ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

Inquiry into Improving Access to Victorian Public Sector Information and Data

Canberra — 13 August 2008

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Mr B. Searle, General Manager, Office of Spatial Data Management, Geoscience Australia.

The CHAIR — A big warm welcome to you. Thank you very much for appearing before the all-party parliamentary committee on the Inquiry into Improving Access to Victorian Public Sector Information and Data. We ask you first to state your name, your position, your business address and whether you are appearing in a private or a professional capacity.

Mr SEARLE — Ben Searle. I am the General Manager of the Australian Government's Office of Spatial Data Management, and we are located at the corner of Hindmarsh Drive and Jerrabomberra Avenue, which is Geoscience Australia, in Symonston, ACT. I am appearing officially as a public servant with the Australian Government.

The CHAIR — Thank you. Could we begin with you outlining the key points you want us to reflect upon, and then we will ask questions.

Mr SEARLE — My appearance here is related to the spatial world, and it is obviously where I come from so I am focusing on spatial activities. It is probably worth saying up-front — and these are not necessarily conflicts of interest — that there are interests, one of which is that I am a member of the Victorian Spatial Council, and secondly, I am also a director on the board of PSMA Australia. You have probably heard about PSMA Australia. You have not heard? Okay. PSMA Australia is a government-owned company that is owned by all the governments of Australia, including the Victorian one. Its role in life is to create national datasets. As you would appreciate — you would not be doing the inquiry otherwise, I think — every jurisdiction does things differently. They collect data differently, even if it is the same data. PSMA was developed a number of years ago to support the ABS in — —

Mr DAVIS — How long ago?

Mr SEARLE — Probably about 15 years ago, I think, about two or three censuses ago. The ABS wanted national maps, and there was nobody who could produce them other than the jurisdictions themselves, but they all did it differently, so PSMA was developed. All of the heads of the agencies, the surveyors-general of each jurisdiction, got together and said, 'Look, why don't we get together and help ABS build a national dataset?'. Once that was done they realised there was value in that process. About five years ago it became a commercial company producing a number of national datasets based on data from all the jurisdictions. They are overcoming some of the problems that you are trying to address: format, licensing et cetera. They operate in an environment where they get no special treatment because they are owned by government. Any agency, organisation or company can go to the jurisdictions and get the data under the same conditions that PSMA gets it and then merge it together. The reasons I am raising it are: (a) it is spatial, and (b) Victoria is involved with it. Part of the reason for its existence, I think, is directly related to some of the issues you are looking at in terms of licensing and the complexity of licensing. A number of commercial companies have tried to go to the different jurisdictions, and they have just ended up with data in hundreds of different formats. They have ended up with 5 or 10 different data licences, and it has become just too big a task. I am raising that as not a conflict of interest but something that is perhaps relevant.

Mr CRISP — Which minister do you sit under?

Mr SEARLE — Martin Ferguson, under the Department of Resources, Energy and Tourism. The Office of Spatial Data Management has a whole-of-government responsibility, and it is housed within that Department and funded by Geoscience Australia. It has to have a reporting mechanism, but it is a whole-of-government function.

What I intend to do is just go through a little bit about who we are, to provide some context. I have addressed in that paper your terms of reference, coming at it from an Office of Spatial Data Management perspective and a spatial perspective. If you are happy I can go through some of those things. Based on what I have heard and read, you are probably aware of some of those things, but I will go through them anyway if you are happy with that.

OSDM was set up in 2001 as a consequence of a policy decision by Government. There were two policies relating to spatial data management or spatial activities. One was industry focused, which is the spatial information industry action agenda under a paper called *Positioning for Growth*; and the second cabinet decision, which is more directly related to me, is the policy on spatial data access and pricing. Those two initiatives were agreed on at the same time, and they are linked and overlap.

OSDM has a number of roles within the Australian Government. We provide administrative support to spatial data committees within the Australian Government. The highest level one, Spatial Data Policy Executive, has not met for a while, but the Spatial Data Management Group, which is an SES-level group comprising people from agencies across the Australian Government who have an interest in spatial activities, comes together to try to coordinate and facilitate spatial activities.

We have a number of work plans and programs. We have a number of working groups looking at metadata, and we have just created one recently looking at licensing and Creative Commons licensing. We are there to help facilitate and experience your experience and understanding across the Australian Government in spatial activities. We are there to provide technical advice to the Australian Government and the various committees and promote the effective and efficient use of Australian Government spatial data assets.

We also provide either a point of contact with or direct linkages into the jurisdictions and their spatial activities and communities, particularly through a group called ANZLIC — the Australia New Zealand Land Information Council — and also through PSMA, which once again can sit with one-level and interjurisdictional activity.

Our initial and key role — and I have only been in the organisation for a little bit over 12 months so I was not there at the foundation, and my knowledge of some of the background is probably not particularly good — is to facilitate the implementation of a policy on data access and pricing, and really that policy was established to try to maximise the benefit of Australian Governments' spatial data, facilitate access to that data and, through that and through other mechanisms, try to support the growth of the spatial information industry in Australia.

The value of that industry or its contribution to the Australian economy has recently been analysed in a report by ACIL Tasman, and they estimated that between, I think, $5 billion and $12 billion have come into the Australian economy directly through the spatial activities. That is not using spatial activities and then generating further income; it is directly from the spatial sector itself, if that makes sense.

The policy was implemented in terms of, I will say a free or cost-of-transfer type approach, which was influenced by a Productivity Commission inquiry which would have been in 2001, prior to the cost recovery by Australian Government agencies. Their view was that the Government would maximise benefits derived from application of spatial data by making that data available, and OSDM was established to facilitate that and implement the policy.

Just looking at your terms of reference and looking at the public policy developments in Australia, internationally et cetera, and the types of information that would be of greatest potential benefit, in terms of policies and other areas of Australia obviously the one that I am talking about and one that I have a responsibility for is the spatial data access and pricing policy. OSDM collected a certain amount of information on the impact of that policy for the first four financial years of its implementation. We were working from a base of between approximately 400 and 500 datasets that were identified by government that should sit under the policy and therefore be available freely or at cost of transfer. The figures are based on — during the first four years anyway — between 400 and 500 spatial datasets.

In the first financial year under the policy approximately 50 000 datasets from those 400 to 500 were accessed by a range of public-private sector, international and government agencies and other jurisdictions. That figure in four years time grew to in excess of 1.5 million datasets. We are not collecting those figures anymore for a number of reasons, one of which is that we think that policy is successful. You can tell by the growth that making the data freely and openly available, or at very low cost, has been successful and the demand has gone up considerably. For a range of reasons we are not collecting the statistics anymore.

I am fairly biased when I answer this question that you are looking at in relation to the types of information that will provide greatest potential benefit. I have got a quote in there that comes from a Victorian government study, *GIS Strategy Report 1993*, which states that:

> … it has been estimated … that 90 per cent of all information used by government is geographic.

There are other figures where people say 80 per cent, and I have seen lower figures. I do not know if there is any exact amount, but it is certainly my experience in the spatial community that almost every piece of data government holds you could attach to a location in some shape or form; there are certainly some that you cannot, but the vast majority you can. Spatial data, whether it be fundamental spatial data, which would be considered

roads, or somebody's health record, which might have a geographic location where that person exists, could be considered spatial.

One of the things that is happening in the Australian Government now and I know is happening probably to a greater extent in Victoria is the use of location position and location intelligence as a linkage between disparate information; it provides the glue to bring data together. As a consequence of using location, it tends to avoid the issue you generally get where you use a person's identity as the link between a lot of disparate data. If you are using location, you would take the person's name and details out of the equation, and you tend to not necessarily take away but certainly reduce the range of products and the issues.

From an Australian Government perspective we are seeing a massive growth in the demand for spatial information and government spatial information in particular. Government — and that is probably all governments of Australia — is probably the biggest single collector and biggest single holder of spatial information. The demand that is occurring is a consequence of things like Google Earth, spatial capabilities on mobile phones, car navigation and all those types of things increasing significantly the demand for that type of data and that type of information.

A number of governments around the world are starting to respond to that increasing demand. The US in 2006 enacted the presidential Geospatial Line of Business initiative. The US Government felt that there were three common threads of business activity across all areas of government: one was human resources, one was records management and the third was geospatial. There is a quote in there about how the nation's interests would be best served by integrating and making available spatial information.

Last year Japan enacted the National Spatial Data Infrastructure Act to improve coordination and better utilise spatial data across all levels of government to the benefit of the Japanese population and the economy. In 1999 the Canadian Government established a program called GeoConnections, which does a similar thing. It provides access to both government and commercial data in a single-platform environment. I believe the Canadian Government put in something like $120 million over a period of 10 years to set up GeoConnections, believing that that investment contributed to the quality of life for Canadians. You are possibly aware of the European INSPIRE Directive. INSPIRE is Infrastructure for Spatial Information in the European Community, and INSPIRE has the same basic objectives of bringing together data from all the countries in Europe for the betterment of the European population to provide a greater ability for government to provide services to support commercial sector research and the general public.

Just moving through to open source and open content licensing models, from OSDM's perspective data licensing is certainly a barrier to accessing data. It is not the only barrier, but it is a major barrier. Discovery and knowing that data exists is another significant barrier that causes problems. If you cannot find the data, what it is licensed under becomes irrelevant unless you know it is there to ask for.

There are a number of experiences in the Australian Government that demonstrate the problems with multiple licences and the difficulty of acquiring data as a consequence of that. The formation of PSMA that I have mentioned is partially a reflection of that. There are other issues that caused PSMA to be formed, but the complexity and multiplicity of licences is one of those issues.

I heard an interesting experience from the National Land and Water Resources Audit in relation to licensing which I have mentioned, but in simple terms they found that getting data from around the jurisdictions caused many problems. In one case they received data from a jurisdiction under a particular licence agreement. When they merged that data with data from other jurisdictions, the licence agreement from the original contributor was such that they could not provide it back to that original contributor. Do not ask me what that licence agreement was; it is crazy. Apparently they got data — and I will say from Queensland, although I do not think it was Queensland — merged it with other data, but then as a consequence could not provide that merged data back to Queensland because of Queensland's licence agreement.

The CHAIR — But you think it was not Queensland?

Mr SEARLE — I am using Queensland fictitiously here as an example. To me that really demonstrates one of the many issues that you have when you have multiple licences. It is a nightmare. Most organisations within the Australian Government have their own licences. Often they have multiple licences within the same agency. When those licences are provided with data, people often want to come back and modify them, so you end up with

more versions and involve a whole pile of legal people looking at it from both sides, which adds time and cost to no benefit.

One of the other barriers that occurs with multiple licensing occurs is as a consequence of the internet and Web 2.0 development where you are starting to look at machine-to-machine interfaces. Machines do not understand complex legal licences, so you need to be able to move to an appropriate environment. In terms of wanting to fully collaborate and share and exchange and make data available, if you want to collaborate in a Web 2.0 environment you need a mechanism that enables automatic licensing processes so that, one system to one system, you can agree on a licence, exchange data and get access to data.

The Australian Government, through the Spatial Data Management Group, has agreed in principle to move towards the Creative Commons licensing methodology. We are establishing a working group to look at the transition between moving to that licensing regime and our current licensing regimes. OSDM operates a data licensing process and mechanism, but not every agency follows that; they have their own licensing agreements. We are looking at standardising that in a Creative Commons framework. We are waiting until a little bit more work has been done by the ABS, Queensland University of Technology et cetera to create some of the software platforms required to do this and to make this effective, but we will be moving to the Creative Commons licensing for spatial data for the Victorian Government.

We are also keeping a very close eye on a national initiative under COAG, I believe it is; it is certainly under the Online Communications Council and the Cross Jurisdictional Chief Information Officers Committee, which is looking at a national government information licensing framework which you are quite possibly aware of.

The CHAIR — What page are you on at the moment?

Mr SEARLE — I do not have page numbers on my paper. Sorry about that. I have the draft version, which does not have page numbers on it.

Mr CRISP — You are at 2.3.

Mr SEARLE — Just above 2.3. I know you have been in Queensland, so you would have been talking about the Government Information Licensing Framework, and I am sure you would have heard of the national initiative to bring that across all jurisdictions, and certainly within the spatial community the Australian government is supportive of that, and I believe the Australian government through AGIMO is supportive of that as well.

The next item in the terms of reference is the use of information and communication technology to support discovery, access and use of government information. I probably cannot add an awful lot more to what I am sure you have already heard. We see the internet as being a key and primary mechanism for delivering and making spatial data available. Geoscience Australia operates a capability called MapConnect which provides access at no cost to the range of spatial data that the Australian Government has produced. That is downloaded and used under the licence agreement that OSDM has in place. That can all be done electronically.

I mentioned previously one of the barriers, and licensing certainly is a barrier, but it is not an issue until you know that a particular dataset exists, so you really need to understand that the discovery process, I think, is the first potential barrier. The Australian Government is using appropriate international standards — standards developed in particular by the Open Geospatial Consortium and also by ISO in relation to metadata. We are now starting to discuss with the Australian Government Information Management Office, as you know, the linkage between the geospatial metadata environment and the government locator service metadata environment to try to bring those together in a way that is seamless to the user.

On the issue of discovery, Geoscience Australia operates an environment called the Australian Spatial Data Directory — ASDD — which has a listing of in excess of 40 000 spatial datasets and metadata associated with those datasets. There are about 10 or 12 nodes around the country of that data directory, including at least one in Victoria. The metadata stored in that environment is structured. I do not know how to describe this; it is based on the ANZLIC — Australia New Zealand Land Information Council — metadata profile, which is a profile of an ISO standard, but I am not sure of the letters and numbers of those.

Where we are going in the future with that spatial data directory is extending its capability into the area of a catalogue for web services so that people can discover data. We will be adding licensing through Creative

Commons to that as well so that people can discover data, access that data but also access processes to manipulate, analyse and display that data as well. People can sit at their desk with nothing other than Internet Explorer and do a range of work by accessing data, licensing that data and then processing that data through a range of web services.

On the last point in terms of risks, impediments, restrictions et cetera, I have just a couple of very simplistic comments. A lot of organisations — and it certainly happened and still happens to some degree in the Australian Government — sell data. They use the money from that to maintain data management activities. One of the issues of going to open access to data is that it takes away that revenue stream, so certainly revised funding models are required to make sure that if that data is essential to the business of government, that that data continues to be collected, maintained and managed. If the agency loses their source of income from sales, they need to be given funding under a totally different model, in simple terms. Having said that, the revenue that was generated in Geoscience Australia before the policy came in was relatively small and certainly did not cover the cost or management of the data collection process, so while Geoscience Australia is no longer getting revenue for most of its data, the revenue that was being generated was not particularly high and did not cover the cost of the collection management process.

The only other thing — and it is probably really just common sense — is that there is a range of data that governments hold in relation to security, privacy et cetera but do not release. I used to work for the ACT Government, and things like the location of women's refuges is not something you would put out in the public domain. So there are some pretty obvious examples there.

One final comment is that the Australian Government is now looking at the concept of using spatial capabilities to underpin the social inclusion agenda, and the philosophy that is starting to occur at a bureaucratic level but has not yet reached policy level is that we need to do a 180-degree change in data availability even between agencies and go from 'data should be freely available unless there is an exception', and at this point in time in most agencies and most governments around Australia, I would suggest, data is maintained in silos and is not given even to other government departments, for many reasons. Privacy is often the reason that is waved as a flag, and in a lot of cases it is a furphy. What we are trying to do in the Australian Government is to — at least for the business of the Australian Government in the first instance — make that data available between agencies, particularly at an aggregated level rather than at an individual unit level. If it was a person's health records, we would aggregate that up to some level of geography where the individual's identity was hidden but then make that information available to other agencies in support of social inclusion-type activities. That has been gone over relatively quickly. I am assuming you have heard a reasonable amount of this before, I would think.

The CHAIR — We have, but there is still plenty of new information here. Thank you very much, Mr Searle. One of the comments that has been made a number of times from a range of our witnesses is the issue of revenue stream. You have raised it also. It has been put to us that the cost of gathering revenue from information provided to the citizen is often greater than the income stream. Have you got one or two examples that you could think of where revenue far exceeds, or just simply exceeds, the cost of providing it?

Mr SEARLE — Where revenue exceeds?

The CHAIR — Yes, because the evidence so far seems to have been that the cost is never recouped by the revenue stream, so why would you bother, and let's just get the information out. You may have one or two examples that show — —

Mr SEARLE — I am not aware of any data collection management program where the revenue has exceeded the cost of running it.

The CHAIR — No. Thank you.

Mr TEE — I am just very interested in Geoscience's approach in terms of releasing documents, and I want to explore the experience in terms of whether it has led to innovation. You have imposed licensing conditions in terms of that approach. What are those licensing conditions? We have had a look at the Creative Commons model. Is that the kind of model that might apply to the release of documents from Geoscience?

Mr SEARLE — We are looking at moving towards Creative Commons. It is not so much that the existing licensing agreements are particularly different. The current OSDM licence agreement kindly acknowledged that this data has come from the Australian Government.

Mr TEE — So its attribution is mainly there.

Mr SEARLE — Yes.

Mr TEE — And what about the non-commercial usage? Is that part of the Creative Commons model?

Mr SEARLE — One of the reasons we were looking at moving to Creative Commons is that our current licence relates to data that has absolutely no restrictions, so it can be used for any purpose — research, commercial purposes, and so on. We do not have a licensed regime that enables restricted use, and we are seeing that the Creative Commons environment is enabling more data to be made available, and there is data that we hold that will have some form of restriction attached to it.

Some of those restrictions relate to the fact that the data set might be an aggregation of jurisdictional data and we do not necessarily own it as such. Therefore we are seeing that the restrictions that exist in some of the levels of Creative Commons enable us to make more data available. At the moment it is an on–off switch. If an agency says, 'This data can be used for any purpose', that is terrific. You can put it out there. But if there is any restriction whatsoever, it cannot go out under our licence.

Mr TEE — You say you are looking at Creative Commons as a model. Are there any concerns that you have about the Creative Commons model that are creating doubts in your mind?

Mr SEARLE — In simple terms, no. I know a lot of legal people have looked at it and there are a range of opinions. I believe that some legal views are that there are some weaknesses and holes in Creative Commons. I think that there are holes in any form of legal document. If the spatial component of the Australian Government moving to Creative Commons is doing it to make data as widely available and reused as possible, if there are holes in that, then it is difficult to see what the harm will be, particularly if there is free and open access to the different components of the Creative Commons.

I have forgotten, off the top of my head, what the different components are, but in simple terms, the free and open one, if there is a hole in that, does it really matter anyway? Where there are restrictions — yes, we need to be careful. But on that matter, the Attorney-General has a draft paper — and I think it has not been released yet — on IP, and has indicated that Creative Commons is a form of licensing acceptable to be used in the Australian Government. They asked to be informed if it is going to be used, and we have not had that discussion yet because we have not physically started to implement Creative Commons.

Mr TEE — And what is the timing around the release of that?

Mr SEARLE — I am not sure. I could certainly find out if you remind me.

Mr TEE — It might be helpful if what you are saying is that the Australian Government is looking at endorsing Creative Commons as an option for the release of documents.

Mr SEARLE — My understanding of IP protection is that there are a number of licensing regimes that the Attorney-General said are acceptable in this document. I guess the best thing to do is if you remind me I can find out the details of that document, if it is public or not yet. I am not 100 per cent sure.

Mr TEE — And just finally, in terms of the innovation aspect, are you aware that the information you have released, since you started releasing it, has been picked up? Is it being used? Do you have a sense about it at all in terms of hits?

Mr SEARLE — In terms of how it is being used, the answer is no. You refer to that as hits, but in reality that is downloading data sets. We are now up to 1500 data sets on that list, but out of the 400 or 500 data sets, one and a half million were downloaded in one financial year.

Mr TEE — So there is interest?

Mr SEARLE — There is massive interest. Even if some of those were schoolkids for a project, it is still doing something that is beneficial to them. We do not have any figures on use by the commercial sector and so on. However, since ABS has made a lot of its data freely available, I am aware that in the spatial area there are some commercial companies that are now building capability on that freely available data, adding value to it and selling

it. That is innovation that is creating a market. But I am not aware of specifics. I guess we are making an assumption that it is going out there, it is being used, and the volume of use would not increase unless there was an interest there.

Mr CRISP — I am going to look at your rollout strategy and look at some time lines as well. I am looking for your views on the culture within where the data sets are held. You talked about silos, and we are looking at either silo destruction to get government agencies talking to each other, or alternatively, one of the things that IBM mentioned earlier was simply forgetting about the silos, and putting it all out in a Creative Commons environment so that they could all see each other's data. I am interested in your views about which is the more appropriate way to go as we are approaching those cultural issues within the Commonwealth about the holding of that data, and I am also interested in the time lines you would see on that work.

Mr SEARLE — I do not think there is a single answer, to be honest. I think to be successful in what we are trying to do in the Australian Government it is necessary to take a pragmatic approach to this. One extreme is where the Prime Minister told all government agencies, 'Make your data available now; make everything you have got available on the internet'. There are legal and privacy issues that would restrict that so you immediately have some exceptions. There would be massive resistance for historical reasons, with people saying, 'Hang on, that is my data and we will not make it available'. So we are looking at more of a pragmatic approach. The first step when we are dealing with information about an individual is to then aggregate that information up to a level where you cannot identify that individual. We are looking at that as a first step in the process of making more data available.

The time frame for that is difficult to say in the sense that some of that information will be available within the Australian Government from between agencies, probably in the space of several weeks. We have started a project now and everybody is jumping on board, including cabinet, saying, 'This is a very good idea', so we will be starting to make multi-agency data available to multi-agencies very quickly, but that will be smallish amounts of information and aggregated information.

In terms of the longer-term plan, I think we are talking several years here because we have to overcome the silo mentality. The longer term is to make more and more Australian Government data available within the Australian Government, breaking down those silos, but in the social inclusion area a lot of the data will come from the jurisdictions, so we are looking at linking to those jurisdictions and opening up that data to the jurisdictions and hoping to get access to their data obviously as part of that process. The time frame for that is that there is no time frame and no plan to do that by the end of this year or next year, but that is the philosophy that we are adopting — to try and link into the jurisdictions and once again make it available, and then you get to a point where some of that information can be made publicly available. The aggregated information and the statistical information can be made publicly available, and we will be working towards that.

You have probably heard of NISS — the National Information Sharing Strategy. It is an online communication COAG initiative to improve sharing of data information across the jurisdictions. We are using that as one of the potential avenues to open up our data jurisdictions and vice versa. The time frame for that, I am not sure about either. I believe there is a report going to the Online and Communications Council later this year on what that is and what that will look like. I cannot be specific. I apologise for that.

The CHAIR — Does the chief information officer in each jurisdiction have similar roles, or identical roles?

Mr SEARLE — Probably not. I am guessing, but probably not.

The CHAIR — I was scratching my head when at the bottom of page 7 reference is made to the Spatial Data Management Group. It states it:

> … is also monitoring the development of the present National Government Information Licensing Framework … proposal being examined by the Cross-Jurisdictional Chief Information Officer (CJCIO) Committee which is a further recognition of the barriers imposed by the existence of multiple data licences.

That is one grand sentence! Out of it, my point is much the same as Peter's: what might we be expecting from that and in what time frames?

Mr SEARLE — My knowledge of that is fairly limited. I am aware that it is going on but obviously Victoria is involved in that through the joint COAG committee.

The CHAIR — Thank you for putting us on to that. We might write to our chief information officer specifically on that point.

Mr SEARLE — Once again, the time frame for that I am not sure about, but I know that Queensland submitted to that group saying, 'We are doing the Government Information Licensing Framework of Queensland, it is terrific, it would be beneficial if the country adopts it'. They put forward that proposal, I believe, to that cross-jurisdictional committee. Where it is at within that committee I am not sure.

The CHAIR — It would be interesting to know too, the different titles of the different ministers and whether they all report to Treasury or to the Premier or Prime Minister.

Mr SEARLE — I think that is one of the problems with COAG or cross-jurisdictional committees anyway, there are a lot of decisions made. Jurisdictions sign up to something and most of the people in the jurisdictions would have no idea that they have signed up to it. It often happens. There is no way of resolving that issue but I think if at a conceptual level governments across Australia say, 'Let us move to a single licensing mechanism for government data', the barriers that that would remove would be substantial for government business, for the commercial sector and for everybody else.

The CHAIR — Thank you very much, we appreciate your time, Mr Searle. You will be provided of a copy of the Hansard transcript in the next fortnight and you will be able to correct any typographical errors.

Thank you very much and good afternoon.

Committee adjourned.