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EDUCATION AND TRAINING COMMITTEE

Inquiry into promotion of maths and science education

Melbourne — 29 April 2005

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The CHAIR — I wish to advise all present at this hearing that all evidence taken by the committee, including submissions, is subject to parliamentary privilege and is granted immunity from judicial review pursuant to the Constitution Act and the Parliamentary Committees Act. Welcome, Andrew. If there is some more information of a factual nature that we would like to talk to you about, we would appreciate it if Andrew Butler, our research officer, could follow up with you after the hearing. We usually ask you to start off with your name and title, give the committee a brief outline of your viewpoints and then we open up to discussion.

Mr RIMINGTON — Thanks, Chair. I am the senior policy adviser for employment, education and training at the Victorian Employers Chamber of Commerce and Industry. On looking at the terms of reference, I circulated them to all our Victorian Employers Chamber of Commerce and Industry members through our electronic newsletter that goes out each week, seeking contact and obviously an opportunity to talk with various members about their ideas and get their input and/or concerns or industry experience they had. As is always the case in these busy times, there was minimal response, but I have made a couple of contacts and I have sought out and had discussions with a range of other players. In just very quickly recounting some of the discussions I had with those various organisations, they cut across a number of the terms of reference but I think there are some interesting points to be made.

I met with the Business Skills Victoria Industry Training Advisory Board. Whilst they cover in the main business, administration, management, accountancy, marketing, finance and property, the broad comments they have had fed back to them are from that sector that covers the vocational areas of surveying, town planning and map reading. One of the comments they have had in those industry sectors, which include local government, independent surveyors and so on, are around the lack of spatial literacy of many graduates.*

Whether this is a legacy of secondary schooling in maths or sciences or through university I suppose is a bit hard to pinpoint. The relevance was the contextual debate about how the general population read and interpreted maps and grid lines. Employer experience was such that whilst some of the intellectual knowledge and understanding of mathematics and formula was okay, it was about the experience and perhaps having the practical relevance and understanding of how those concepts actually apply in the workplace. It was down to simple things like asking people to estimate the size of a room or what the square metreage might be, just by having a look and saying, 'I think it's 10 metres by 8 and that's roughly whatever'. Many graduates could not undertake even that sort of simple exercise.**

That was also sent back to me as a comment from the national training manager of Skilled Engineering and the manager of Professionals Division. I had a lengthy discussion with them yesterday. They were covering both graduates of secondary school coming in as apprentices and engineering and related graduates. They were making comments around the issue surrounding the differential between people with year 10 maths compared with those with, say, year 12 maths. The maths results, on the face of it when looking at academic records, seem fine, but many young people at either level tend to struggle with the computations required in the workplace. There was an example of one young person who was a year 12 dux but who really grappled with the complexity of mathematical calculations and, for instance, when asked as part of an assessment test to do a calculation without a calculator of taking 10 per cent off an invoice total could not work it out.

Another example they had was of a roomful of about 50 engineering, civil technician and other trade-qualified people who were asked about an area of road pavement construction. The test without calculator given to the group was to calculate what the content of bitumen would be required for a pavement area of so much length, width and depth — that sort of simple example. Some people were struggling after 15 minutes or longer, when it should have been an exercise that should have taken 30 seconds or so to calculate. Maybe they are extremes, but it is about people having a much more realistic comprehension of how mathematical formula actually relate in the workplace.

* Following the hearing, Mr Rimington wrote to the Committee indicating that Business Skills Victoria confirmed with him that the comparison of general skill level in spatial skills was comparing the general population to graduates: it was not about the ability of graduates. The confusion, Mr Rimington, says was his from notes taken. Mr Rimington has therefore requested the words 'many graduates' be replaced with 'the general population compared to graduates of these disciplines: the expectation being that the general public and school leavers should be able to read maps and approximate distances.'

** Following the hearing, Mr Rimington wrote to the Committee requesting 'graduates' be altered to read 'young people or the general population'.

They also had a concern in the apprenticeship area. Many young people, as we all know, dislike algebra, trigonometry and so on and do not really understand their relevance until they are actually on, say, a work site and have to work out angles and squares and so on in design work.

There was a view that it could be a curriculum issue. It is perhaps about recognising that a generation ago when there were technical schools some subjects were compulsory for many young people, both males and females. In domestic science they included cooking and dressmaking and there was electrical, mechanical drawing, woodwork and so on. Many of those areas have been absorbed into other curriculum subjects. Woodworking is still obviously out there. It is about that conceptual application of using construction as a means of determining and applying mathematical formula so that people understand and are able to calculate that out. In a sense they are simple skills, but they are not being picked up in a real sense so it becomes a problem in the employability skills framework of the knowledge setting that young people bring.

I also talked with an accounting firm to try to get a balance of understanding of young people who do have a strong focus around maths through a business or accounting degree. There was not so much a concern there about mathematical principle. The greater concern was about conceptualising how you can be liberated to be entrepreneurial and creative as an accountant in terms of problem solving. There seemed to be some skill and application missing in that context. That was an interesting point to be made.

Before I arrived I had just finished talking with the HR manager at Cabrini Health, who was talking from the context of nursing and paraprofessional and also laboratory technician recruitment. There is apparently a good solid underpinning of knowledge, probably reinforced at university and building on secondary school areas. So there is a good knowledge basis. The main concern was also about the practical application of that. In the nursing area particularly they use the graduate recruitment year as a year in which to really consolidate and underpin the practical reality of dealing not only with patients but also all the related calculations and estimations that need to be made, particularly in relation to the important area of calculation of drugs for drips and those sorts of tasks. It was reported that each year at least one or two do not survive — who are let go. They are qualified and graduated nurses and therefore may apply and work elsewhere in the system, when potentially their skill levels do not really support the qualification. The point made there was that in the medical imaging year qualification an internship is part of the training; it is built into the qualification. The point was raised that perhaps in nursing and other areas maybe that is a way of really homing in and identifying how the scientific knowledge and delivery on the one hand can be underpinned by practical experience and relationship on the other, so that a proper assessment can be made. It also builds on the employability skills framework as well.

I deal quite a bit with the Education Foundation. They have done a lot of project work on creating opportunities for middle-year students to make practical use and real relevance of the curriculum frameworks. They have a program called ruMAD?, which is an essential learning framework that can be linked to a whole range of subject areas, including topic areas such as economics and maths as well as a variety of electives — leadership-related development, VCAL and so on. Through the exercise of project-based activity in local communities there is reinforcement of the learning framework. They have had good experience in expanding that program. When we are looking to see how we can create bridges between schools and employers particularly it is that type of program and work experience-type placements that will help underpin that.

I also had some discussion with people at the Discovery Science and Technology Centre, who have previously submitted a paper to the committee. I will not go back through that paper. Certainly there was discussion and agreement around the sorts of issues they raised and the recommendations they made for your consideration. Certainly there needs to be a preparedness to look at what sorts of innovative approaches can be made to better build those links with secondary education.

I just thought I would pass on some anecdotal information that I got from discussions in the science area with one of the assistant secretaries in charge of the science division of the Commonwealth Department of Education, Science and Training. We met earlier in the year to look particularly at issues around the research and development effort by industry and the take-up by the small and medium enterprise sector. It was commented that one of the major concerns that Australia has is that, for instance, the economic union in Europe is doubling its research effort, that it is looking to recruit something in the order of 10 000 scientists and sees Australia, America, Canada and other countries as a recruitment base. That raises some major concerns for the promotion of maths and science here, creating pathways for people for undertake tertiary qualifications and then the retention of those people here when we are in a sense competing in a global market. I will leave my comments there for the moment.

The CHAIR — Thank you, Andrew, we will have quite a few questions, I am sure.

Mr KOTSIRAS — If I take mathematics as an example, in the past maths was all theory, but over the years we have slowly moved away from that and also tried to provide some real life situations in the classroom. From your presentation it seems to me you are saying that our schools are still failing students in maths and science and trying to educate the kids on how to use the maths they have learnt in the classroom outside in the real world. If that is true, what do you think schools should be doing and have you passed on these recommendations to government to ensure that students are able to cope? You said that even though students may get an A or B and are academically sound, when they leave the classroom they do not know how to use the maths skills they have learnt in the classroom in real life situations.

Mr RIMINGTON — That is a good point. I mentioned to Andrew that what I will do is formalise the comments I have had. The example was made of the dressmaking sort of area, for example, in that whilst it is no longer a compulsory subject, the ability to look at a pattern and determine how much material, such as curtaining fabric, they will need to buy — that innate ability to make a good, solid estimate based on your mathematical knowledge — is just not there. I suppose in a sense, whilst that may be a concern on the one hand, it is the commonsense sort of application across many industry sectors that is a concern — that employers report to us, as I indicated, that perhaps in many trade and building construction areas there is just not a real understanding of the underpinning basics in terms of building construction, such as the calculation of how much concrete is needed to fill a particular area or where and how you place a tent peg and at what angle to gain maximum strength for a retaining rope.

Mr KOTSIRAS — If that is the case and you feel that schools are failing our young kids, have you made any recommendations to government? Or have you just sat back and said, 'It is not working'?

Mr RIMINGTON — My attention has been focused on this over the last two to three weeks. I made a comment earlier to Andrew that tracking down and talking with a variety of people across industry sectors to gain a view has taken through to this week to achieve. I would look at consolidating the sorts of comments that we have received and feed that back.

Mr KOTSIRAS — Will you feed that back to government or through — —

Mr RIMINGTON — We can certainly put that in a report back to the committee, but I can also take up those related issues with the Office of School Education and the Office of Learning and Teaching within the Department of Education and Training to gain a departmental perspective.

Mr KOTSIRAS — Because the teachers I have spoken to feel that with maths and science we have moved a long way from the past — we are teaching kids about what is out there in the real world and how to use the maths and science skills they have learnt in the classroom — but in terms of employers, you are telling me now that it is not working and that there is still a problem?

Mr RIMINGTON — From the sample I have talked to, there are still issues out there obviously, yes.

The CHAIR — I would like to raise the next question. We heard in a briefing from the industry department, the Department of Innovation, Industry and Regional Development, that there are skill shortages in Victoria in terms of science areas, such as bio-engineering, clinical engineering and medical engineering, metallurgy, other microprocessing engineering and a whole range of other crucial areas that are important to the ongoing economy; and a shortage of a whole range of industrial chemists. We also heard that across Australia it is estimated that we will need around about 75 000 people to be employed in the senior levels of the sciences over, I think it might be, the next decade — I am not sure of the time — but that they are only anticipating about 7500 coming on line. Given the debate about skill shortages and whether we need to recruit, do you have a viewpoint on how accurate that situation is and what you would like to see happen to try and address it in the Victorian context? Do you have any comment on that? When I say 'you' I mean VECCL.

Mr RIMINGTON — We have been working with the commonwealth Department of Education, Science and Training around the skill shortage area and have made a submission recently to it to look at some project work across regional Victoria. Hopefully if we are granted that, we will be able to drill down a bit more in a regional context and try to identify, as you, Chair, said, what are we qualifying in terms of where are the vacancies, by what industry sector and by occupation. Anecdotally I tend to think that what you are saying is fairly accurate.

I noticed from an article in the *Age* on the weekend that there has been a dramatic drop, for instance, in the enrolments at Australian universities in science and chemistry-related areas — a 31 per cent drop between 1989 and 2002 — and chemistry student numbers were down by virtually 5 per cent. It was raising the spectre of what I knew as a young boy when Professor Julius Sumner Miller made science, chemistry and physics quite an interesting, challenging and practical topic area. I have to say, Chair and members, it was not an area that I excelled in!

It is a matter of working out how you encourage young people think positively in a maths and science context. I addressed a group of year 9 students the other day, and I asked them the question. Of course they all squirmed and said that it is a compulsory subject and not one that they would seek to continue studying. That attitude at the middle years, certainly the year 9 level, needs to be developed further. What we need to try to do is explore how we can get greater work experience exposure for young to go out into industry and observe how the sciences and maths are actually relevant to the work force so they have a much better idea and understanding of career pathways and links and can see that these pathways can potentially lead to rewarding careers, not only here in Australia but also overseas, and build those links that way.

The CHAIR — Given that those areas are pretty fundamental to our economy and a number of major industries and employers in this state I would have thought that industry would have two options: one is that it can wait until we have some sort of crisis and then import skills — that is a cheap and easy option — and the other is that it can form its own strategies to try, rather than just leave it to government, to encourage in a proactive manner people into the disciplines and to keep them engaged in maths and science in a way that will help the industry in the future. Is there any major movement amongst employers to proactively try to encourage young people — perhaps help supplement scholarships or in any number ways — to go into those vocations in the skill shortage areas?

Mr RIMINGTON — I can indicate that in the two years I have been at VECCI that we have taken in a policy context a very strong, practical promotion to members of the sorts of initiatives that are around. We have been a very strong supporter of the Victorian certificate of applied learning. We have strongly promoted school-based new apprenticeships as a way of creating employment pathways for young people right across all industry sectors. We have done some innovative pilot work with the Education Foundation around job shadowing or one-day work experience exposure across a number of industry sectors, trying to gain a better awareness of the variety of occupations available. Certainly I think what you outline are sensible options that employers will need to understand in terms of scholarship, cadetship and internship.

I just had a discussion before I came, and there is concern in relation to the drafting area that there perhaps needs to be a bridging qualification available, because that industry sector cannot catch young people. It is a matter of looking at alternative educational pathways to be able to meet those needs. We certainly support a whole range of strategies. One of the messages is that whilst we support the use of skilled migration it is not the sole solution. With an ageing work force we need to strongly support alternative pathway options for young people particularly, but we also need to train and skill women re-entering the work force and older workers who may need upskilling or retraining as they move one industry sector to another.

The CHAIR — I am very aware of the excellent work that VECCI does, as you know from past experience — —

Mr RIMINGTON — Yes.

The CHAIR — But we all know in Australia we have fairly low levels of research and development in terms of industries' contribution, and there is a perception in many cases that a large part of the training and upskilling effort is the government's job as opposed to industry.

Mr RIMINGTON — Yes.

The CHAIR — I guess what I am coming to is that this committee will need to look at a whole range of recommendations, particularly to government, but one of the areas we may look at is the ways industries can participate in increasing the number of people going into industries as a way of meeting long-term skill shortages, but also in terms of encouraging the maths and sciences through that. As you said, there are a whole heap of ways. One of them may be by releasing industry specialists into schools or teacher training colleges. I wonder whether you have any idea of the scope of that sort of thing or how you would go about promoting that more in terms of industry — specific industries as opposed to employer organisations?

Mr RIMINGTON — I acknowledge that whilst there has been a heightened awareness about and an increase in the options for mature-aged training for teaching qualifications, at the same time there has been a drop in those teachers who have strong maths-science backgrounds, such as in physics, chemistry and so on. Whilst I can acknowledge the importance of industry release arrangements into schools, in the sort of competitive environment that we are in at the moment, when most of those industry sectors are really struggling to attract and train people as specialist, whether as food technologists or laboratory technicians or whatever it may be, it is going to be difficult to see how we will be able to encourage employers to release skilled staff to move into the education sector. There is a good avenue to promote greater experience opportunities and to have people from industry go into schools and market and promote opportunities in those industry sectors. That may be an incremental way of starting to bridge that gap.

The CHAIR — I will finish off and leave it to my colleagues who may have some questions. Essentially you would not see it as a crisis point now; you would see it as something that we need to address pretty rapidly — is that a fair summary of your position? Maybe that is too strong.

Mr RIMINGTON — I see we are at a crossroads and a crisis point now, because the longer we delay undertaking remedial action across a whole number of fronts the more the problem is only going to be exacerbated. We started to see the first rush of retirements of baby boomers in 2001. We have worked very solidly with the state government on a range of initiatives around the ageing work force. Those numbers are only going to increase dramatically in the next 5 to 10 years. We have been doing survey work with many of our larger employer members in determining that the average age of the work force is in some cases 51 years. In some sectors of those specialised work forces it is 58 years, for example, boilermakers and welders in a ship building facility. That crisis will be upon us very shortly, and many of those skilled occupational areas do rely on people with mathematical and science literacy, in a sense, to be able to be employed and recruited either as tradespeople, technicians or university graduates. I think there is a good opportunity now to really start to get the message across to industry that it has to be a lot more proactive and also, I think, creative in terms of, as you indicated, Chair, what it can do to help address some of those issues.

The CHAIR — Is the survey work on skill shortages in those industries that you have undertaken publicly available?

Mr RIMINGTON — We have put in a proposal to undertake that survey work, yes.

Ms ECKSTEIN — I was interested in what your members had said about the kinds of maths and science skills that they felt young people were lacking and also what you said in response to the questions asked by the Chair and Deputy Chair. I just wondered though whether there was also element of there being a difference in perception of where people are coming from in that and how much that was a factor. Let me explain what I mean. There is an expectation that somebody should be able to do something without a calculator. While I do not have a problem with that as a matter of principle, people should understand the basics of the computation so that when they use the calculator they will know if they are getting roughly the right answer, because if you push the wrong button it is all pear shaped. Your nursing example was interesting too. I have yet to meet a hospital-trained nurse who thinks that the university-trained nurses are better trained than they are. I just wonder whether people are coming from different perspectives. We expect people to be able to do it in this way, and when they do not — for instance, I would never reach for pen and paper to do that sort of a percentage calculation; we would all always reach for a calculator, but it that does not mean we should not understand how to do it. But when young people hesitate and struggle — because yes, it takes a bit longer because you have to think back about how to do it — there is an assumption that perhaps they do not know, and if they do not know we have a problem. Perhaps we are coming in with different expectations. Do you think that is an issue? Do you think that is part of it? If it is, how do we get the perceptions more closely aligned and — and this goes to what Nick was asking — how do we get schools to know what is realistically working in the workplace and how these computations will be used in the workplace? What do they need to know? What are they realistically going to do so that we can get people closer together?

Mr RIMINGTON — I suppose it was interesting that this came up in comments from three different industry sectors, so there must be an underlying issue there given that we are talking about engineering and nursing, which are quite diverse industry sectors. I think what the underlying concern was that — the comment about nursing was that their underlying intellectual capacity and knowledge of science is excellent and probably better than that of hospital-trained nurses in that context. But the comparison then was about the employability, skills and

transition arrangements. The comment about the need for a internship was that it is potentially only after someone graduates, say, as a nurse and they are actually out working in their graduate year that fundamental issues come to light about the practical knowledge and understanding, whether that be interpersonal skills, the needs of patients, aptitude, and having to do bed washes, down to calculation and administration of a drug regime. When we were having this discussion I raised some of the instances brought up through coronial inquests, and the comment was, 'Perhaps they are more the extreme', and certainly in Cabrini's situation they will not let anybody out of the graduate program until they are absolutely sure they meet all levels of competency.

Ms ECKSTEIN — And so they should.

Mr RIMINGTON — Yes, and that is why they have this process whereby they provide additional supernumerary support and personal tuition to individuals. The example was given that just three weeks ago they had to let someone go. But the point was made again that that person is still educationally qualified and can go off and work elsewhere in the system with potential underlying deficits still not being addressed. If there was a greater emphasis earlier on in teaching frameworks and practical experience, such as an internship option in that particular industry sector, then some of those problems might have been addressed at a much earlier stage and other remedial support put in place.

I also know from my own experience, having worked at La Trobe University in the careers area, that there were large numbers of students who had to undertake remedial maths in first year university to be able to cope with their training in bachelor of business, statistics, accounting subjects, nursing, and other related areas, because whilst their lower level maths subject scores may have been adequate and demonstrated a pass, they did not necessarily demonstrate that they had the intellectual capacity to actually apply formulae and so on into a context. So there are perhaps some real issues there.

How do you make it relevant to young people? I suppose, as I commented earlier, it is about trying to get some real world work experience and relevance and understanding to be able to see how people actually apply their mathematical training to any given work situation, whether it be in CAD/CAM design, town planning drawings, as a fitter and turner, in reading plans, and setting up and operating a lathe. It was said to me that sometimes an incorrect decision by an apprentice can cost \$10 000 or more worth of work on a tool, so there are some real issues there, I think.

Ms MUNT — I just want to take up a point that Mr Kotsiras raised a little bit earlier. Representatives from the Department of Innovation, Industry and Regional Development came in earlier this afternoon and they brought in this skills-in-demand list. Most of the schools in demand (at the DEWR website) are apprenticeship skills.

Mr RIMINGTON — I think from my last look there were about 30 traditional trades listed.

Ms ECKSTEIN — Yes, a lot of traditional trades.

Ms MUNT — I mentioned to DIIRD that I have spent quite a bit of time going with DIIRD to industry and business in my electorate, because there are a lot of them in my electorate. Every time I go out to business the thing they raise most frequently with me is the lack of skilled tradespeople or trained-up apprentices. I was interested to hear you saying that the feedback to you has been the same, and that the maths skills these apprentices and tradespeople have is really not up to scratch when they go into business. I would just like to take up Mr Kotsiras's point. It says here that VECCI represents 25 000 Victorian businesses and a lot of these businesses are raising this as a issue. You have raised the maths proficiency itself, so I wonder if VECCI has considered feeding that information back to the government as an area of interest that we might look at not only in this inquiry, but for the education department itself.

Mr RIMINGTON — We have fed it back in the context obviously, as I said earlier, as a part of the sort of work we are doing supporting government initiatives around programs like VCAL as being absolutely important and necessary. Alternative pathways that have an applied learning context and perhaps a linkage to traditional trades are important. It is important to raise awareness and understanding of alternatives to post-compulsory pathways such as university. I think there has to be a recognition that university may not be an aspiration that all young people have, but they are being consistently told by government, by parents and by educators that that is where their aspirations should be. There is little real understanding of the reward differentials, comparing, say, a first-year-out teacher with a four-year degree and a HECS debt of \$25 000 going on to first-year of teaching at, say, \$43 000 to \$45 000, with someone who has worked four years as a fitter and turner and has been potentially on as

much as \$1000 a week in their fourth year, which many employers are now paying, graduating as a fitter and turner — and this is an example given to me by Skilled Engineering — and going on to an income of around \$50 000 to \$55 000, and once they have two to three years experience, could well expect to be on \$60 000 to \$80 000.

We should keep in mind that Victoria and New South Wales are not only competing with one another in terms of population shift, but we are competing against major project development in Western Australia, the Northern Territory, and Queensland. There are a lot of projects slated that require all types of building construction, engineering and related trades; with allowances relating to working in remote locations and so on. People doing those jobs will be earning in excess of \$100 000. Those projects are in the process of start-up, recruiting or whatever. The manufacturing sector in Victoria particularly faces some challenges in not only increasing the uptake across traditional trades, but it will also be an issue of retention for those employers.

Part of the research we were doing in the regional areas included work in Geelong. In talking with the manager of the economic development unit there he made the comment that the larger businesses in those areas, such as Alcoa, Ford and so on, are not suffering skills shortages necessarily. They run ads, they get applications, and they manage to fill the positions across trade areas because of the wage structure and remuneration they can offer. The skills shortage is then stuck with the SME employer who has lost that employee and who is then struggling with the issue of trying to recruit and retain a young person. This gives an indication perhaps of some structural imbalance that is at play in the labour market and the variations from region to region.

Ms MUNT — Have you done any forward forecasting at all on what the uptake for maths and science should be in the future to keep pace with the requirements of business?

Mr RIMINGTON — I would have to say, no, not specifically. If we are successful with this project application, we have highlighted Geelong, Ballarat and Bendigo as the three regions where we would like to work with all players — local government, education providers, employment-related stakeholders and industry — to try to identify what the real skill needs are and look at some creative and innovative strategies for how solutions can be developed.

Ms MUNT — Can I expand on one more thing. How effective is VCAL in addressing the things that you are talking about? You say you really support it; so what are the really good things about it?

Mr RIMINGTON — I do not know from the VCAL assessment report whether it drilled down specifically into maths and science applications. What is pleasing, I think, is that the increasing participation of employers who are starting to recognise it as a pathway gives testimony to its success in a short period of time, and certainly it needs to grow. I think we will only start to see from some longitudinal survey or assessment work what its real impact has been in terms of perhaps using on-track data to look at tracking young people who are exiting VCAL programs. The survey work I think has already indicated there is significant take-up into employment, particularly apprenticeship, coming out of VCAL data from last year, but I think that needs some further work, particularly in terms of maths or science-related occupations.

The CHAIR — I was just speaking with the deputy chair. This is a very early stage of our inquiry; we have had only a couple of hearings and have not really delved into many of the submissions. But I wonder if it would be possible for you to come back sometime in the future and assist us with some key industry players and industries that may have specific issues relating to maths and science, whether it be biotechnology or microtechnology? Perhaps you could come back with a few key employers and we could go through some of these issues in more depth down the track. Would you be happy to do that?

Mr RIMINGTON — Yes, I would certainly be happy to do that. I will work with the committee's research officer, Andrew Butler, to get a date and negotiate with a couple of the employer representatives perhaps, so you can get a more practical realisation of the impact.

The CHAIR — Yes. Thank you, the committee would appreciate that. Thank you very much. I declare this meeting closed.

Committee adjourned.