and wildlife systems which are dependent on the continued existence of the forests in a healthy state. The forests also perform an important flood mitigation function.

These forests have evolved in an environment characterised by natural flooding in the winter-spring months of most years alternating with dry conditions during summer-autumn months. However, this environment has been substantially changed over the past 50 years by regulation of natural river flows.

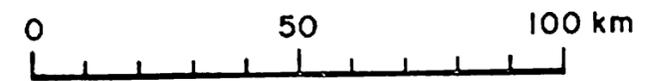
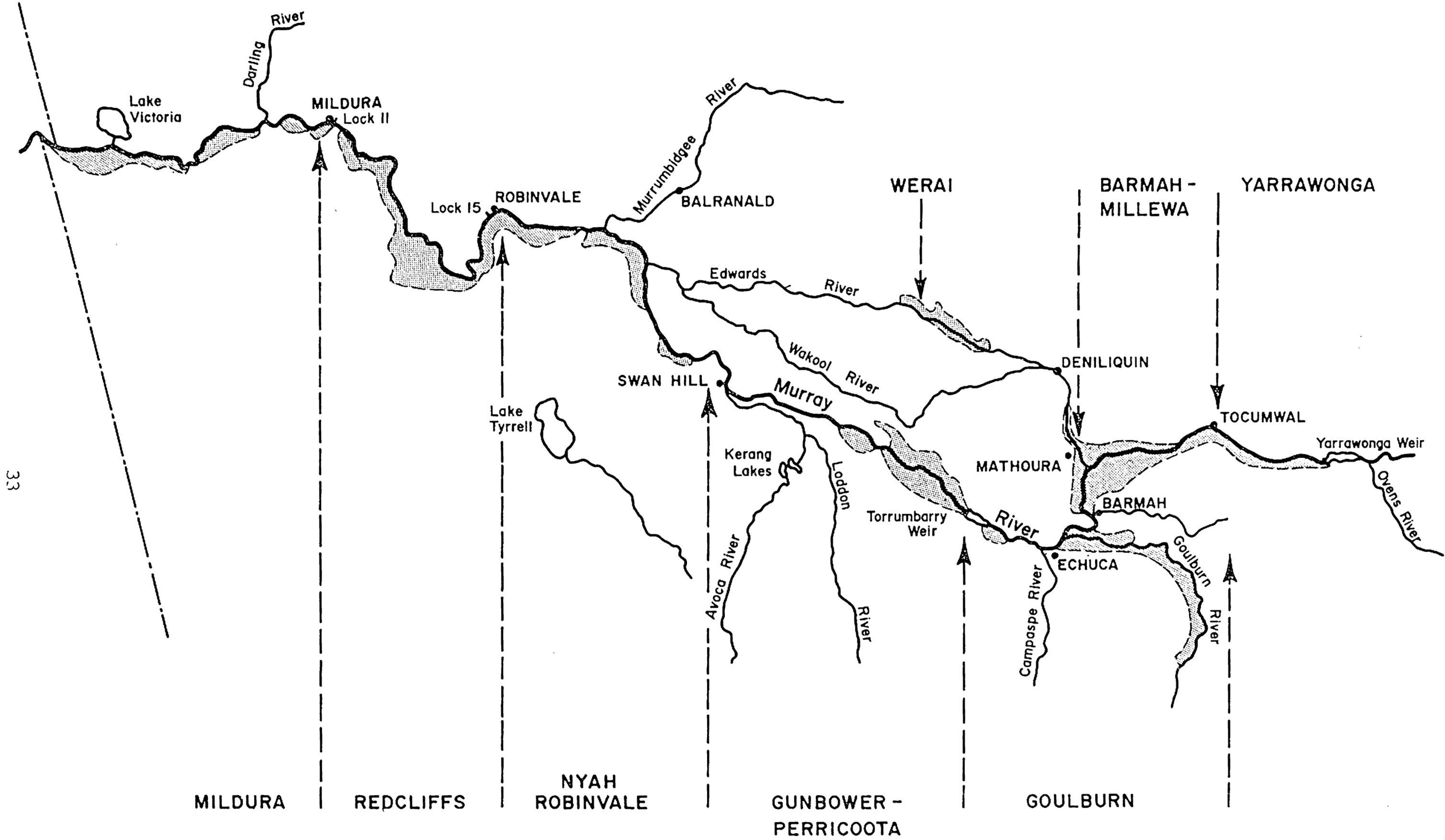
Investigations into the water requirements of riverine red gum forests are being directed through two mechanisms:

- (i) a State working group convened by the RWC comprising officers of the RWC and the State Forest and Land Service, Department of Conservation, Forests and Lands.

This group was formed in 1979 to identify and where possible to quantify any adverse effects on the management of the riverine forests associated with the regulation of the water flow of the River Murray. The Working Group has to date concentrated on examining alternative measures for providing effective winter/spring flooding of the Barmah State Forest.

The State Working Group in evidence to the Committee concluded from its investigations that:

- (a) River red gum forests along the floodplain of the River Murray form a unique and important forest ecotype which provide a wide range of forest values and uses for the social and economic benefit of the community.



FOREST BLOCKS OF THE MURRAY SYSTEM

- (b) Progressive modification of natural river flows since 1934 through the construction of water storages has diminished the frequency, intensity and duration of winter/spring flooding of the forests.
  - (c) To conserve existing forest values and uses, a range of measures will need to be taken to provide for adequate winter/spring watering, including a specific allocation of River Murray resources for forest watering purposes.
  - (d) In the case of the Barmah State Forest, more detailed investigations are required into the engineering and economic feasibility and environmental effects of works, both on-river and within the forest, that will achieve effective forest watering without significant reduction in irrigation supplies.
- (ii) Representation on a Working Group of the River Murray Commission's Environment Advisory Committee. This Working Group was established in 1983 and brings together representatives of water and forest interests in Victoria and NSW with the purpose of identifying practical ways of supplying the water needs of riverine red-gum forests. This Committee reports directly to the River Murray Commission.

In evidence to PPWC in 1980, the now State Forests and Lands Service of the Department of Conservation, Forests and Lands had indicated that the minimum effective watering of the Barmah Forest occurs when river levels are sustained for about one month at a height equivalent to a flow of 24,500 megalitres per day at Tocumwal. Such a flow results in about 85% of the forest being inundated but this flow by itself does not necessarily guarantee the required depth and duration of flooding to satisfy all the requirements of the red gum ecosystem. Subsequent flows in excess of 18,000 megalitres per day at Tocumwal for a similar period, that is about 30 days, before the initial flood waters drain and/or evaporate away are required and are essential for sustaining tree reproduction and growth and for waterbird habitat.

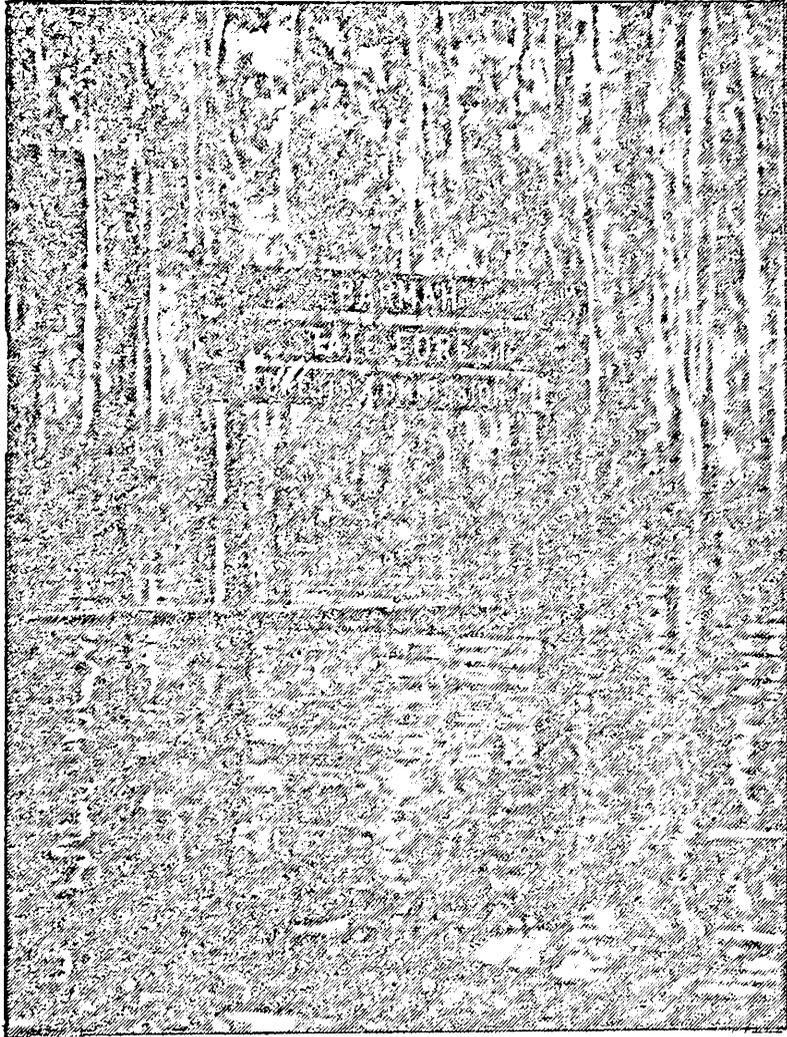


PHOTO 6: Barmah State Forest during a period of flooding.

The RWC's preliminary estimate of the consumptive water use of this forest was assessed at between 50,000 and 100,000 megalitres per annum. A more precise figure was not available and in any event, the annual requirement would vary according to the seasonal conditions and method by which a forest watering occurs. The RWC also indicated that in order to provide an effective flooding of the whole of Barmah Forest, a release could be involved of a total volume in excess of 700,000 megalitres even though the consumptive use by the forest was estimated at only 100,000 megalitres.

The Salinity Committee appreciates the complexity of the investigations which are being undertaken and problems which have been encountered in trying to determine the specific annual volume required for red gum forest watering. However, the Committee is most concerned at the apparent lack of progress since the PPWC Inquiry and the ad hoc nature of the allocation of resources from within the two Departments to this project.

As it is likely to be some years before a strategy is implemented for the watering of Barmah Forest, in the interim, it would be highly desirable to use surplus river flows for flooding of the forest whenever possible.

### **Conclusions**

- Studies are currently being undertaken into red gum forest watering and it may be some years before the results are available, including annual water requirements, and suitable strategies developed.
- The Committee is concerned that it cannot report on a specific water allocation for red gum forest watering until studies in progress are completed, particularly as the PPWC obtained the same finding.
- There should be an acceleration of effort by the State Working Group on River Murray Water and Forest Management to resolve the water requirements for red gum forest watering and determination of appropriate strategy for forest management. This would include the commitment of further departmental resources.

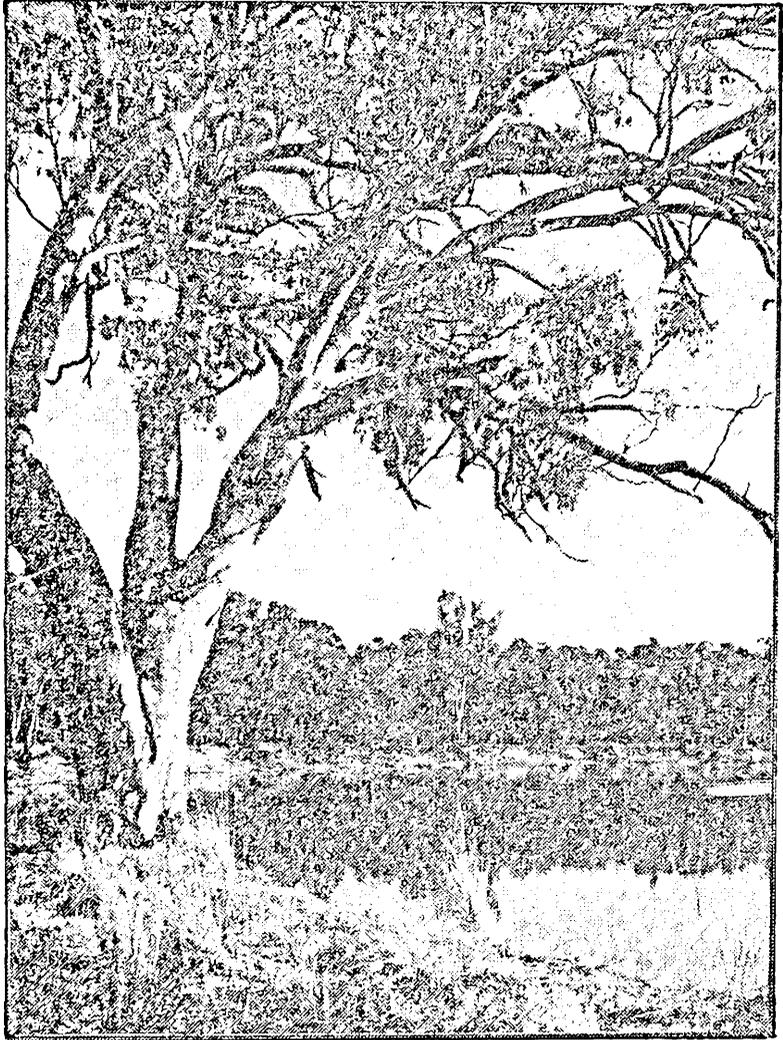


PHOTO 7: Red Gum Forest of the River Murray.

- The annual water requirements for red gum forest watering are likely to be substantial and one should probably be considering volumes of the order of hundreds of thousands of megalitres.
- In the interim, until a firm water requirement is known for forest watering in Northern Victoria, any surplus river flows should, where possible, and appropriate be used for watering of forests such as the Barmah Forest.

## **Recommendations**

The Committee recommends that:

- R9 There should be increased departmental resources allocated on a permanent basis to the State Working Group on River Murray Water and Forest Management to expedite the matter of the annual water requirements of red gum forests along the River Murray and its tributaries and the associated management strategy.
- R10 In the interim period, until water requirements are known for forest watering in Northern Victoria, any surplus river flows should where possible and appropriate be used for watering of these red gum forests.

### **4.5 River Dilution Demand**

The use of additional dilution flows for water quality management has received closer attention in recent years and overlaps with the Committee's other Inquiry into Effects and Control of Salinity.

The most recent information on dilution flows and their effects results from the River Murray Water Quality Management Study (1984), commissioned by the River Murray Commission. This indicated that dilution of the likely salt loads can be achieved with the relatively low diversion of water resources. In the Strategic Study on Salinity Control in Northern Victoria, Dwyer Leslie (1984), commissioned as part of the Salinity Inquiry, an example of the

effect of dilution flows in the River Murray is taken from simulation runs of the model developed in the River Murray Water Quality Management Study. These results are shown in Table 1 and indicate that there will be some penalty to irrigators in the GMID if dilution flows are implemented.

TABLE 1  
EFFECT OF DILUTION FLOWS ON SHEPPARTON SALT LOADS  
(average annual values)

Shepparton Salt Load	Effect @ Morgan	New Euston Dilution Flow	Effect @ Morgan	Average Penalty to Irrigated Supplies.	Remarks
Phase B Hybrid Scheme 90,000t/a	+10 EC	An additional 1000 MI/d	- 15 EC	15,000 ML/annum	The net salinity effect is a 5EC improvement.
Say long term load 150,000t/a	+17 EC	An additional 1500 MI/day	- 22 EC	28,000 ML/annum	The net salinity effect is a 5EC improvement.

Source: Dwyer Leslie (1984), p.42.

While the penalty to irrigation supplies would fall unevenly, being more severe in drought years, the average penalty should be seen in the context of an annual average diversion from Northern Victorian streams of about 4,300,000 megalitres. If Victoria were to supply all the dilution flow for the Shepparton Phase B Hybrid Scheme or the Shepparton long term case, the average penalties to irrigators in GMID would be about 1% and just less than 2% respectively. However, in severe drought years the penalty would rise significantly. For the Phase B Hybrid Scheme which requires an additional 1000 ML/day dilution flow at Euston, the annual penalty during drought years is likely to be between 30,000 to 70,000 megalitres which results in a penalty of between 2% and 5% for irrigators in the GMID.

In the worst case, which requires a dilution flow of 1500 ML/day at Euston, the shortfall to Victoria could be up to 900,000 megalitres

during periods of extreme drought such as in the year 1944-45 of the 1939-45 drought.

In the Strategic Study on Salinity Control in Northern Victoria it is suggested that a dilution strategy be committed on a limited scale for the most immediate disposal need. An approach of "buying time" is desirable to enable the effects to be monitored and decisions taken on the practicality of local interception and disposal. However, any "buying of time" strategy is likely to end up as a permanent strategy if other alternatives cannot be found.

Any annual quantity of water which is made available for dilution will in effect result in less water being available for irrigation. This may be a justifiable and equitable situation for irrigators in the Shepparton Region of the GMID, if salinity reduction schemes such as Shepparton Phase B proceed.

Therefore, river dilution must be seen as an interim solution to dilution of anticipated salt loads and River Murray water quality problems, not as a long-term solution. Any use of stored water for salinity reduction strategies should be seen as a less than optimum usage of a limited resource.

In economic terms the trade off between salinity improvements in the lower river and the loss of water resources for upstream irrigators presently favours the salinity improvements. For example, the River Murray Commission indicates that a 15EC reduction in salinity at Morgan would give immediate urban and industrial benefits in South Australia of \$820,000 per annum, whilst the annual average cost to irrigation would be \$624,000 (assuming water having a net marginal cost of \$48 per ML) - the net benefits of the additional dilution flow being \$196,000 per annum.

River dilution also has a number of other advantages including:

- it can be quickly introduced, easily monitored and can be incremented for individual projects;

- it is an easily managed technique in a physical sense, although the River Murray Commission's water accounting rules would require modification.

Finally, it is not possible at this time to assess the required magnitude of river dilution flows until the outcome of studies being conducted by the River Murray Commission are finalised. These studies include detailed operational rules for provision of increased dilution flows both to counteract any saline drainage and to mitigate present river salinity. Water released from River Murray Commission storages for dilution purposes is accounted as used water by one or other of the States and debited against their share of water resources held in River Murray Commission storages. The River Murray Commission is developing accounting rules which share any such debits between the States. The River Murray Commission is also developing a Water Management Plan for the River Murray.

## **Conclusions**

- Dilution flows are an attractive means of managing saline wastes in the short term due to their costs and flexibility.
- In the long term, dilution flows may not be able to be sustained without a significant penalty to other water users, particularly irrigators.
- There is a requirement to examine a policy of dilution flows within the River Murray Commission but with an expectation that long-term salinity problems will require alternate disposal means. Investigations are currently in progress within the River Murray Commission on river dilution and these should be continued and expanded upon.

## **Recommendations**

The Committee recommends that:

- R11 River dilution be used as a short term solution to overcome particular problems pending the introduction of a long term strategy for disposal of saline wastes.
  
- R12 The investigations currently being undertaken by the River Murray Commission into river dilution be continued but with an expectation that long term salinity problems will require alternate disposal means.

## CHAPTER FIVE

### THE WATER RIGHTS FORMULA IN GOULBURN MURRAY IRRIGATION DISTRICT

#### 5.1 The Existing Water Rights Formula

The historical development of the water right formula in the GMID is detailed and somewhat complex. A detailed account of the development of the water right formula as presented in evidence by the RWC is presented in Appendix V.

The guiding principle behind our existing irrigation development is the nexus between land and water entitlement together with the desire of past governments and the irrigation community to provide an equitable distribution of available water resources between holdings. The development of the existing arrangements for Water Right allocation and administration has been influenced by a number of significant factors the main ones being:

- (i) The experience gained from the failure of the early irrigation Trusts indicating the need to provide reliable irrigation supplies and to have a secure financial base for management or irrigation areas.
- (ii) Decisions by governments early in the century to pursue a closer settlement policy including the development of irrigated agriculture.
- (iii) Decisions after two world wars to pursue a policy of closer settlement of irrigation areas as a means of resettling ex-servicemen. These decisions to a large degree set the size of holdings in the GMID and hence were the criteria by which "economic enterprises" were tested.
- (iv) The need to provide a secure water supply to these holdings so that irrigators would have confidence to develop their irrigation enterprise.

- (v) The economic assumption that because Australia is an arid country every effort should be made to conserve and efficiently utilise our available water resources to produce food products which are both marketable and profitable.

The GMID contains in excess of 10,000 farms on which irrigation is undertaken ranging from small holdings of less than four hectares up to very large holdings in excess of 1000 hectares. More than 50% of holdings however are less than 40 hectares.

The water needs of all these farms is not uniform due to the diversity of soil and crop types, climate and intensity of individual development.

Apparently at the time of the development of the present formula in the early 1960's, such factors as these were indirectly taken into account so as to allocate the available water resources in such a manner as to meet the water requirements of the most probable development pattern on the majority of all holdings. It was recognised that small holdings are usually the most intensively irrigated and water requirements per unit area decrease as property size increases. As a result the current Water Rights Formula in the GMID (1964 Formula), which evolved in a number of stages, is of the "non-linear type" in that the allocation per unit area is highest for property sizes up to 16 hectares and decrease in several steps as property size increases above 16 hectares. This reflected the desire of the great majority of irrigators, as expressed by their representatives at the time, to provide sufficient allocation for intense development on properties up to 40 hectares. It was not possible due to the limited overall water resources to extend the relatively high rate of allocation per unit area to larger sized holdings. A graphical presentation of this "non-linear" formula is shown in Figure 2.

The allocation of water in accordance with the 1964 formula has been incorporated in the Water Act 1958 as Schedule 3B - an extract is contained in Appendix VI.

WATER RIGHT

GOULBURN MURRAY IRRIGATION DISTRICT

1964 WATER RIGHTS FORMULA

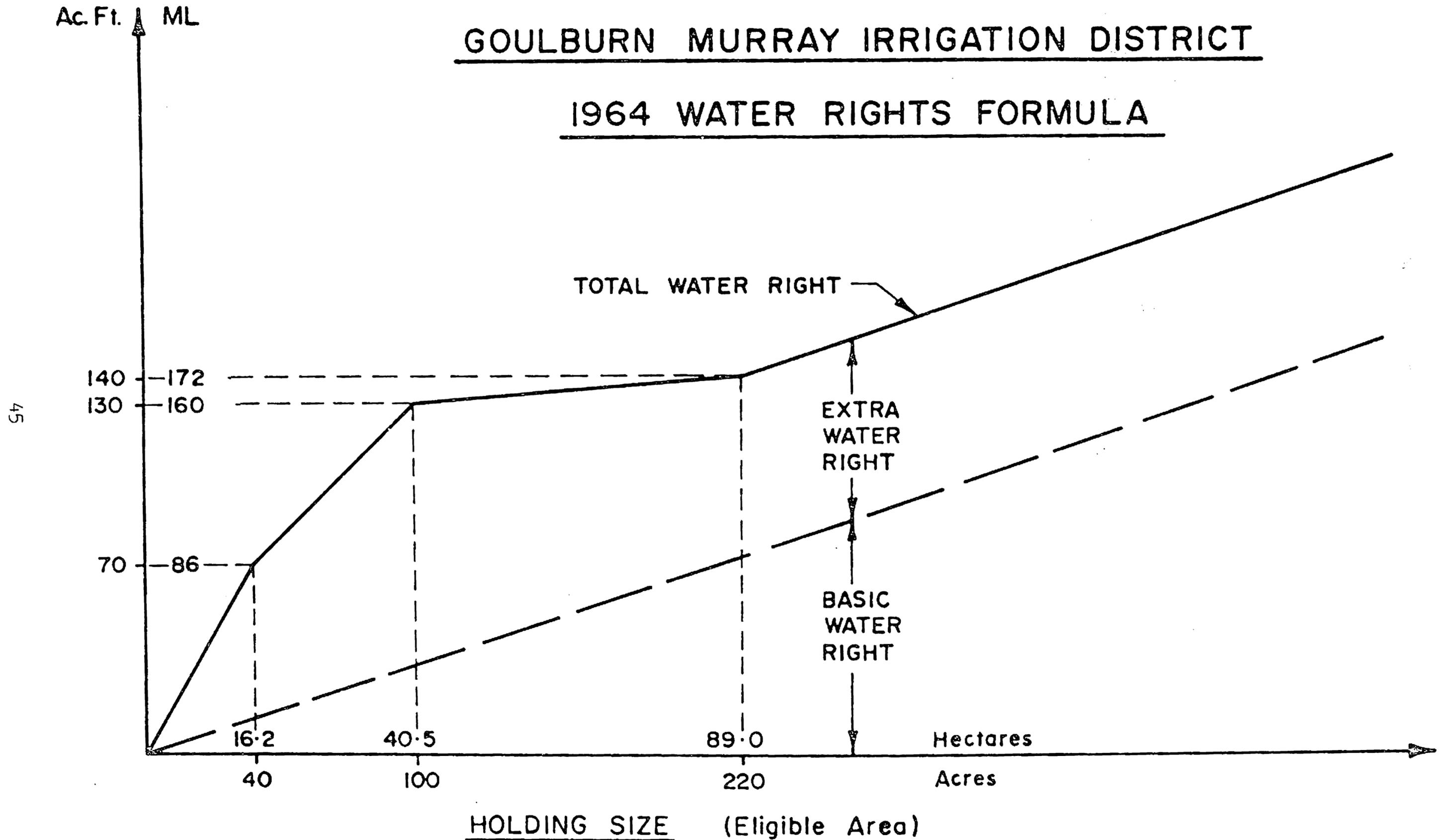


FIGURE 2.

The existence of this non-linear formula does give rise to apparent discrepancies, for instance when owners of properties in the 40 to 89 hectares group compare their per unit hectare allocation with those in the less than 40 ha group.

In addition, the process of subdivision and amalgamation of water rights allows the effective transfer of extra water right and the provisions of the Water Act preserve the water entitlements on holdings which, due to previous policy decisions, enjoy an entitlement in excess of that calculated under the 1964 formula.

The Water Commission has calculated that approximately 2800 holdings currently have water rights in excess of that calculated under the formula for their eligible areas while another 1600 holdings have water rights below such calculated figures.

Under this type of "non-linear" formula it is necessary to fix a date for the determination of the water right applicable to a particular holding, otherwise landholders would subdivide their properties into holdings which attain the maximum per unit hectare water rights. Currently, this date is set at 1st July 1959. In Table 2 is presented the status of holdings in the GMID at 1st July 1959.

TABLE 2  
GOULBURN MURRAY IRRIGATION DISTRICT  
HOLDINGS AS AT 1 JULY 1959  
AND APPLICABLE WATER RIGHTS

<u>Eligible Area</u>		No. of Holdings	Total Applicable Water Right in accordance with Schedule 3B of Water Act.
Acres	Hectares		
0-40	0 - 4	707	5.334 megalitres for every hectare of suitable land.
	5 - 10	1164	
	11-16	888	
		<u>2759</u>	
41 - 100	17 - 24	1107	86 megalitres and in addition for every hectare by which the area of suitable land exceeds 16.2 hectares 3.048 megalitres.
	25 - 32	886	
	33 - 40	1175	
		<u>3168</u>	
101 - 220	41 - 57	1551	160 megalitres and in addition for every hectare by which the area of commanded and suitable land exceeds 40.5 hectares 0.254 megalitres.
	58 - 73	793	
	74 - 89	511	
		<u>2855</u>	
Over 220	90 - 129	1289	172 megalitres and in addition for every hectare by which the area of commanded and suitable land exceeds 89.0 hectares 1.016 megalitres.
	130 - 169	354	
	170 - 209	234	
	210 - 1120	324	
		<u>2201</u>	
		TOTAL 10983	

## 5.2 Appraisal of the Water Rights Formula

It is some 20 years since the last major changes to the water right formula in the GMID. In that time there has been significant change in the operation of farming enterprises as well as increased attention being paid to such problems as salinity, red gum forest watering and River Murray water quality. It is therefore appropriate that the Committee reconsiders the existing arrangements for water right allocation and administration.

However, in any reassessment of the basis of water allocations it must be remembered that the water resources are not sufficient to allow all the land suitable for irrigation in the GMID to achieve its maximum potential of productivity.

The Water Commission suggested that future decisions regarding water allocations and water right administration should be tested against the following criteria:

- economic efficiency of water use "on-farm" and at State level;
- efficient application of water;
- equity consideration taking into account past Government decisions, as applying to both individuals and specific grower groups;
- local and regional social and environmental effects;
- salinity and drainage consequences with particular emphasis on Victoria's interstate responsibilities under the River Murray Waters Agreement;
- government expenditure on capital works;
- adaptability of the system to meet changed circumstances in the future if required;
- administrative effectiveness at reasonable cost.

The Committee views these criteria as a reasonable basis upon which to appraise any change.

**Linear Type Formula:** One formula which would minimise "anomalies" in the 1964 Water Right Formula would be a "linear type", that is, having a uniform allocation per unit area for all property sizes. In such a situation subdivision or amalgamation would not change the allocation rate per unit area and the question of a fixed date for the definition of a holding would be irrelevant. However, this type of formula cannot address such matters as differing soil characteristics, crop types, drainage and variations in climate.

It is clear that it would not be appropriate or practicable for this type of formula to be introduced in the GMID at this time. There are insufficient water resources available to allow the relatively high rate of allocations to properties up to 40 hectares size to be extended to all properties. On the other hand adoption of a single uniform allocation rate within the total volumes of the available water resources would require very large reductions in existing water rights for all properties less than 40 hectares. This could render most properties unable to sustain a viable irrigation based enterprise - the consequences, both economically and socially, could be enormous.

**Increase in 40 to 89 ha Group:** A number of organisations have advocated an increase in water rights on holdings in the 40-89 ha group only. The basis of the arguments being presented is that irrigators in this group are disadvantaged by the present formula. Under the 1964 Formula holdings in this group receive 160 megalitres for the first 40.5 hectares and in addition for every hectare by which the commanded and suitable land exceeds 40.5 hectares 0.254 megalitres. Therefore a property of 40.5 hectares in size receives 3.95 megalitres per hectare whilst the rate declines linearly to 1.91 megalitres per hectare for an 89.0 hectare property.

It has been calculated that an annual volume in excess of 90,000 megalitres will be required to overcome partially or totally this disparity.

The allocation of further water rights to specific groups within the existing water right formula or an across the board percentage increase in water rights to all irrigators must be seen in the context of the following factors:

- (i) An annual volume of the order of 195,000 megalitres is remaining to be recommended for allocation and the Committee is to determine the most effective, efficient and equitable manner in which to allocate this resource.
- (ii) specific annual volumes cannot be determined at this time for red gum forest watering or river dilution.
- (iii) any increase in the total volume allocated for water rights in the GMID will have a consequent reduction in the level of sales.
- (iv) any increase in water rights must be consistent with other recommendations particularly in respect of transferability of water entitlements and capital levy matters.
- (v) a fixed commitment reduces the flexibility available in the future for redistribution of the available resource should the need arise.

As a general principle, the allocation of water resources must have a built in flexibility to adapt to changing conditions and also be able to be reallocated to other uses, for example, irrigated agriculture to non-agricultural use (river dilution). Any further fixed allocation cannot achieve this goal. It is also difficult to try to modify a well-entrenched allocative system for water such as GMID Water Right Formula to take account of today's demands. If at all possible it is desirable to create flexibility with any such rigid system and of course one way is a TWE system (refer Chapter 7).

## **Conclusion**

- The requirements for river dilution and forest watering have yet to be determined but could exceed the volume yet to be allocated as a consequence of the construction of Dartmouth Dam. Therefore the Committee finds it difficult to recommend further fixed allocations of water. As a result it is not consistent to change the existing water right formula in the GMID in ways which would require the commitment of further water allocations.

In these circumstances and with the limited water resources available, flexibility is required to be built in allocation policies to allow for changing present and future circumstances.

### **Recommendation**

The Committee recommends that:

- R13 No change should be made to the existing water right formula for the GMID as shown in Schedule 3B of the Water Act 1958.

## CHAPTER SIX

### SUBDIVISIONS

#### 6.1 General

A subdivision in the context of an irrigation district relates to the process of obtaining Water Commission approval to the "subdivision" for a water right of a holding shown in the Register of Lands of a particular Irrigation Area. The Commission undertakes this responsibility in accordance with Section 72 of the Water Act.

The main purpose is to ensure that each holding has the necessary facilities in place for the independent operation of each as a farming enterprise. For example, each holding must have separate metered supply works from the channel system, separate entries to the reticulated drainage system and independent access facilities.

#### 6.2 Date of Subdivision

For the purpose of having a date for recognising a "holding" for determining the water right entitlement in the GMID, the date of 1st July 1959 has been fixed. The "non-linear" nature of the water right formula would otherwise make it possible for landholders to subdivide their properties into holdings which attain the maximum per unit entitlement if a date was not fixed.

Over the years there has been some pressure from sections of the irrigation community to have the date advanced so that holdings subdivided after the 1st July 1959 could be eligible for increased water right entitlement. In this regard the PPWC recommended inter alia:

"... the (Public Works) Committee considers that there should be no advancement of the date beyond 1st July 1964. As to whether the date should be advanced to 1st July 1964, the (Public Works) Committee reserves its judgement at this stage."

The Water Commission indicated there had been 2704 subdivisions involving the sharing of water right between 1st July 1959 to 31st December 1983. The estimated volumes involved in updating to various dates since 1959 would be:

Update to 1.7.1964	25,000 to 28,000 ML
Update to 1.7.1971	60,000 to 66,000 ML
Update to 1.7.1981	110,000 to 121,000 ML

The general community response to the proposal to change the eligibility date was that the date should remain as at 1st July 1959. It was pointed out by various organisations and groups that the Water Commission had consistently indicated over the past 25 years that there was no proposal to advance the eligibility

As stated previously, it is not possible to recommend further fixed allocations of water. In this context the Committee considers it would not be appropriate to advocate an advancement of the date of subdivision which would result in increased water entitlement to one small section of the irrigation community.

### **Conclusion**

As stated previously, the Committee finds it difficult to recommend further fixed allocations of water. In this context, it would not be appropriate to recommend the advancement of the date of subdivision which in turn requires a further commitment of water.

### **Recommendation**

The Committee recommends that:

R14 In respect of the GMID that the date for recognition of holdings created by subdivision should remain at 1st July 1959.

### 6.3 Unviable Holdings Resulting from Subdivision

One area of concern amongst the irrigation community has been the creation of unviable enterprises through the process of subdivision. This may be considered to involve two general types:

- (i) subdivision of a holding which results in one or more lots of the subdivision not being viable entities;
- (ii) the subdivision of viable holdings into "hobby farms".

With the first type of subdivision the result can be that a potential buyer may not be aware of the lack of water for viability of the property and thus may find himself in difficulty. It has been indicated that market forces dictate whether it is a viable proposition to subdivide so that the price being paid for each subdivided lot reflects the land value as well as the volume of water right attached to the land. With the subdivision process is also the amalgamation of water right process, both of which jointly can be considered as a rationalisation process.

This type of subdivision must be also considered in the context of proposals on transferability of water entitlements which are considered later in this Report.

The RWC will advise prospective purchasers on the water entitlement of a property whilst the Department of Agriculture will advise on the viability of the property and on the optimum use of water. Prospective purchasers should be encouraged to use the services of these organisations. In this regard more publicity should be given to the availability of these services.

The second type of subdivision, "hobby" type farms, is a result of demand for this type of property particularly on the outskirts of towns such as Shepparton, Echuca, Kyabram and Swan Hill. It can lead to the less than efficient usage of water resources and State borne investment in irrigation facilities.

The "hobby" farm type development creates debate on whether scarce water resources should remain allocated to these holdings and whether the State should continue to support a public irrigation infrastructure for these areas. It may be more appropriate for these properties to have a different type of water supply system. The Committee has not had time to examine this matter in depth but it would be appropriate for either the Department of Water Resources or Rural Water Commission to examine this matter in consultation with affected persons and organisations.

### **Conclusions**

- Subdivision of larger viable holdings into smaller holdings which are unviable enterprises is of concern to the Committee. The RWC and the Department of Agriculture have services available which advise prospective purchasers on the status of properties and the public should be encouraged to use them. It would therefore be desirable if the RWC and Department of Agriculture could increase the public's awareness of these advisory services by suitable publicity.
- The Committee is concerned over the type of services which should be provided to "hobby" type properties in the GMID. The provision of an appropriate water supply system for "hobby" type farms in the GMID should be examined by the Department of Water Resources or Rural Water Commission in consultation with affected landholders, municipalities and relevant Government authorities.

### **Recommendations**

The Committee recommends that:

- R15 The Department of Agriculture and the Rural Water Commission should implement a publicity programme to increase the public's awareness of the advisory services which are available to prospective purchasers of irrigation properties.

R16 The provision of an appropriate water supply system for "hobby" type farms in the GMID should be examined by the Department of Water Resources or Rural Water Commission in consultation with affected landholders, municipalities and relevant Government authorities.

## CHAPTER SEVEN

### TRANSFERABILITY OF WATER ENTITLEMENTS

#### **7.1 Introduction**

A transferability of water entitlement policy involves the ability of landholders to transfer all or part of their water entitlement on either a temporary or permanent basis. The extent to which such a policy is introduced can vary from transfer between commonly farmed holdings to a free market situation.

Transferability of water entitlement schemes have been introduced in South Australia and New South Wales and a scheme for Victoria has been examined as part of the State Water Plan by ACIL Australia, consultants to the Department of Water Resources.

The Committee's terms of reference relates to the desirability of amending the Water Act 1958 with regard to the transfer of water rights between holdings in the GMID.

#### **7.2 Recent Australian Studies on Water Transfer**

Over the past few years a number of studies have been undertaken which have examined aspects dealing with water allocation in Australia (Neilson Associates 1981, Randall 1982, Water 2000 Steering Committee 1983, Centre of Policy Studies 1983). The general thrust of the conclusions of these studies is that economic gains can be achieved in irrigated agricultural production through changes to water pricing and water allocation policies. Changes to the latter method are likely to produce the greatest economic gains.

The studies also indicate that one of the most efficient methods of allocation would be a system of transferability of water entitlements and the recommendation of the Water 2000 Steering Committee (1983) can be considered typical; viz:

"Irrigation water rights should be transferable, with appropriate safeguards, in order to increase the volume of water available to efficient managers, for high value crops, for non-agricultural use and to facilitate the phasing out of land not well suited for irrigated agriculture."

Randall (1982) has roughly estimated that for the entire Murray-Darling Basin the efficiency gains from a transferability of water entitlements policy would be about \$10 million annually. This annual figure would be larger if other gains were included such as mis-allocation of water between agricultural and other uses (urban, industrial and in-stream) and social costs attributable to the salinity problem. Using Randall's data and knowing that roughly 45% of the usage of water for public irrigation in the Murray-Darling Basin is in Victoria, it can be broadly deduced that annual gains could be of the order of \$4 - \$5 million in Victoria.

Read (1984) indicates that increased charges for water and transferability of water entitlements may reduce accessions to watertables in irrigated areas by improving efficiency of water use. In as much as plants require a certain leaching fraction, accession to watertables can never be completely eliminated.

All of these studies have made a major contribution to stimulating public discussion on different aspects of water allocation policies in maturing public irrigation systems.

### **7.3 Transferability of Water Entitlement Schemes in South Australia and New South Wales.**

A permanent scheme of transfers for irrigation water diverted from the River Murray was implemented by the South Australian Engineering and Water Supply Department (EWSD) in March 1983. Irrigators negotiate a transfer price between themselves and there is a State Government transfer fee of \$2.00 per megalitre. Transfers during the first twelve months of the scheme have involved about 1.5 per cent of the total annual entitlements for those farms which are

eligible to participate and have mainly involved transfers of less than 100 megalitres between farms. Most purchasers have increased their use to either expand crop areas or to increase the rate of application on saline areas, but some purchasers have not increased their use of water and have purchased additional water clearly in order to lower the risk of water shortfall during years of low seasonal allocation. The average price of water transferred has been about \$300 per megalitre with some more recent sales of \$400 to \$450 per megalitre. Officers of the EWSD report that the implementation of transferable water entitlements has proceeded with far fewer headaches than generally feared.

In N.S.W. a temporary scheme allowing the transfer of water between irrigators was introduced for the 1983-84 season and has been extended to the 1984-85 season. The scheme permits transfers on the same regulated stream but only between licenced irrigators or landholders in irrigation districts or areas. Restrictions are placed on the volume of water which can be transferred at any one time and in total. Negotiations over transfers are the responsibility of individual irrigators, although all applications for transfer must be on the N.S.W. Water Resources Commission's Transfer Deed. For the 1983-84 season the administrative cost of transfers was a registration fee of \$200 plus \$0.50 per ML transferred. However, this fee has been reduced to a flat \$75 registration fee for the 1984-85 season. While in its first year of operation the utilisation of the scheme was limited, principally due to the unfavourable weather conditions, it was sufficiently successful to warrant its continuation.

#### **7.4 Report by ACIL on Transferability of Water Entitlement**

As part of the Victorian State Water Plan, the Department of Water Resources engaged Consultants, ACIL Australia Pty. Ltd., to undertake an examination of the issue of transferability and redistribution of water entitlements in Victoria. The Consultants report was presented to the Committee and a summary of the Report is contained in Appendix VII. Due to time constraints, the Committee was not able to distribute the Report and obtain public comment in

the normal manner, however, interested organisations and the general public were invited to an open forum (refer Chapter 1.3) where the Report was discussed and public reaction gauged. It is understood that the Department of Water Resources will be obtaining further public comment in the ensuing months.

ACIL was given four main terms of reference:-

- (i) to consider the advantages and disadvantages of a possible TWE policy;
- (ii) to examine the physical constraints, in particular, the minimum on-farm standards that may be required;
- (iii) to consider elements of a practical policy;
- (iv) to examine likely use.

The Consultants concluded that the implementation of a Transferability of Water Entitlement (TWE) Policy is justified on economic grounds as it will lead to an improvement in the economic efficiency of irrigation water use in Victoria. The main points to arise from the study were:

- benefits will accrue to both irrigators and the general community through the implementation of a TWE policy;
- it is likely that up to 30 per cent of irrigators may profit from participating in a TWE market;
- the TWE policy proposed in the Report is considered equitable in its effect on irrigators and other community sectors;
- possible costs associated with TWE, such as a worsening in salinity or water table levels, are expected to be minor and not of sufficient magnitude to warrant not introducing TWE.

The conclusions and main points arising from the Consultants study must be analysed in conjunction with the limitations placed on the scope of the study. The principle constraints were:

- (i) TWE to be considered within the constraints of present commitments to irrigation, i.e. no net increase or decrease in

total irrigation entitlements, or significant changes to past practices on seasonal availability;

- (ii) TWE to be examined in the context of no further augmentation of public works of rural water supply;
- (iii) the study was not to include a detailed examination of salinity aspects since these were being addressed separately as part of the State Water Plan.

The Consultants propose that the purchase (sale) of entitlement would comprise four discrete steps, namely:

- (i) determine the engineering constraints which would prevent or limit ability to trade;
- (ii) obtain a permit from the Water Commission which would specify the maximum quantity of water and necessary capital works which would be the responsibility of the purchaser;
- (iii) negotiate with the seller the commercial aspects of the transaction; and
- (iv) register transaction and details with the Commission.

The quantity to be transferred would be available as a temporary (say leased on an annual basis) or permanent arrangement.

The Consultants also made a broad assessment of the movement of entitlement between areas in the GMID and concluded the expected movements would be:

**INWARD:** Rodney, Tongala/Stanhope, Rochester, Cohuna.

**OUTWARD:** Tragowel Plains, Swan Hill, Kerang.

**UNCERTAIN:** Shepparton, Deakin.

These results indicated that dairy farmers and mixed farmers are likely to be the main buyers of entitlement and grazing properties and low productivity mixed farms the main sellers.

In an analysis of one particular area, Tragowel Plains, the Consultants assessed that up to 30 percent of water right could be transferred out of the area within five years of TWE being introduced. The Consultants concluded that this transfer would be likely to lead to even more extensive agriculture than that currently practised. The move to dryland farming may not lead to any significant reduction in the value of agricultural production. In addition, the Consultants determined that the population decline from these areas is unlikely to be as significant in percentage terms as the volume of water transferred and that the loss in income from rates to the two affected shires would be less than four percent.

The Consultants also indicated that TWE will bring net benefits at State level although they will be small relative to the investment in and cost of operating water resources as a whole.

#### **7.5 Desirability of Transferability of Water Entitlement Policy**

At the outset, the Committee examined the desirability of introducing a TWE policy from the perspective of:

- (i) whether it was desirable to introduce TWE in the GMID; and
- (ii) if the answer to (i) was in the affirmative, then to what extent should such a policy be introduced, i.e. from limiting it to commonly farmed enterprises through to a totally free market system.

In response to the RWC Discussion Paper, which was distributed in early August 1984, the consensus view was that a system of transferability of water entitlements between commonly farmed enterprises in the same or adjoining administrative centres of the RWC should be introduced. It seemed that the community, in general, had some difficulty in being able to grasp how any further freeing up of water entitlement transfers could operate in practice and what would be the likely consequences of such action.

The Report by ACIL Australia has therefore provided a valuable input into the discussion of a TWE policy and provided a focus around which this discussion may take place.

The system of operation of a TWE policy, as proposed by ACIL, is somewhere between a fully Government regulated system and a free market system. It is however, susceptible to becoming over-regulated by the Water Commission if too much rigidity is included in the system for assessment of the engineering constraints. The ability of this system to operate effectively will to a large extent depend upon the irrigation community being fully conversant with the system and the engineering constraints in particular. With the continual transfer of water entitlements, the irrigation system will be in a constant state of dynamic transformation so that irrigators must be alert to changed circumstances. It would be necessary for the Water Commission to provide an instant assessment of the current engineering constraints, particularly in regard to channel capacities to irrigators. This could easily be handled with a data based computer system.

The view put forth by ACIL and others is that a TWE policy will improve efficiency and equity of the existing water entitlement system in the GMID, although it was considered that the inefficiencies which have occurred are slight. As well, TWE will provide a basis for irrigation enterprises to adapt to changing circumstances with time. Economic conditions coupled with market forces to a large extent will dictate which is the most efficient means of production to maximise returns to the landholder. There seems to be little argument with this contention.

The breaking of the nexus between the land and the water entitlement is a radical step with an Australian public irrigation system. Traditionally, this nexus has been something that has been held to be sacred. However, as irrigators now see a means of further increasing their marginal returns, the maintaining of this nexus could be considered a legacy from the past. There is still some support for retaining a minimum basic water right on holdings, if TWE was

introduced. ACIL indicated that landholders are unlikely to sell all their water right but will sell a small quantity at the margin.

The major concerns with the introduction of a TWE concept generally deal not with the concept itself but rather with aspects of implementation of such a policy. It is recognised that in this real world, a theoretical concept must be capable of being implemented to achieve practical gains.

The ACIL proposal is seen as a practical method of implementing a TWE policy, although further development and public discussion must occur on a number of aspects if it is to be implemented. These would include:

- salinity problems - it would be desirable to identify areas of high accessions to the watertable and prohibit transfers of water entitlement to these areas, but at the same time encourage transfers away from these areas. However, it may be some years before these areas are fully identified. In the intervening period, careful evaluation of whether there was an increase in salinity problems would be necessary.
- mortgagers - the current nexus between land and water entitlement is reflected in the total market value of a holding and also enables financial institutions, such as banks and the Rural Finance Commission, to loan money based on this nexus. With any breaking of this nexus it would be necessary for a State regulated system to be implemented involving mortgagers.
- social implications - it has been identified that potential exists for some movement of people out of certain areas such as Tragowel Plains. In relative terms the extent of this movement was considered to be minor. However, in some circumstances the exit of a portion of the population from one area and an influx of people into another can cause strain to community facilities such as schools and employment opportunities.

- effect on municipalities - any policy which allows the transfer of water must have an effect on property values as water is transferred. With some municipalities their rating base will decline while with others the reverse will happen. Another problem with each transfer of water is the change in the market value of a property would change the rating assessment of the property. Thus municipalities may bear increased administrative costs if TWE was introduced.
- water rights - there needs to be further public discussion on whether transfers should be on a permanent or temporary basis and whether a minimum quantity of water entitlement should be retained on a property.
- legislation - the implications of such a policy on present legislation and problems which may occur in changing this legislation to suit such a policy.
- non-agricultural uses - whether water entitlement could be transferred for non-agricultural uses such as river dilution or environmental uses.

## 7.6 Conclusions and Recommendations

### Conclusion

- With the limited water resources available to the GMID, the most effective and efficient method of utilising these reserves is of extreme importance to the community in conjunction with other social and environmental factors. When requirements are identified for forest watering and river dilution the level of water available for irrigation in the GMID is likely to be reduced. This will be reflected in a reduced seasonal allocations.
- The introduction of a TWE policy with adequate safeguards does provide for flexibility with the use of these resources. It

could be possible that in the future water entitlement may be acquired from the GMID for non-agricultural uses such as salinity control, River Murray water quality and environmental uses.

A TWE policy can also provide irrigators with a means of further increasing their marginal returns and adapting to changing economic conditions.

At this stage, it cannot be said that all aspects of the implementation of a TWE policy have been fully evaluated or that the community has had time to consider all the implications of such a policy. However, the Committee is of the view that a TWE policy is desirable but further assessment and community evaluation is required on implementation aspects of such a policy.

## **Recommendations**

The Committee recommends that:

- R17 The Water Act 1958 should be amended to include provision for the transferability of water entitlements in the GMID.
- R18 Further community discussion should occur on the implementation aspects of the TWE policy in the GMID before any action be taken.

## CHAPTER EIGHT

### CAPITAL LEVY

The PPWC determined that it was within its terms of reference to inquire into whether a capital levy should be charged for new allocations of water for irrigation in Victoria.

In economic terms, the benefactors from the construction of the GMID were the original closer settlement landholders who gained an economic benefit when they acquired their holdings. Since that time subsequent owners of the land and water parcel have paid a capitalised value for this irrigated land. Similarly, irrigators who gained extra water right as a consequence of the implementation of the 1964 Water Right Formula gained a benefit from the State. Some irrigators have yet to take up their full extra water right entitlement and have until 1st July, 1985 to do so and these too will gain an economic benefit as will any other landholders who receive a water allocation. This is not to say that the State is being disadvantaged economically, it is a deliberate policy which has been perpetuated by Governments to encourage irrigated agriculture.

The allocation of additional water rights would add significantly to the security and productivity of irrigated holdings. This would also be reflected in increased land values. As this increased value is gained through no additional effort of the landholder, a capital charge could be considered as a means of offsetting the distortion of land values. The levy could take the form of a uniform levy, a negotiated charge, based on several factors or possibly a transfer fee obtained by auctioning increased rights to GMID irrigators or private diverters. Such a levy could be used to repay capital or create a pool of capital for use on works to benefit the District. It would tend to ensure that any water taken up would be used to maximum economic efficiency.

The principal argument against such a levy is that at this late stage in the development of the GMID it would be seen as discriminatory and inconsistent with long-standing Government policy of not assigning capital cost charges to irrigators.

If it is seen as desirable to implement a TWE policy then to be consistent it would be desirable to introduce a capital levy concurrently.

If this did not occur it would be possible for an irrigator to obtain extra water entitlement, say with a reclassification of land, and then sell it in the market place and gain a windfall at the expense of the Government.

## **Conclusion**

- The desirability of introducing a capital levy policy is consistent with the introduction of a TWE policy and it is considered that both policies should be implemented concurrently.

## **Recommendation**

The Committee recommends that:

- R19 The Water Act 1958 should be amended to enable the charging of a capital levy at the time of new or increased water entitlements and further that the capital levy policy should be implemented concurrently with a TWE policy.

## CHAPTER NINE

### ANOMALIES IN RELATION TO THE EXISTING WATER ALLOCATIONS

A number of submissions were forwarded to the Committee requesting an allocation of water to rectify apparent anomalies with the administration of the water allocations by the Water Commission in the GMID. For purposes of this Chapter of the Report, anomalies will not include matters dealt with elsewhere in this Report such as the existing water right formula (restricted to Items 1 to 4 of Table 1, Schedule 3B, Water Act 1958) and water allocations to areas outside the GMID. Amongst the submissions were:

- a group of six irrigators in the Fernhurst area who contend that they have received inequitable consideration from the Water Commission;
- a group of sixty holdings in the West Boort area who have less than full 1964 formula water rights.

The Committee did examine the Fernhurst case in some detail and was fortunate that Mr. K. Pattison, on behalf of the landholders concerned, had prepared a comprehensive case. The Committee considers that these landholders can rightfully feel aggrieved in that there was a real expectation that their properties would be granted a water right until 1974 when the Water Commission changed its policy on this matter. All six properties were included in the constituted area of the GMID in 1960 and for at least three of the properties an irrigation supply was obtained prior to this time from the Loddon River - which was part of the Water Commission's distribution system until 1962. In hindsight, the blame for this situation and a number of other anomalous situations can be attributed to past Water Commission policies and their administration for granting new water allocations, together with declining funding in the mid 1960's from the Water Commission and Government for works to increase the capacity of the WWMC. These past policies and their administration by the Water Commission gave many landholders within the GMID, who had no water allocation or less than formula water right, an expectation that they would be granted a water allocation in accordance with the 1964 Formula.

The Committee did try to resolve this matter and came to the view that three of the properties:

Register Entries      195N (A.M. Coutts and Son),  
                                 210H (R.G. & M.R. Brown), and  
                                 210H1 (K.W. & G.R. Pattison)

should be granted a water allocation as these properties have a prior history of irrigation from the Water Commission's distribution system, i.e. Loddon River, in the base years of 1957/58 and 1959/60. The remaining three properties would require further investigation, particularly in relation to other similar anomalous situations, to arrive at a decision. The Committee has not had sufficient time available to undertake this task.

The Fernihurst case illustrates that these anomalies can have a history which extends over a considerable number of years and has consistently resulted in conflict between the landholders and the Water Commission. The time to fully investigate these anomalies in detail is likely to be considerable, however, the resolution of them would be advantageous to both parties.

As the Committee is of the view that it is desirable to implement a TWE policy, any anomalies which exist in relation to water allocations need to be addressed now otherwise some irrigators could be disadvantaged.

To overcome any past historical irregularities or inequalities with the administration of the water allocations by the Water Commission, the Committee considers that a GMID Anomalies Appeals Board should be established to investigate and report upon these anomalies. The first cases which should be considered by this Appeals Board are the remaining three Fernihurst properties and the West Boort properties. It is likely that the Appeals Board would also need to examine the situations with other irrigators along the WWMC who receive less than formula water rights so that these two cases can be placed in the right context.

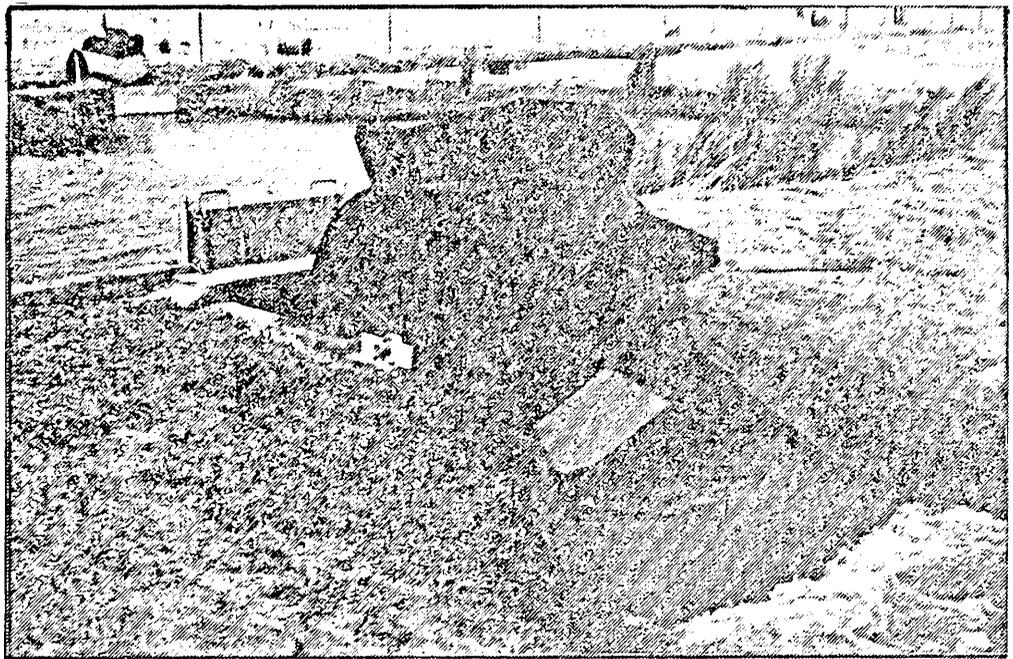


PHOTO 8: Detheridge Meter Wheel used for measuring water to holdings from Water Commission channels.

It is envisaged that this Appeals Board would report directly to the Minister for Water Resources with its recommendations and that it would comprise:

- an independent chairperson;
- an irrigator representative;
- a representative from the RWC.

These representatives would be appointed by the Minister for Water Resources.

The Appeals Board should be able to make recommendations on:

- whether an anomaly exists;
- how the anomaly should be rectified taking account of the quantity of water involved, the effects on other irrigators, the requirement for the construction of works by the RWC or landholder, and the effects on existing problems such as salinity; this could result in the recommendation for an entitlement less than in accordance with the 1964 Formula;
- whether a capital levy should be charged.
- any other conditions the Board considers to be relevant.

The Minister for Water Resources should have the power to prescribe certain constraints to the Appeals Board which they would have to take account of in arriving at decisions on the appeals. These constraints would be limited to matters which affect the whole GMID in a macro sense. For example, the additional quantity of water which can be annually allocated in the GMID as a result of a favourable decisions with appeals.

It would be expected that this Appeals Board would meet as and when required and that, if a TWE policy was to be introduced, irrigators would have a period of twelve months prior to the commencement of such a policy to lodge details of outstanding anomalies to the Board. However, it would be highly desirable for most anomalies to be resolved prior to the introduction of a TWE policy as increased water entitlements would affect channel capacities and all irrigators should be initially at the same level of equity. After the period of 12 months has elapsed, no further appeals would be accepted on past administrative anomalies.

It could be possible for an irrigator to make a substantial monetary gain if TWE is in place at the time an anomaly is rectified. Therefore conditions may need to be attached to any new or increased water entitlement.

This Appeals Board could also be utilised if a TWE Policy was introduced for reviewing cases for transfer of water entitlement which have been rejected by the RWC. Grounds for rejection are not necessarily based on an objective assessment of the facts, they can have elements of subjectivity in interpreting facts. Such grounds for rejection could include:

- an area with high accessions to the watertable.
- an increase in water entitlement which will affect the service of other irrigators on the same channel system.

It would be desirable for irrigators, in these instances, to have access to a review procedure.

Whether TWE is introduced or not, there is substantial merit in setting up an independent Appeals Board to examine these anomalies. If all appeals were upheld the volume involved could be of the order of 50,000 megalitres. This annual quantity will only have a minimal affect on the seasonal allocation of water in the GMID although it could increase rationing for irrigators who derive water from the WWMC.

## **Conclusions**

- It appears that there may exist a number of irregularities and inequalities with the past administration of water allocations in the GMID by the Water Commission and there is merit in resolving these.
- The Committee proposes that a GMID Anomalies Appeals Board be established to deal with anomalies with the administration of water allocations in the GMID.

This Board should comprise:

- an independent chairperson.
- an irrigator representative.
- a representative from RWC.

These members of the Appeals Board would be appointed by the Minister for Water Resources. The Appeals Board would report their recommendations directly to the Minister for Water Resources and the Minister should be able to make prescriptions to the Appeals Board which affect the GMID as an entity.

If a TWE policy is introduced, irrigators should have a period of twelve months to lodge their appeals prior to the commencement of the policy and after this period of time has elapsed, no further appeals should be accepted.

- The Committee considered the case of the six landholders at Fernihurst and is of the view that three of the landholders:

Register Entries      195N (A.M. Coutts and Son),  
                                  210H (R.G. & M.R. Brown), and  
                                  210H1 (K.W. & G.R. Pattison)

should be granted a water allocation in accordance with Schedule 3B of the Water Act 1958 on the basis that their properties have a prior history of irrigation and were irrigated in the base years 1957/58 and 1959/60, from the Water Commission's distribution system, i.e. the Loddon River which was part of the system until 1962.

- The Committee has not had time to arrive at a decision in relation to the remaining three Fernihurst landholders nor the West Boort irrigators, and suggests that these be the first cases to be considered by the GMID Anomalies Appeals Board.

### **Recommendations**

The Committee recommends that:

R20 A GMID Anomalies Appeals Board should be established to deal with anomalies that may exist with the administration of water allocations in the GMID.

R21 The Appeals Board should comprise:

- an independent chairperson;
- an irrigator representative;
- a representative from the RWC.

and be appointed by the Minister for Water Resources.

R22 The GMID Anomalies Appeals should report its recommendations to the Minister for Water Resources. The Minister should be able to make prescriptions to the Appeals Board which affect the GMID as an entity.

R23 Landholders should have a period of twelve months prior to the commencement of any TWE policy to lodge their appeals on anomalies with water allocations and after this period of time has elapsed, no further appeals should be accepted.

R24 Register Entries 195N (A.M. Coutts and Son), 210H (R.G. & M.R. Brown) and 210H1 (K.W. & G.R. Pattison) of the Boort Irrigation Area should be granted a water right in accordance with Schedule 3B of the Water Act 1958.

R25 The remaining three Fernihurst properties and the West Boort properties should be referred to the GMID Anomalies Appeals Board as the first cases for review.

## CHAPTER TEN

### OTHER REQUESTS FOR WATER ALLOCATIONS

A number of requests for the allocation of water resources outside existing irrigation districts were received by the Committee and further details on these are provided below.

**Northern Excised Area, Shire of Nathalia:** The Shire of Nathalia has requested an allocation of water to open up 16,000 hectares of the Shire which is known as the Northern Excised Area and is in the Strathmerton-Barmah area. The PPWC recommended that:

"The State Rivers and Water Supply Commission should bear in mind the request for irrigation water by the Northern Excised Area Committee during its investigations with the River Murray Commission and the Forests Commission concerning regulation of flow through the Barmah Forest. The Northern Excised Area Committee should advise this Committee by way of sworn evidence as to its willingness to participate in the capital finance of the necessary distribution and drainage facilities."

The Shire of Nathalia have submitted no further additional evidence to support their case, other than that previously submitted to PPWC. This request will involve an annual water allocation of the order of 25,000 megalitres.

**Broken River Valley:** The Broken River Development League has requested that an annual allocation from Lake Mokoan of the order of 55,000 megalitres be kept available pending further investigation by representatives of the League and the Rural Water Commission on a proposal to develop an area of the Broken River Valley east of the East Goulburn Main Channel for irrigation. The League represents 275 irrigators.

The area proposed for this scheme covers part of the area serviced with domestic and stock supplies by the Shire of Shepparton Waterworks Trust and the Shire of Tungamah Waterworks Trust. The PPWC stated in their Report, "the (Public Works) Committee has noted the operation of these schemes

and strongly recommends that urgent priority be given to their remodelling, especially the Tungumah system".

**Drumanure Irrigators (North Shepparton):** The Drumanure Irrigators League, representing 40 landholders in the Parish of Drumanure, is prepared to finance the necessary distribution works for the inclusion of its area in the GMID. It requested an allocation of 13,000 megalitres for about 4000 hectares.

**Lake Boga:** The Shire of Swan Hill has requested an annual allocation of about 20,000 megalitres to improve water quality and quantity in Lake Boga. This Lake is used extensively for recreational purposes.

**Little Lake Boort:** The Little Lake Boort Improvement Committee has requested an annual allocation of 400 megalitres be made to maintain an adequate volume and level in the Little Lake Boort for recreational and tourist purposes.

The volumes of water requested for development of new irrigation areas are significant and in this respect the PPWC recommended that:

"there should be no allocation to lands outside existing irrigation districts which would involve public expenditure on distribution and drainage works. Requests for allocations for irrigation by private diversion are excluded from this recommendation."

With the relatively small volume of water yet to be allocated and requirements for forest water and river dilution, not yet determined, it would be difficult for the Committee to recommend additional allocations of water for most purposes, particularly irrigation development. In addition, it has been demonstrated that the GMID could utilise further water resources for gains in productivity.

There is a need to create as much flexibility as possible with any further water allocation to meet changing economic, social and environmental circumstances. Generally, fixed allocations of water counteract this goal.

In regard to allocations of water for recreational purposes, the PPWC recommended that:

"no specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However, in instances where it is convenient and practicable, surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.

The use of surplus flows to improve the recreational attributes of lakes is a desirable pursuit. At Lake Boga there is an additional problem of water quality due to the Lake being part of the terminal system for the Avoca River. Steps should be taken to ascertain whether surplus flows in the River Murray could be utilised to improve the water quality of this Lake. This may require that some nominal water allocation be given but at this time further investigations are required by the Shire of Swan Hill and the RWC. A volume of up to 3000 megalitres of water is suggested to be set aside as a nominal water allocation for Lake Boga pending the outcome of these investigations; this allocation of 3000 megalitres should be part of the allocation for irrigation by private diversion.

A similar problem with water quality exists at Lake Charm and it is understood that RWC are presently investigating methods of improving the water quality of the Lake.

As explained previously, the Committee finds it difficult to recommend further fixed allocations of water. Therefore the Committee supports the PPWC recommendations which recommend no further allocations of water for either irrigation development or recreational purposes. Any surplus flows of water used for recreational purposes should have a lower priority than that used for conservation of flora and fauna.

## **Conclusions**

- The Committee finds it difficult to suggest further fixed allocations of water and therefore generally supports the PPWC recommendations in respect of further allocations of water for irrigation development and recreational usage, viz:

- (a) no allocation to land outside existing irrigation districts which would involve public expenditure on distribution and drainage works;
  - (b) no specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However, in instances where it is convenient and practicable surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.
- At Lake Boga there is a problem of water quality due to the Lake being part of the terminal system of the Avoca River. It would be desirable if the RWC and Shire of Swan Hill could undertake investigations into methods of improving the water quality of the Lake particularly whether surplus flows in the River Murray could be utilised for this purpose. These investigations may indicate that some nominal water allocation be granted and a volume of up to 3000 megalitres should be available for this purpose from the allocation for irrigation by private diversion.

## **Recommendations**

The Committee recommends that:

- R26 There should be no further allocation of water to land outside existing irrigation districts for irrigation development except for purposes of irrigation by private diversion as contained in Recommendations R2 and R4.
- R27 No specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However, in instances where it is convenient and practicable surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.

R28 The RWC and Shire of Swan Hill should undertake investigations into a strategy to improve the water quality of Lake Boga, and, if required, a volume of up to 3000 megalitres should be available from the allocation for irrigation by private diversion for this purpose.

Committee Room  
25th October 1984.

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## APPENDICES



APPOINTMENT OF COMMITTEE MEMBERS  
EXTRACTS FROM MINUTES OF PROCEEDINGS  
LEGISLATIVE COUNCIL & LEGISLATIVE ASSEMBLY

EXTRACTED FROM THE MINUTES OF THE PROCEEDINGS OF THE  
LEGISLATIVE COUNCIL

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FRIDAY, 2 JULY, 1982

- 37 SALINITY COMMITTEE - The Honourable W.A. Landeryou moved, by leave, that the Honourables L.A. McArthur and J.W.S. Radford be members of the Salinity Committee.

Question - put and resolved in the affirmative.

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EXTRACTED FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY

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THURSDAY, 1 JULY, 1982

- 37 COMMITTEE APPOINTMENTS - Motion made, by leave, and question - That, contingent upon the Legislative Council concurring with the Resolutions of this House dated 1 July, 1982 establishing the respective Committees -

- (a) Mr. Fogarty, Mr. Hann, Mr. Stirling and Mr. Wood\* be appointed members of the Salinity Committee.

\*\*\*\*\*

(Mr. Fordham) - put and agreed to.

TUESDAY, 24 MAY, 1983

- 14 SALINITY COMMITTEE - Motion made, by leave, and question - That Mr. Ramsay be appointed a member of the Salinity Committee (Mr. Fordham) -put and agreed to.

TUESDAY, 6 MARCH, 1984

- 6 SALINITY COMMITTEE - Motion made, by leave, and question - That Mr. Ramsay be discharged from attendance on the Salinity Committee and that Mr. Dickinson be appointed in his stead (Mr. Fordham) put and agreed to.

- \* Mr. Wood resigned from the Legislative Assembly on 29 March, 1983.



LIST OF WRITTEN SUBMISSIONS

<u>AUTHOR</u>	<u>ORGANISATION</u>
Mr. G.J. O'Brien, Chairman	Boort Irrigation Area, Advisory Board, R.W.C.*
Mrs. M. Bourke	
Mr. R. Kellock, President	Broken River Irrigation Development League.
Mr. A.D. Butcher, Secretary	Calivil Branch, Goulburn Waranga Irrigators District Council.
Mr. B. Godkin, Acting Chairman	Campaspe Irrigation District Advisory Board, R.W.C.
Mr. J. Cook, Secretary	Campaspe Salinity Action Group.
Mr. K.F. McCartney, Chief Executive Officer	City of Echuca.
Mr. G.K. Turner, Chairman	Cohuna Irrigation Area Advisory Board, R.W.C.
Dr. D.F. Smith, Director-General	Department of Agriculture.
Dr. G. Newman, Director FWL Service	Department of Conservation, Forests and Lands.
Mr. H.R. Dowell, Consultant	Drumanure Irrigators League.
Mr. N.J. Mitchelmore, Secretary	Goulburn Irrigation Region Drainage Committee.
Mr. N.J. Mitchelmore, Secretary	Goulburn Waranga Irrigators District Council*.
Mr. J. Boehm, Chairman	Kerang Irrigator's Advisory Board, R.W.C.
Mr. C.L. Spowart, Secretary	Kerang Irrigation Region Salinity Action Committee.
Mr. T.A. Chick, Secretary	Koondrook & District Irrigators League*.
Mr. C.J. Fenton, Hon. Secretary	Lake Meran Water Users Irrigators Branch, V.F.& G.A.
Mr. N. Beattie, Chairman	Little Lake Boort Improvement Committee.
Mr. R.W. Martin, Secretary	Loddon-Campaspe Regional Planning Authority.

Mr. I.T. Anders, District Engineer	Murray Valley Irrigation Area Irrigators Annual Meeting, R.W.C.
Mr. G.J. O'Brien, Chairman	Pyramid Hill Irrigation Area Advisory Board, R.W.C.
Mr. T.A. O'Brien, President	River Murray Commission.
Mr. B. Godkin, Acting Chairman	Rochester Irrigation Area Advisory Board, R.W.C.
Mr. R.J. Howard, Chairman	Rodney Advisory Board, R.W.C.
Mr. D.J. Constable, General Manager	Rural Water Commission*.
Mr. M.J. Burns, Chairman	Shepparton Irrigation Area Advisory Board.
Mr. J.W. Law, Shire Secretary.	Shire of Nathalia.
Mr. L.G. Mitchell, Shire Secretary	Shire of Numurkah.
Mr. K.W. Jackel, Shire Secretary	Shire of Rochester.
Mr. J.L. Purdey, Shire Secretary	Shire of Rodney.
Mr N.L. Noelker, Shire Secretary	Shire of Swan Hill*.
Mr. D.J. Dole, Chairman	State Working Group, River Murray Water and Forest Management.
Mr. G.J. Smyth, Chairman	Tongala Centre Advisory Board, R.W.C.
Mr. T.J. Barker, Deputy Executive Director	Victorian Farmers & Graziers Association.
Mrs R. Cato, Hon. Secretary	Victorian Field and Game Association.
Mr. J.B. Cuneen, Chief Commissioner	Water Resources Commission, N.S.W.

\* More than one submission was received from these organisations.

LIST OF WITNESSES APPEARING BEFORE THE COMMITTEEMelbourne21 April 1983

Mr. D.J. Constable	)	Representing the State Rivers and Water Supply Commission.
Mr. B.E. Foley	)	

28 March 1984

Mr. D.J. Constable	)	Representing the State Rivers and Water Supply Commission.
Mr. D.J. Dole	)	
Mr. D.J. Blackmore	)	

25 July 1984

Mr. D.J. Constable	)	Representing the Rural Water Commission of Victoria.
Mr. D.J. Blackmore	)	

1 August 1984

Mr. V.C. Ballard, Rural Water Commission	)	Representing the State Working Group on River Murray Water and Forest Management.
Mr. J. Wright, State Forest & Land Service	)	
Department of Conservation, Forests	)	
& Lands.	)	
Mr. B. Dexter, State Forest & Land Service,	)	
Department of Conservation, Forests	)	
& Lands.	)	
Mr. H. Rose, Rural Water Commission	)	

Shepparton

10 September 1984

Mr. I. Norman		Representing Department of Agriculture.
Mr. N. Mitchelmore	)	Representing Goulburn Irrigation Region
Mr. E. Merrigan	)	Drainage Action Committee.
Mr. G. Hacon	)	Representing Tongala Centre Advisory
Mr. K. Chester	)	Board.
Mr. P. Karkes	)	Representing Koondrook and District
Mr. J. McNeil	)	Irrigators League.
Mr. E. Hollingworth	)	
Mr. L. Bolitho	)	Representing Rodney Advisory Board.
Mr. T. Carlson	)	
Mr. P. Fleming	)	
Mr. G. Twedde	)	Representing Boort Advisory Board.
Mr. K. Pattison	)	
Mr. I. Smith	)	
Mr. G. O'Brien		Representing Rural Water Commission.

Melbourne

24 September 1984

Mr. P. Jacob	Representing ACIL Australia Pty. Ltd.
Mr. D. Blackmore	Representing Rural Water Commission.
Mr. K. Pattison	Representing Boort Advisory Board.
Mr. K. Christie	Representing Shire of Numurkah.
Mr. R. Douglas	Representing Rural Finance Commission.
Mr. Barnes	Representing Boort Advisory Board.
Mr. J. Cornish	Representing Department of Agriculture.

24 September 1984 (cont.)

Mr. G. Ware	Representing Shepparton Advisory Board.
Mr. G. Weller	Representing Rochester Advisory Board.
Mr. R. Dowell,	Swan Hill.
Mr. Leed	Pyramid Hill.



PARLIAMENTARY PUBLIC WORKS COMMITTEE  
FINDINGS AND RECOMMENDATIONS

The Committee draws attention to the following findings and recommendations:-

1. Bearing in mind the existing policy of the State Rivers and Water Supply Commission, the consequences of the construction of Dartmouth Reservoir in conjunction with an annual average injection of Broken River flow to the Goulburn system are that a further volume of 600,000 megalitres is available for allocation in Northern Victoria.
2. An annual average allocation of 270,000 megalitres is required for commitments to irrigation made pre-Dartmouth as a consequence of the Water Rights formula adopted in 1964.
3. A volume of approximately 330,000 megalitres is available for further allocation.
4. An annual allocation of 45,450 megalitres is required for future urban and industrial water supply in northern towns supplied from the River Murray and its tributaries.
5. There is no need for a specific additional allocation for rural stock and domestic water supply.
6. Industrial water supply requirements, including projected expansion at Albury/Wodonga and Bendigo, have been taken into consideration in conjunction with urban requirements.
7. No specific allocation over and above the allocation for urban and environmental requirements is necessary for recreational purposes. However in instances where it is convenient and practicable, surplus flows from irrigation distribution works should be made available for the enhancement of recreational attributes of natural lakes.
8. An interim annual allocation of 25,000 megalitres should be set aside in the interests of conservation of native flora and fauna.

9. The Committee will await the outcome of studies being undertaken by the River Murray Commission in regard to operation strategies for the management of River Murray water quality before making a recommendation concerning dilution requirements.
10. No further specific allocation is considered necessary for hydro-electric purposes.
11. No additional volumes of water should be sacrificed for provision of flood pondage in storages that have been authorised for the primary purpose of water conservation.
12. The Committee will await the outcome of studies in progress concerning dilution flows and forest watering before making recommendations concerning additional Water Rights in existing constituted irrigation districts.
13. There should be no allocation to lands outside existing irrigation districts which would involve public expenditure on distribution and drainage works. Requests for allocations for irrigation by private diversion are excluded from this recommendation.
14. An interim further allocation of 65,000 megalitres per annum should be granted for irrigation by private diversion subject to the prescriptions nominated by the State Rivers and Water Supply Commission concerning appropriate drainage arrangements. At this stage the Committee recommends an allocation of 5,000 megalitres from the Mitta Mitta River, 38,000 from the River Murray, 10,000 from the Goulburn River, 10,000 from the Broken River and 2,000 from the Loddon River.
15. The necessary works should be constructed for injecting an average annual volume of 60,000 megalitres of Broken River water from Lake Mokoan via the Broken River to the East Goulburn Main Channel to support the Goulburn Irrigation System.
16. Interested parties requiring new or additional allocations for irrigation purposes are requested to give consideration to the question of a capital levy per megalitre. The Committee will be pleased to take evidence on this aspect. The Committee will also be pleased to hear the views of the State Rivers and Water Supply Commission and other concerned Government

agencies in regard to the question of creating a fund from such levies for the purposes of salinity control and modernisation of irrigation practice.

17. The State Rivers and Water Supply Commission should bear in mind the request for irrigation water by the Northern Excised Area Committee during its investigations with the River Murray Commission and the Forests Commission concerning regulation of flow through the Barmah Forest. The Northern Excised Area Committee should advise this Committee by way of sworn evidence as to its willingness to participate in the capital finance of the necessary distribution and drainage facilities.
18. With regard to the desirability of amending the Water Act in order to recognise holdings created by subdivision since 1st July 1959, as being eligible for Water Rights, the Committee considers that there should be no advancement of the date beyond 1st July 1964. As to whether the date should be advanced to 1st July 1964, the Committee reserves its judgment at this stage.
19. The observations made by the Committee as outlined in the body of this Progress Report should be borne in mind during consideration of these findings and recommendations.

Parliamentary Public Works Committee,  
Melbourne.

23 February, 1982.



GOULBURN MURRAY IRRIGATION DISTRICT  
- DEVELOPMENT OF WATER RIGHT FORMULA

This paper details some of the history of water right development leading up to the adoption of the present water right formula, known as the 1964 Formula, and the associated policies and rules for water right administration. This development occurred prior to adoption of the metric system and therefore Imperial units will be used in this historical resume to describe the relationships between water volumes and areas.

The Water Act 1905 laid down the basic principle that in each irrigation district a compulsory water right is to be apportioned "Pro-rata" to all lands commanded by the works and suitable for irrigation. In different districts there are different ratios between the volume of water available and the area of irrigable lands. Thus in some of the original separate districts which were subsequently combined to form the Goulburn Murray Irrigation District in 1959, the original apportionment of pro-rata water rights was one acre foot to every five acres of irrigable land (known as 1 to 5 districts) whereas in others the ratio was 1 in 3, 1 in 2, and 1 in 1, the latter being the most intensely developed districts. Where there is intense cultivation over a limited area the ratio is as high as 3 in 1.

A further provision of the Water Act 1905 was that not all of the water available to a district should be apportioned as compulsory water rights on this pro-rata basis. A margin was left for the apportionment of "Extra Water Rights" on application by individual landholders.

Originally, under the Water Act 1905, extra water rights could be apportioned only to lands which were already under intense culture at the time of the passing of that Act. Although landholders did not generally seek extra water rights initially, in 1916 the Act was amended to provide for the apportionment of extra water rights to lands brought under intense culture at any time. Extra water rights so apportioned were to be "such volumes of water as in the opinion of the Commission would be required for the reasonable irrigation" of the land. This provision remains in the Act.

Little use was made of this provision over the next forty years. In 1955, the total volume of extra water rights on lands in what is now the Goulburn Murray Irrigation District totalled only some 72,000 acre feet (89,300 ML) out of total water rights of 490,000 acre feet (607,600 ML).

However, at least until 1945, there was a greater increase in the volume of water used each year as "sales" water. This was water available to the districts and surplus to the requirements for water rights. In most years there was a surplus and irrigators were able to purchase quite large quantities as they required them. In wet years these large quantities were not required and the irrigators were not under any obligation to pay for anything more than their water rights.

The dangers of this situation were brought out in the severe drought in 1938-39 and 1944-45. In those years the little water that was available had to be carefully and equitably rationed between properties on the basis of water rights and no water at all was available as "sales" water. Two lessons were learnt: - first, there was the lesson for everybody that the demand for water had out-run the safe limit of resources; and secondly, there was the lesson for irrigators who had enhanced their development to the greatest degree on the availability of sales water that they were the hardest hit when water was short.

Further development under sales was frozen by the Commission after the 1944-45 drought, in the interests of established irrigators. Sales quotas were introduced for all properties to limit total annual deliveries of water and so to avoid depletion of storages below the reserves necessary to guard against the recurrence of drought.

By 1955 the Big Eildon project was nearing completion and the problem arose as to how to equitably distribute the additional water which would become available from this and other major works undertaken under the Government's post war reconstruction scheme. It was recognised that, even in the "1 in 1" districts principally devoted to dairy production, the allocation was insufficient to sustain the whole area under permanent pasture.

After lengthy consultations with irrigation Advisory Boards in 1955, the Commission announced its proposals based on two underlying principles, viz:

- (a) All the districts to be served were to receive uniform basic water rights on a 1 in 3 basis - districts already having greater apportionment than 1 in 3 were to retain their rights.

- (b) There would be an increase in the total water right allocations to smaller holdings, where there were acknowledged economic disabilities at that time, by allocating volumes of extra water rights so as to bring total water right up to 1 acre foot per acre for areas up to 100 acres.

This became known as "Marysville" Formula after the location of the Advisory Boards Conference at which it was first announced.

These decisions led to the development of "formula-type" allocations and as additional storages were completed over the next 10 years allocation could be progressively improved and successive formulae implemented. These formulae were non-linear in terms of water right to area, with high volumes per acre being allocated to the smaller holdings.

As subdivision of lands could indefinitely increase the number of small holdings with, therefore, an almost unlimited demand for additional water rights which could overtax the available resources - it was necessary to fix a firm date upon which assessment of areas and extra water right apportionments would be made. When fixing the formula in 1955 the base date adopted was 1st July, 1951, and a great number of small holdings received benefits which greatly improved the economic prospects of their holdings.

The concept of "system" operation of the various districts arose at about this time with integrated storage operation and equality of annual sales availability. Eventually this led to the constitution of a single GMID in 1959 which amalgamated all the gravity district supplied by the Goulburn and Murray systems.

In 1960 the Commission was able to liberalise the basis of water allocations and announced what became known as the "1960 Formula". This formula provided that on application by landowners the Commission would apportion extra water rights on the following basis, namely:

- |     |   |  |
|-----|---|--|
| (a) | on holdings having not more than 40 acres of suitable land.     | $1\frac{3}{4}$ acre feet for each acre of suitable land.                   |
| (b) | On holdings having over 40 acres but not more than 100 acres of | 70 acre feet plus 1 acre foot for each two acres of commanded and suitable |

commanded and suitable land.

land in excess of 40 acres.

(c) On holdings having over 100 acres of commanded and suitable land.

100 acre feet plus 1 acre foot for each three acres of commanded and suitable land in excess of 100 acres.

The base date for areas of the small holdings that would benefit was advanced to 1955 for the Goulburn System and 1959 for the Torrumbarry System. Approximately 200,000 acre feet of extra water rights were apportioned under this formula and irrigators developed their holdings accordingly.

In 1963 after agreement had been reached between the respective Governments regard to the construction of the Chowilla Reservoir, the enlargement of the Hume Reservoir and the anticipated diversion of Snowy waters into the Murray, the Commission placed before a very large conference of irrigation district advisory boards its proposals for further liberalisation of the formula. The 1963 Formula presented was:

Up to 40 acres of suitable land -  $1\frac{3}{4}$  acre feet to 1 acre.

40 to 100 acres of commanded and suitable land - 70 acre feet plus 1 in 1 on the area exceeding 40 acres.

100 to 220 acres of commanded and suitable land - 130 acre feet plus 1 in 12 on the area exceeding 100 acres.

Over 220 acres of commanded and suitable land - 140 acre feet plus 1 in 3 on the area exceeding 220 acres.

The Formula in effect committed volumes of water which were not available from existing storages, but were expected to become available when additional storages were completed, in accordance with the Ten Year Water Storage Programme adopted by the Victorian Government.

With the 1963 Formula, the "base date" for the land tenures for the purpose of determining extra water rights in the Goulburn System was advanced to 1st July, 1959, making it uniform throughout the Goulburn Murray Irrigation District.

By this time it was recognised by irrigators in Northern Victoria that there would never be sufficient water available for the maximum development of all suitable lands. However, irrigators were most desirous that there should be increased allocations, particularly in regard to what might be termed middle sized holdings. Following a request by Advisory Boards (Bendigo Advisory Board Conference, July, 1963) eligibility for water right allocation was extended to holdings having suitable but uncommanded lands up to a maximum of 100 acres. The formula was accepted by Advisory Boards and became the 1964 formula which is fully described in Schedule Three B of the Water Act and is shown on the last page of this Appendix.

In implementing both the 1960 and 1963 formulae, the Commission regarded single holdings (for the purpose of apportioning Extra Water Rights) as being all lands wherever situated in any one irrigation area held by one owner and, further, it regarded lands held separately by husband and wife as being in one ownership.

The "common ownership" policy was challenged by a number of irrigators. Legal advice was subsequently obtained and was to the effect that the manner in which discretion was exercised by the Commission in allocating Extra Water Rights was of doubtful legality.

The Act required the Commission, in using its discretionary powers, to allocate Extra Water Rights in quantities required for the reasonable irrigation of the land in question.

In allocating water, two of the determining factors used by the Commission were:

- (i) common ownership principles; and
- (ii) the system of allocating additional water based on land ownership at specified dates.

The Crown Solicitor advised in March 1964, that the use of these factors could be regarded by a Court as irrelevant to the objects of the Statute and that it could be held that there had been no real exercise of discretion as conferred by the Water Act; further, the Commission could be compelled by a Court to exercise its discretion in accordance with the Act (i.e. to base Extra Water Rights solely on the grounds of what is required for the reasonable irrigation of that land).

Subsequent to this advice the Commission agreed that in all cases where separate properties were owned by husband and wife, such properties would be treated as

separate entities for the allocation of Extra Water Right. Further, legal advice was to the effect that lands held by any one owner should not be regarded as single holdings if they were too far apart to be worked as one holding.

In the light of this advice the formula basis was regarded as unstable in that the existing extra water rights were open to challenge, and the rightful expectation of thousands of irrigators under the 1963 formula could be denied if a legal challenge was successful.

The 1964 Water Bill was then introduced which provided for the adoption in the Act of Schedule Three B which, in turn, confirmed the scale of Extra Water Rights which has been developed by the Commission under the 1963 formula and promised to irrigators as announced policy; at the same time, it ratified the Extra Water Right allocations made by the Commission prior to 1964. The scale of water right allocations is now known as the 1964 Formula.

For the purpose of water right allocation, a holding is now defined in the Act in the following words:

"Holdings means the land comprised in any single entry in the appropriate register of lands in force on the first day of July, 1959, or in respect of lands not included in any Register in force on that date, the lands comprised in any single entry by which such lands were first included in any Register."

The definition enabled many contiguous properties in the one ownership to become eligible for increased water right.

In this context, contiguous lands means lands which abut, or are separated only by a road, railway or channel reserve. In cases where such lands were commonly owned, but described in separate entries in the Commission's Register of Lands, each separate entry was entitled to the water rights specified in the Schedule Three B.

While the 1964 legislation validated previous water right allocations, the full application of the formula meant that the allocation of water rights exceeded the "safe" estimated volume based on headworks resources by about 250,000 acre feet (310,000 megalitres). It has been fortuitous that, in general, above average inflow years have been experienced in the intervening period up to the commissioning of Dartmouth.

The formula came into effect on 1st January 1965, and initially expired on 1st July 1967. The "life" of the formula has been extended on several occasions since then for periods of up to three years by appropriate legislative amendment. The present expiry date is 1st July, 1985.



EXTRACT FROM SCHEDULE 3B  
WATER ACT 1958

SCHEDULE 3B.

1. "Suitable land" means land represented in the appropriate register of lands as being neither swamp lands nor in the opinion of the Commission unfit for irrigated culture.

"Commanded and suitable land" means suitable land represented in the appropriate register of lands as being also commanded by gravitation with water from the works constructed for the supply of the district.

PART 1. - GOULBURN-MURRAY IRRIGATION DISTRICT.

2. For the purposes of this Part:-

"Holding" means the lands comprised in any single entry in the appropriate register of lands in force on the first day of July One thousand nine hundred and fifty-nine, or, in respect of lands not included in any Register in force on that date, the lands comprised in any single entry by which such lands were first included in any Register.

3. Where any land in respect of which an application is made under the provisions of sub-section (1) of section 65c is a holding within an irrigation area in the Goulburn-Murray Irrigation District the volume of water to be apportioned to such land as extra water rights shall be such that thereby the total volume of basic additional special and extra water rights apportioned to such land is increased to the nearest whole number of megalitres approximating to the volume computed in accordance with the appropriate part of column 3 of the following Table 1.

TABLE 1.

Item	Description of Holding	Volume of Basic Additional Special & Extra Water Rights
<u>Column 1</u>	<u>Column 2</u>	<u>Column 3</u>
1	Holding containing an area of suitable land not exceeding 16.2 hectares.	5.334 megalitres for every hectare of suitable land.
2	Holding containing an area of suitable land exceeding 16.2 hectares but not exceeding 40.5 hectares.	86 megalitres and in addition for every hectare by which the area of suitable land exceeds 16.2 hectares 3.048 megalitres.
3	Holding containing an area of commanded and suitable land exceeding 40.5 hectares but not exceeding 89.0 hectares.	160 megalitres and in addition for every hectare by which the area of commanded and suitable land exceeds 40.5 hectares 0.254 megalitres.
4	Holding containing an area of commanded and suitable land exceeding 89.0 hectare.	172 megalitres and in addition for every hectare by which the area of commanded and suitable land exceeds 89.0 hectares 1.016 megalitres.
5	Holding to which water was diverted under any agreement with the Commission or any permit or licence issued under the provisions of Section 204 which agreement, permit or licence terminated not more than twelve months before the date of an application made by the occupier or owner for the granting of E.W.R.	A volume in accordance the foregoing items of this table and in addition such volume, if any, as the Commission may determine provided that the total of both volumes shall not exceed 6.1 for megalitres for every hectare of suitable land.
6	Holding in the vicinity of the Waranga Western Channel or Pyramid No. 1 Channel comprising the whole or part of allotments of land coloured blue on plan No. 87581 sealed by the Commission.	Notwithstanding anything in the foregoing items of the this table a volume of sales allocation shown in the sales allocation register adopted by the Commission in conjunction with the said plan.

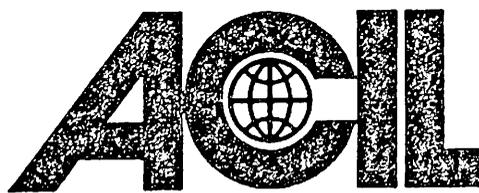
Clause 4      4. Where any land in respect of which an application is made under the provisions of sub-section (1) of section 65c is part only of a holding within an irrigation area in the Goulburn-Murray Irrigation District the volume of water to be apportioned to such land as extra water rights shall be a share determined by the Commission at its discretion of the volume of water which on an application made on the same day in respect of all lands forming the holding would be apportioned to the holding under the provisions of clause 3 of this part.



SUMMARY OF REPORT BY  
ACIL AUSTRALIA  
FOR THE DEPARTMENT OF WATER RESOURCES  
ON  
TRANSFERABILITY OF WATER ENTITLEMENTS



SUMMARY REPORT  
TRANSFERABILITY OF WATER  
ENTITLEMENTS  
DEPARTMENT OF WATER RESOURCES  
VICTORIA



SEPTEMBER, 1984

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**ACIL AUSTRALIA PTY. LTD.**

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## FOREWORD

"This document is a report commissioned by the Department of Water Resources, in conjunction with the Rural Water Commission, as an input to the Irrigation Management Study which is being conducted under the umbrella of the State Water Plan.

The project on Transferable Water Entitlements conducted by ACIL Australia Pty. Ltd. was designed to address and answer some of the questions about the desirability and practicality of introducing a policy on transferable water entitlements in Victoria.

The report is printed here as received by the Department of Water Resources: the views it contains are those of the Consultants. Neither the Department of Water Resources nor the Rural Water Commission, by publishing this report, signifies any endorsement of it or of any of its recommendations. The report is one input into the decision making process regarding this complex subject."



## TABLE OF CONTENTS

### CONCLUSIONS

#### 1. INTRODUCTION

Background  
Terms of Reference

#### 2. RATIONALE FOR TWE

Achievement of Efficiency Gains  
Advantages and Disadvantages  
Concept of a TWE Market  
TWE and Seasonal Charges for Water

#### 3. PHYSICAL CONSTRAINTS ON TRANSFERS

Engineering Constraints  
On-Farm Standards

#### 4. MARKET POTENTIAL FOR TWE

Theoretical Market Potential  
Irrigator Survey Results  
Likely Movement of Water

#### 5. OPERATION OF TWE

General Issues  
Role and Functions of the Commission  
Issue of Permits  
Charging  
Role of the Private Sector  
Trading by the Commission  
Information Requirements

#### 6. IMPLICATIONS OF TWE

Costs and Benefits  
Salinity Effects  
Policy Requirements for Specific Groups

## CONCLUSIONS

Implementation of a TWE policy is justified on economic grounds as it will lead to an improvement in the efficiency of irrigation water use in Victoria. Benefits will accrue to both irrigators and the general community through implementation of a TWE policy. Irrigators will benefit from the increased flexibility with which they can obtain, dispose of and allocate water. Achievement of efficiency gains under TWE will mean higher average incomes in Victoria. Additional administration costs are relatively small.

Economic analyses and irrigator surveys, undertaken as part of the study, suggest that up to 30 percent of irrigators may profit from participating in a TWE market. It is likely that farmers, once they become familiar with the change, will trade water entitlements in much the same way they currently trade other inputs such as land, livestock and fodder.

The TWE policy detailed in the report is considered equitable in its effect on irrigators and other community sectors. Incorporation of policy measures for specific groups therefore is not warranted at this stage. Similarly, possible costs associated with TWE, such as a worsening in salinity or water table levels, are expected to be minor and not of sufficient magnitude to warrant not introducing TWE.

## 1. INTRODUCTION

### Background

- The system of allocating irrigation water has been under continual review since 1975, when the Parliamentary Public Works Committee commenced an inquiry into water allocation in Northern Victoria. More recently the current Government has been involved with development of a State Water Plan which would assist formulation of Government policies for the water sector.
- Irrigation management is one of four components of the Plan. It is important because water for irrigation makes up about 80 percent of the State's water usage and is responsible for 20 to 30 percent of the gross value of agricultural production in Victoria.
- This current study, commissioned by the Department of Water Resources in conjunction with the Rural Water Commission and undertaken by ACIL Australia Pty. Ltd., involves examination of Transferable Water Entitlements (TWE). It is one component of the irrigation study. Other components deal with any policy options that will improve the efficient use of irrigation water e.g. pricing policy, supply security and on-farm management.

### Terms of Reference

- Background briefing papers to the Consultant stated that the study was to examine the issue of transferability and redistribution of water entitlements under four main headings :
  - (i) advantages and disadvantages of a TWE policy;
  - (ii) physical constraints required;
  - (iii) elements associated with implementing a practical TWE policy; and
  - (iv) likely use of transferable entitlements.

Detailed Terms of Reference provided to the Consultant are contained in Attachment A. Maps of Victoria's irrigation districts and of the Goulburn Murray Irrigation District (GMID) are contained in Attachment B.

- There were a number of constraints within which the study was to be undertaken. These were :

(i) TWE to be considered within the constraints of present commitments to irrigation i.e. no net increase or decrease in total irrigation entitlements, or significant changes to past practices on seasonal availability.

(ii) TWE to be examined in the context of no further augmentation of public works of rural water supply.

(iii) The study was not to include a detailed examination of salinity aspects since these were being addressed concurrently by a separate project team from the Commission and Department of Agriculture, Victoria.

## 2. RATIONALE FOR TWE

### Achievement of Efficiency Gains

- The current method of allocating entitlements results in land and water being used in a fairly inflexible relationship. This has led to losses in efficiency of irrigation, although evidence does not suggest that the current allocation of irrigation water is grossly inefficient. However, because 20 to 30 percent of Victoria's rural production comes from irrigated areas, even small proportional gains in efficiency can yield large absolute increases in the value of output.
- TWE would break the tie between land and water right and therefore allow water to move, under market forces, to land

where its productivity is higher. By allowing this to happen there would be an improvement in the efficiency of water use in Victoria. Achievement of efficiency gains would mean higher average incomes in Victoria.

- TWE could be used to improve the allocative efficiency between agricultural and non-agricultural uses. However, achievement of such efficiency gains is limited by the lack of alternative potential users and the limited volumes, relative to irrigation, used by non-agricultural users.
- Within agriculture, TWE is likely to be the most effective means for achieving more efficient water allocation between farms.
- TWE removes the existing impediment to the effective operation of a tender system for any future allocations of water to agriculture. Introduction of a tender system for future allocations would ensure that irrigators would pay the market value for their individual allocation. A tender system also would mean that irrigators, receiving the allocation, do not receive a windfall capital gain.

#### Advantages and Disadvantages

- TWE would allow irrigators to adjust their security of supply to suit individual farm development strategies and attitudes to risk. Currently, security of supply can be uncertain, particularly for irrigators who use more than water right plus 30 percent.
- A TWE market would generate a market price for water which could be used by both the Commission and irrigators to improve their respective decision making on investment/divestment decisions relating to irrigation. This improved decision making would lead to improvements in the way in which water is used.

- TWE would increase the flexibility with which irrigators can obtain, dispose of, and allocate water in both the short and long term. This allows irrigators to adjust their production according to changes in domestic and international markets.
- Introduction of TWE, in the absence of a real rise in water charges, would cause the average capital value of water right to rise. Irrigators obtaining the lowest returns from water would benefit most from this capital gain. This is because the market value would be determined largely by irrigators who require additional water for their higher returning enterprises.
- When the situation arose, TWE would facilitate any adjustment of irrigators from areas where irrigation is less economic i.e. saline areas. In such areas the value of water right under a TWE policy is likely to be higher than the current value of land and water right, thus providing such irrigators with greater flexibility and financial resources than are available under the current system of fixed entitlements.

#### Concept of a TWE Market

- Obtaining these potential efficiency gains will be made easier if all unnecessary administrative intervention or restrictions are avoided. Development of a practical market for water entitlements should proceed on the basis of a 'free market' as the starting point, with restrictions only being imposed after their need has been clearly established.
- The market for water entitlements should have three major characteristics :
  - (i) technical constraints kept to the minimum necessary;
  - (ii) the Commission to be responsible for establishing the constraints and administering the scheme but not to

become involved in the commercial aspects associated with trading; and

- (iii) information on technical constraints and results of market trading to be made available publically and widely.

### TWE and Seasonal Charges for Water

- Water charges will effect the prices at which entitlements are traded but are not expected to markedly influence the amount of trading.
- An increase in (real) seasonal charges for water will reduce the income produced from entitlement. Thus higher seasonal charges will result in a once and for all capital loss for those who own water right at the time charges are increased. However, since the size of the capital gain obtained from TWE will vary between irrigators, the effect of a rise in water charges will vary also. Any capital loss incurred is likely to be greater in the case of the more efficient irrigator.
- An increase in water charges introduced simultaneously with TWE would capture part or all of the capital gain which results from TWE increasing the capital value of entitlement.
- If increasing seasonal charges and introduction of TWE were separate and independent actions then there would be a slight advantage in introducing TWE first because of the increased flexibility it would provide to those irrigators who may wish to sell entitlement as a result of the price rise.

### 3. PHYSICAL CONSTRAINTS ON TRANSFERS

#### Engineering Constraints

Because of the nature of development of irrigation within Victoria, implementation of a TWE policy will involve certain constraints being placed on the transfer of water. The main engineering constraints have been set by the Commission. These are :

- Because of limited capacity of the Waranga Western Main Channel, transfers into Boort, Pyramid Hill, Deakin and Rochester would not be permitted. Within district transfers would be permitted.
- Transfers of entitlement from areas upstream of Swan Hill to areas downstream of Swan Hill would not be permitted.
- No transfers would be permitted either into, out of, or within Murray Pump Districts. The reason for this is that these districts are highly developed, intense horticultural areas which have been given allocations related to plant requirements, i.e. 9 megalitres per hectare.
- To preserve the existing level of service to irrigators, other 'district' constraints may be required. These constraints would be imposed, for example, where a channel had insufficient capacity to deliver the additional entitlement.
- Purchaser specific constraints may be required because of capacity of spur channels or insufficient delivery wheel capacity. The individual (or individuals) should incur the capital cost of overcoming such constraints.

## On-Farm Standards

- The minimum standard for allocation of water right should be that land is suitable for irrigation. Land that is 'commanded' should not be a prerequisite for allocation of entitlement.
- The level of water right per unit area of land generally should not be restricted.
- If conditions require a limit to be placed on the volume of water entering a particular area, say for salinity reasons, use could be made of the engineering or district constraint provisions. Use of these provisions would ensure that the constraints were flexible, enforceable, and able to take account of regional differences in soil type, enterprise activity, potential for salinisation and water table levels. This flexibility is not available under a maximum standard.
- A minimum level of water right per unit area of land should not be set, except for the provision of stock and domestic supply as currently prevails.
- The Commission should not attempt to establish standards relating to paddock layout, re-use system etc. Establishment of such on-farm standards for transfer of water entitlement are not justifiable on the grounds of equity, difficulties associated with setting technically feasible standards, and problems associated with the creation of review mechanisms and determination of the time from which such standards become enforceable.

## 4. MARKET POTENTIAL FOR TWE

### Theoretical Market Potential

- The potential market for TWE will be determined largely by the scope perceived by farmers to increase profitability through

buying and selling entitlements. Non-profit factors such as irrigator attitude to risk also will influence the extent of trade in entitlements.

- . Budgetary techniques were used to estimate the number of irrigation holdings which can increase annual profits by acquiring or disposing of entitlement. Generally, purchase of entitlement will cause annual income to increase, but this will require additional capital expenditure. Conversely, in situations where the volume of water used is greater than water right, sale of entitlement is likely to reduce annual income, but this will be offset by liquidation of some assets e.g. sale of sheep or cattle no longer grazed because of a reduction in area or productivity of irrigated pasture. Alternatively, where the volume of water used is less than water right, sale of entitlement would increase the annual income stream and have no effect on property assets except for entitlement.
- . On the basis of profit criteria, study results indicated that dairy farmers and mixed farmers are likely to be potential buyers of entitlement, whereas grazing properties are likely to be sellers of entitlement. Current trends support this finding, whereby dairy farmers in more intensive regions, such as Cohuna, are purchasing land and entitlement in less productive areas such as Tragowel Plains, and transferring at least part of their entitlement to the more productive property.
- . Potential market participation by irrigators involved in dairying, mixed farming and grazing enterprises within the GMID (85 percent of all irrigation holdings within the GMID) is estimated to be up to 35 percent of total irrigation holdings.
- . It is expected, that the number of irrigators prepared to sell entitlement will decline as the price offered for entitlement falls. Conversely, as entitlement prices increase the number of buyers declines because the income generated from the

additional entitlement is insufficient to cover the cost of entitlement and still produce an acceptable rate of return.

- On the basis of consultant assessment of property sales within the GMID, the current notional value of entitlement is thought to lie in the range of \$200 to \$400 per ML. At this range of values, market potential is estimated to be about 20 to 30 percent of irrigation holdings.
- The total volume of water traded is likely to lie within the range of 3 to 10 percent of total water right.
- The level of entitlement trading in any one year is likely to be relatively small - certainly substantially less than the estimated market potential. Furthermore, it is likely that trading would commence slowly and gradually increase as participants become more familiar with and confident of the market.
- The volumes of water moving between and within districts are likely to be small, particularly in the early years of the policy.
- The effect on market participation was tested for a reduction in the price of butterfat. If the price of butterfat is reduced it is likely to lead to a substantial decline in the price at which entitlement is traded. It is likely that the market would adjust to such a change with little consequent effect on either the number of irrigators or volume of entitlement involved in the market.

### Irrigator Survey Results

Telephone surveys of irrigators and diverters were undertaken to identify likely buyers and sellers by enterprise type and level of water use. The survey was deliberately biased towards low water users i.e. irrigators who use less than 130 percent of water right,

because existing evidence suggests that potential sellers are most likely to come from this group. It had been suggested that farmer reluctance to sell "at any price" might jeopardise a TWE market.

(i) GMID Irrigators

- Thirty irrigators throughout GMID were interviewed. Sixty percent of respondents indicated that they would profit from trading in entitlement, and were divided evenly between buyers and sellers.
- Survey results confirmed the initial expectation that sellers most likely would be irrigators who use less than 130 percent of water right, whereas buyers generally would be those who use more than 130 percent of water right.
- Other survey findings were :
  - Dairy farmers would be the main buyers of entitlement.
  - Buyers generally showed a preference for purchasing on a permanent basis, whereas sellers showed a strong preference for sale on an annual or leasing basis.
  - Potential sellers of entitlement generally placed a much lower value on entitlement than buyers e.g. they valued entitlement at the current Commission charge plus a margin varying from 10 to 50 percent.
  - Potential buyers, because they had some knowledge of the income stream obtainable from additional entitlement, placed a higher value on entitlement. This value ranged between \$50 per ML and \$500 per ML. Generally, buyers considered that the annual price would be about 10 percent of the capital value of entitlement.

- The volume of water likely to be traded per irrigator generally ranged between 20ML and 60ML, although there were both buyers and sellers who would be prepared to trade at volumes up to 200ML.

(ii) Diverters in Goulburn and Broken River Systems

- Fourteen licenced diverters were interviewed. Survey results indicated that sellers are likely to be farmers who currently undertake little or no irrigation and are involved in more extensive enterprises such as grazing and winter cropping. Buyers are most likely to be dairy farmers or mixed farmers involved in summer cropping and who currently use above 50 percent of their licenced allocation.
- Sellers stated that they were not prepared to sell on a permanent basis. Price at which sellers indicated they were prepared to sell was current Commission charge for water plus a small margin. The indicated price which buyers were prepared to pay for entitlement ranged from \$150 to \$300 per ML.

(iii) Diverters Downstream of Swan Hill

- Diversions licences downstream of Swan Hill account for about 70 percent of total volume of water licenced for diversion in Victoria along the River Murray. Furthermore, there are licence applications for a further 77,000ML within the area, despite an average usage of only 75 percent of licenced volume during 1982/83 - a drought year.
- A survey of 27 licence holders and applicants was conducted, representing 13 percent of the total licenced volume.

- Twenty four respondents indicated a preference for purchasing additional licenced volumes. Of these, 19 used less than 75 percent of their licenced volume.
- Twenty five of the respondents were engaged in the development of permanent plantings and this explains their general requirement for additional licenced volumes. Permanent plantings require a long developmental period. Normal practice is to develop a small portion of the potential irrigable area and allow this to come into production and generate income before development of the next stage. Thus, this staged development process means that, in the early stages, licence allocation is considerably underused.
- Full development is usually limited by the lack of capital. To generate income during the development phase, annual cropping of vegetables often is undertaken on land not developed for permanent plantings. However, for vegetable growing water usage is normally less than for permanent plantings.
- About half of the allocations were held by absentee owners. In such cases the rate of development often is influenced more by the level of off-farm income earned and related requirements for taxation relief than specific farm development criteria. In such situations the unused allocation can be an attractive investment, given the small holding cost of owning a diversion licence and the capital growth in the asset reflected by the licence.
- Interviewed licence applicants indicated that they may be forced to adopt more efficient irrigation techniques e.g. trickle irrigation, if their applications for additional licenced volumes were unsuccessful.

## Likely Movement of Water

- A broad assessment of the movement of entitlement between districts within the GMID was possible from the analytical and survey results. These results indicated that dairy farmers and mixed farmers involved with summer cropping are likely to be the main buyers of entitlement and grazing properties and low productivity mixed farms the main sellers. The expected movement of entitlement between districts within the GMID is summaries in the Table below :

LIKELY MOVEMENT OF ENTITLEMENT WITHIN THE GMID

DISTRICT	DIRECTIONS OF ENTITLEMENT FLOW	COMMENT
Tragowel Plains	Outward	Entitlement likely to flow out of district because of low returning grazing industries, poor soils and salinity, coupled with current water rationing in Spring and Autumn.
Swan Hill	Outward	There has been a strong trend for land and entitlement to be transferred from fruit to part-time farming. Entitlements expected to be sold by grazing and fruit enterprise. Reaction of part time farmers uncertain.
Rodney	Inward	District is a major dairying area and entitlement expected to be transferred into district. This will be accentuated by existence of larger farms and old sub-divisional problems.
Shepparton	Uncertain	Transfers away from fruit and part time farms may be balanced by purchases by dairy farmers.
Tongala/Stanhope	Inward	District has heavy concentration of dairying and there is likely to be an inflow of entitlement. However, the area historically has high water rights which will reduce likely transfer of entitlements.
Deakin	Uncertain	Inflow of entitlements to dairying and cropping activities may be balanced by sales from grazing holdings on poorer, flood prone soils.
Rochester	Inward	Inflow of entitlements to dairying may be balanced by sales from grazing properties.
Kerang	Outward	Entitlement expected to flow away from grazing enterprises on heavier salt prone soils.
Cohuna	Inward	Entitlement expected to flow into this dairying area of good soils.

5. OPERATION OF TWE

General Issues

- The purchase (sale) of entitlement would comprise four discrete steps viz :
  - (i) determine the engineering constraints which would prevent or limit ability to trade;
  - (ii) obtain a permit from the Commission which would specify maximum quantity of water and necessary capital works which would be the responsibility of the purchaser;
  - (iii) negotiate with the seller the commercial aspects of the transaction; and
  - (iv) register transaction and details with Commission.
- As in any other market, potential buyers of entitlement will need to take account of the constraints when deciding to initiate a transaction. The market would operate on a "first come, first served" basis.
- A change in irrigation policy as significant as TWE needs to be well publicised and explained before introduction. In view of this need, it would be impractical to attempt implementation for the coming 1984/85 irrigation season. A more appropriate target, if administratively possible, would be the following season.
- A TWE policy needs to be perceived by farmers as a fundamental and permanent modification to water use policy in Victoria.
- Owners of entitlement should be permitted to either lease or sell entitlement outright.

- Leasing is likely to be common early in the life of the TWE policy, and in seasons when water is, or is expected to be, in short supply.

### Role and Functions of the Commission

- The Commission's main role will be the establishment and administration of the technical elements of the policy, particularly the setting of engineering constraints. Another important responsibility will be the collection and dissemination of information on TWE. The information will relate to all technical aspects of the policy and results of transactions including location, size and price of each registered transfer.
- The Commission should review annually, and if necessary modify, engineering constraints so that these represent the minimum necessary physical restrictions on the commercial transfer of entitlement.
- Irrigation Advisory Boards should have an active role in advising the Commission on the establishment and review of district or local constraints, establishment of service standards and the principles for administering those standards. It would be the responsibility of the Commission, provided the advised standards were accepted, to ensure that the standards were maintained as part of the TWE policy.
- The Commission should continue to regularly update and publish, from its data, "ready reckoners" of water availability by time of season and probability of occurrence. This information can be used by irrigators to assess prospects and costs of management alternatives for the forthcoming season and allow individual decisions to be made according to personal preferences.

- With TWE, it is likely that in time, as excess water rights are sold, the average percentage of water seasonally available as sales will decline. This is because TWE would lead to a reduction in the number of irrigators using less than water right in an average season. In turn, the Commission could expect to have less "uncommitted water" in any season.

### Issue of Permits

- The Commission would issue a permit which would constitute the approval of the Commission, subject to any conditions attached, to purchase water entitlement up to the quantity specified. In issuing the permit the District Office of the Commission would have checked that the request for transfer was not subject to restrictions and would specify the capital works, if any, required to be undertaken by the purchaser before additional water could be delivered.
- Main information sought and/or contained in a permit would be :
  - details of applicant and farm, sufficient to check that application was not in breach of any constraints;
  - details of water right to be acquired;
  - indication of whether the intention was to lease or purchase outright;
  - information of restrictions on water transfer between districts and areas;
  - cut-off date after which Commission could not guarantee delivery under permit in the current season;
  - period for which permit remained valid;
  - fee to be charged.

- A permit should be issued by the Commission within 30 days of a written application being received.
- A permit should remain valid for a period of 45 days from the day of issue and should lapse if not used or renewed prior to the end of the period.
- One renewal of the permit for a further 45 days should be allowed provided the renewal is in writing and submitted before expiry of the first 45 days.
- If the permit was exercised, the purchaser would be required to register the transaction. Registration of a transaction should occur within the validity period of the permit otherwise the permit would lapse.
- Registration of a transaction would require the purchaser to provide details of the location, size and unit price of the purchase. This information would be made available to the public. Registration also provides the means by which change in the allocation of water between irrigators and districts is continually updated.

### Charging

- It is important that the costs of running a TWE policy be borne by the participants. Because initially the administrative costs will be estimates, they should be set sufficiently high to cover direct costs. A reasonably large administrative charge also will dissuade trivial applications for permits.
- Costs associated with establishing a TWE policy and informing and educating participants before introduction of the policy should not be subject to recovery in charges, rather they should be borne by the Commission.

## Role of the Private Sector

- All commercial aspects of a TWE policy should be in the hands of the private sector. It should be left to the private sector to devise the best means of bringing buyers and sellers together and setting fees and commissions for the provision of these services.

## Trading by the Commission

- A TWE policy should incorporate provisions which would allow the Commission to trade under limited and specified circumstances. There are two circumstances in which it is envisaged advantageous for the Commission to trade. Firstly, where the Commission may judge that the increasing costs of servicing an irrigation area which is in decline could be avoided by purchasing the remaining water entitlement in that particular area. Secondly, where the Commission judges that it would be economically viable to extend or augment an irrigation area.
- New legislation would be required to allow the Commission to trade. Such legislation could specify, in general terms, the circumstances under which the Commission could and should enter the market. The legislation also could specify that in each instance where the Commission wishes to trade it must submit a detailed proposal to the responsible Minister for approval.

## Information Requirements

- The information requirements of TWE are of two types :
  - information to inform and educate irrigators prior to and immediately following introduction of the policy; and
  - regular information on technical constraints and market activities.

- The Commission, in combination with the Victorian Department of Agriculture (DAV), should organise an education and extension programme to be carried out over a period of two or three months prior to commencement of trading in water entitlements. Such a programme would involve preparation of written material on the policy and its implementation which would be distributed to all irrigators. This would be supplemented by media coverage and distribution of printed material through the offices of the Commission and DAV.
- A series of district meetings should be held at which Commission and DAV officers would make presentation and be available to participate in discussion sessions.
- Once the policy is operational, information on water entitlement transactions and changes to constraints should be published in suitable media e.g. local newspapers, at regular and frequent intervals.

## 6. IMPLICATIONS OF TWE

### Costs and Benefits

#### (i) General Issues

- TWE offers the opportunity for improvements in the economic efficiency with which water is allocated between farms.
- The number of transactions under a TWE policy is likely to commence at a low level and gradually increase. The volume of entitlement traded in any given year is unlikely to be significant relative to the total allocated volume of entitlement. This will provide irrigators and administrators time to assess the market and devise strategies to maximise benefit and minimise costs.

- Availability of economic information relating to water is expected to be a major benefit arising from a TWE policy.

(ii) Individual Irrigators

- The major benefits which irrigators will obtain from TWE will derive from the increased flexibility with which they can obtain, dispose of, and allocate water in both the short and longer term. A secondary benefit is that TWE will cause an increase in the asset value of water right.
- Leasing of entitlement is likely to be highest in years of below average water supply. In this situation, TWE has the benefit of allowing individual farmers to make their own decisions regarding whether it is more profitable to lease extra water or sell some of their entitlement.
- If the TWE market is constrained by the requirement that the existing level of service be maintained, as this report recommends, then a major potential source of costs (disbenefits) to non-participating irrigators is removed.
- In some irrigation areas rising water tables and salinity are problems for existing irrigators. Appropriate policies and strategies are currently in place or are being developed to handle these problems e.g. Barr Creek Management Study, Phase B Groundwater Pumping Scheme. The implications of TWE for water table and salinity problems are unlikely to be of sufficient magnitude to warrant not introducing TWE.

(iii) Regional Level

- Entitlement is likely to move out of areas involved in extensive agriculture to areas of intensive agriculture. This movement is already occurring through the transfer of sales and temporary amalgamation policies. TWE will only accelerate this trend; it will not be the underlying reason

for entitlement being transferred away from less productive areas.

- TWE, through an increase in asset value, will provide irrigators wishing to adjust away from less productive areas, with a financial benefit not available under the current water right allocation system.
- Tragowel Plains and the lower part of the Kerang Irrigation Area are two areas where entitlement transfer is likely to be substantial. Consultant assessment is that up to 30 percent of water right could be transferred out of the area within five years of TWE being introduced.
- The population decline from these areas is unlikely to be as significant in percentage terms as the volume of entitlement transferred.
- Transfer of entitlement from Tragowel Plains is likely to lead to even more extensive agriculture than that currently practised. The move to dryland farming may not lead to any significant reduction in the value of agricultural production.
- Under the current allocation system, the value of land and water together may have a lesser value than the combined value of land and water as separate units. In the least productive areas the value of entitlement may be higher than the current value of land and water combined.
- TWE will assist any adjustment in these less productive areas. Irrigators who wish to sell their holdings and move out of the district are likely to receive a higher value for their water and land and hence be in a more favourable economic position to reinvest in agriculture in another district, or to adjust out of agriculture. Remaining landholders, who choose to do so, could build-up their

holdings by purchasing additional land at a value which reflects its productive value and not one which embodies a capitalised value of entitlement.

- In relation to either the expected decline in the number of irrigators or volume of entitlement transferred out of the area, the effect on non-agricultural businesses of TWE is likely to be substantially less.
- TWE is not expected to have a significant impact on regions. The main reason for this is that the volume of entitlement being transferred is likely to be small relative to the total available entitlement. Thus, fears that TWE will cause major reductions in the level of service provided to irrigators, the level of business activity, and availability of community services appear unwarranted at this stage of the policy.

(iv) State Level

- TWE will bring net benefits and is therefore worth pursuing from a State perspective. These benefits will be small relative to the investment in and cost of operating water resources as a whole.

(v) Managing Agent

- The major benefit to the Commission from the introduction of a TWE policy will be the extent to which it enhances the Commission's ability to allocate the State's water resources in an economically efficient manner. These benefits will be greater if the Commission is given limited trading powers as part of the TWE policy.
- Information produced by a TWE market will greatly aid the Commission in its administration of the irrigation system and in planning future investment.

## Salinity Effects

- With time, reductions in application of large volumes of irrigation water, such as could occur on the Tragowel Plains, is likely to result in a lowering of the groundwater table, and lead to a reduction in salinisation in the root zone due to capillary action. The degree to which this occurs will depend on groundwater pressures and vertical permeability of the overlying sediments.
- In general, a change from annual pasture to perennial pasture is likely to have, at worst, a neutral effect on water table levels, and in most situations will result in a reduction in accession per ML of water applied.
- In some areas, such as parts of the Goulburn Valley and Cohuna, intensification of irrigation may cause the water table to rise. Where water table levels rise to within the root zone, productivity losses will occur.
- Close monitoring is required in areas where additional entitlement may pose problems. Where transfers are seen to worsen salinity or water table levels, use of some constraint measures may be required to limit the volume of water entering a particular district.
- Fears that TWE may cause a patchwork land use effect within intensive irrigation areas appear unwarranted.

## Policy Requirements for Specific Groups

- TWE is likely to provide benefits to most, if not all irrigators. Incorporation of policy measures for specific groups of farmers therefore is considered not to be warranted.
- Should conditions develop other than those envisaged, specific policy measures could be considered as and when appropriate.

In the absence of any compelling evidence of adjustment problems arising from TWE, this is considered a superior approach than not proceeding with TWE because of the possibility of particular groups being affected adversely, or to encumber the initial policy with measures aimed at remedying some undefined, future event.



ATTACHMENT 'A'

TERMS OF REFERENCE



## TERMS OF REFERENCE

The Terms of Reference required the consultant to address the following issues :

### 1. Advantages and Disadvantages of TWE

- Priority 1 :

Identify the potential for efficiency gains.

- Priority 1 :

Explore the need for "open" markets if potential gains are to be realised.

- Priority 1 :

Define the costs and returns to the State, the SR&WSC and the individual irrigator that might result if a TWE policy was adopted. This section will need to be definitive enough to allow a judgement to be made on the merits of TWE. The implications for irrigation industries and the net incomes of representative farm types (dairy, mixed farm and fruit) must be assessed.

- Priority 1 :

Should any farming group or culture be excluded from a TWE system or should a particular group be encouraged. If so, identify groups.

### 2. Physical Constraints on Transferability

- Priority 1 :

Determine if minimum standards of on farm development should be a criteria for participants in the TWE arrangement. If so, identify an appropriate set of minimum standards.

### 3. Element of a Practical Policy

- Priority 1 :

Determine the period/term that should be allowed on transferred water. Assess the need for contingency/fall back mechanisms (re-sale, central agency purchasing, seasonal leasing).

- Priority 2 :

Consider the need for educating the potential market participants and advise on an appropriate mechanism.

- Priority 2 :

Consider the need for longer term commitment to a stated level of seasonal charges in order to facilitate the operations at the market in TWE. Test the sensitivity of the market to increases in seasonal charges of 50 percent and 100 percent.

- Priority 2 :

Discuss the appropriate role of the Supervising body (SR&WSC).

- Priority 2 :

Determine how to best introduce a system of TWE.

#### 4. Likely Use of a TWE Policy

- Priority 1 :

Identify the likely market if a TWE policy was introduced.

- Priority 1 :

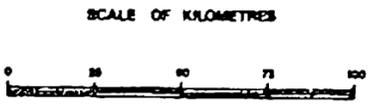
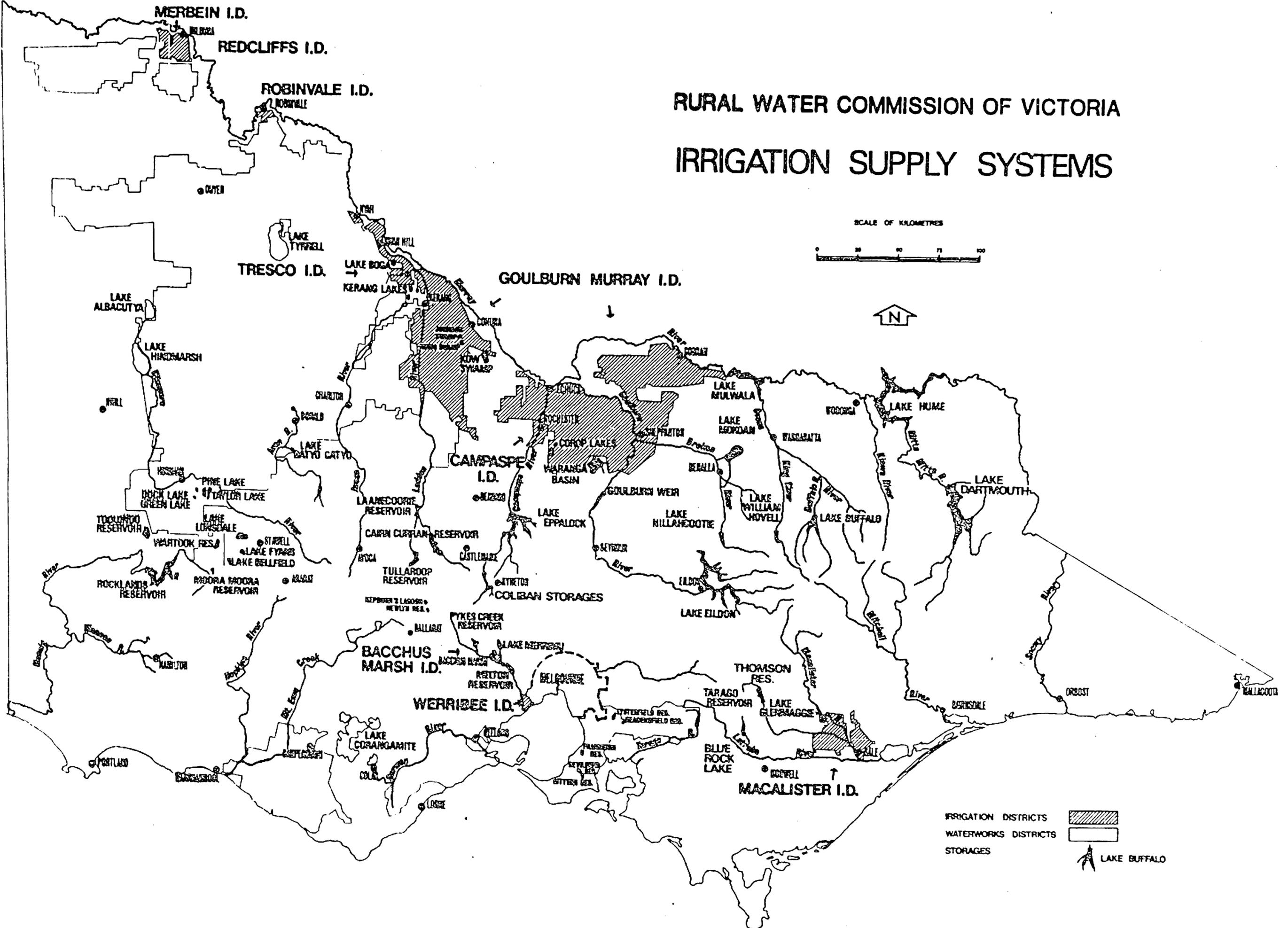
It would be expected that some communities would be boosted by TWE and others would decline. Briefly consider the broader implications of TWE on demography i.e. regional impacts. Assess the likely order of significance of these impacts.

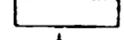
ATTACHMENT 'B'

IRRIGATION MAPS



# RURAL WATER COMMISSION OF VICTORIA IRRIGATION SUPPLY SYSTEMS



IRRIGATION DISTRICTS   
 WATERWORKS DISTRICTS   
 STORAGES  LAKE BUFFALO



