

GENERAL PURPOSE STANDING COMMITTEE No. 4

Wednesday 9 February 2005

Examination of proposed expenditure for the portfolio area

ENERGY, UTILITIES AND SUSTAINABILITY

The Committee met at 9.30 a.m.

MEMBERS

The Hon. J. A. Gardiner (Chair)

The Hon. J. C. Burnswoods
The Hon. D. Clarke
The Hon. K. F. Griffin

Ms S. P. Hale
The Hon. E. M. Roozendaal
The Hon. D. E. Oldfield

PRESENT

Department of Energy, Utilities and Sustainability
Mr D. Nemptzow, *Director-General*

Sydney Water
Representatives: Mr W. D. Evans, *Chief Executive Officer*

CORRECTIONS TO TRANSCRIPT OF COMMITTEE PROCEEDINGS

Corrections should be marked on a photocopy of the proof and forwarded to:

Budget Estimates secretariat
Room 812
Parliament House
Macquarie Street
SYDNEY NSW 2000

CHAIR: I declare the meeting open to the public, and I welcome everyone to this public hearing of General Purpose Standing Committee No. 4. We will be examining the proposed expenditure for the portfolio areas of energy, utilities and sustainability. Before questions commence, some procedural matters need to be dealt with. In relation to the broadcasting of proceedings, I point out that in accordance with the Legislative Council's guidelines for the broadcast of proceedings, only members of the Committee and witnesses may be filmed or reported. People in the public gallery should not be the primary focus of any filming or photos. In reporting the proceedings of this Committee, you must take responsibility for what you publish or what interpretation you place on anything that is said before the Committee. In relation to the delivery of messages, there is no provision for members to refer directly to their own staff while at the table. Members and their staff are advised that any messages should be delivered through the attendant on duty or the Committee clerks.

I declare the proposed expenditure areas open for examination. Mr Nemptzow, do you have an opening statement, or are you happy to start answering questions?

Mr NEMTZOW: I am happy to answer any questions you have.

The Hon. DAVID CLARKE: Have we had any blackouts in recent times in the area under your jurisdiction?

Mr NEMTZOW: The literal answer is no. If you mean our jurisdiction, no, because that is not our technical jurisdiction. I think what you are asking is have there been blackouts in the electricity system in New South Wales.

The Hon. DAVID CLARKE: Yes.

Mr NEMTZOW: The answer is yes. They are a regular occurrence because of the large nature of our system, especially in country New South Wales—very long, extended system, small populations. There are outages all the time due to weather. Weather counts for more than 70 per cent of outages in the electricity system. So they are common place. They tend to be quite small. They tend to be very short lived. But unfortunately they are a fact of life in this grid and in every grid around the globe.

The Hon. DAVID CLARKE: What has been the situation in metropolitan Sydney in recent times in terms of blackouts?

Mr NEMTZOW: In recent times it has been quite good. As you may be aware, the New South Wales electric system is part of a larger grid, the national electric grid, which includes all of Australia except Western Australia and the Northern Territory. So it is a nearly national grid. We are part of that system. It has offered enormous benefits to the reliability and affordability of electricity in this State. However, the grid, like every grid, is a very complex machine, for lack of a better term, and as a result there are different conditions that sometimes lead to outages.

Our system is one of the most reliable in the world. It is something to be very proud of. Not only that but New South Wales has some of the lowest electricity rates in Australia, and Australia in turn has some of the lowest electricity rates in the world. So we have the enviable position of having extremely affordable electricity rates and a highly reliable system. Our system has higher reliability standards and higher reliability performance than the systems in North America or in Europe. So while it is not perfect, it is very close to it. The performance over the past several years has been between 99.94 per cent reliable and 99.98 per cent reliable.

The Hon. DAVID CLARKE: When was the last blackout in the metropolitan area that you are aware of?

Mr NEMTZOW: I—

The Hon. JAN BURNSWOODS: Were you not in Sydney last week when we had the storms?

The Hon. DAVID CLARKE: I am not here to answer questions from other members; I am here to ask questions. Mr Nemptzow, what is the last black out that you are aware of in the metropolitan area?

Mr NEMTZOW: I would have to take that on notice. The reason is that even within the urban system there are small outages that happen due to a transformer being blown out. They tend to be very localised. They tend to be at a division, at a very local basis. I am sorry, I do not know when the most recent one was. It could have been anywhere from the North Shore to the western suburbs, anywhere in the city. As I said, they tend to be very short in duration. They are an inconvenience but usually they are not much worse than that. If I may also add, yesterday you remember we had hotter than expected temperatures. It hit 37 degrees in the city and as a result we had very high demand for electric power—12,556 megawatts at peak demand. That is a very high number. That is close to the peak summer demand experienced in New South Wales at any point, and the system performed perfectly. There were no outages and prices stayed under control. We got electricity from both Queensland and from the south from Victoria and the snowy system. That is exactly what the system is designed to do, and even under the extreme weather yesterday it performed beautifully.

The Hon. DAVID CLARKE: According to the *Daily Telegraph* of today, it did not perform too well last night in Thornleigh, Cambridge Park, St Mary's, Bass Hill and Narellan. Apparently there was a blackout in that area. Are you aware of what happened there at all? Is that report correct?

Mr NEMTZOW: I do not know if that report is correct. I am sorry, I have not got our reports yet today; I came directly here. I will take that on notice and get a response to see if it is accurate and, if so, what the reasons for that were.

The Hon. DAVID CLARKE: And the reason for that breakdown and the area that was covered, if it is correct that all of those suburbs were affected. On 6 December last year it was reported that you had proposed a fee to be levied for New South Wales electricity consumers to help curb consumption. Is that correct?

Mr NEMTZOW: That is not correct.

The Hon. DAVID CLARKE: It is not correct?

Mr NEMTZOW: That is right. Are you talking about the Herald article?

The Hon. DAVID CLARKE: You have never proposed a fee to be levied for electricity consumers to help curb consumption?

Mr NEMTZOW: If you are referring to the Herald article on that issue, I think what I imagine they are referring to—and they did not speak with me so I cannot tell you exactly what the report or editor was thinking—the Premier set up a task force on demand management. He announced that in November of 2003 and when I became director-general in 2004 I became a member of that task force, along with other senior executives. That task force on demand management has looked at a whole host of ideas to make recommendations to the Premier and to Cabinet. We have looked at a whole host of ideas that were under consideration, and my department and I have analysed a lot of those and looked at the impact they may have.

The Hon. DAVID CLARKE: So do you reject the idea of a levy or a fee?

Mr NEMTZOW: It is not my place to accept or reject it; it is my place to provide analysis and let Cabinet make such decisions.

The Hon. DAVID CLARKE: But is it up to you to make a recommendation to Cabinet?

Mr NEMTZOW: The demand management task force has made a series of recommendations on a series of issues, and that has been provided to Cabinet.

The Hon. DAVID CLARKE: And you are part of that task force?

Mr NEMTZOW: That is right.

The Hon. DAVID CLARKE: Do you yourself favour such a fee to be levied?

Mr NEMTZOW: As I said, it is not my place in the public service system of New South Wales to favour or not favour that; it is my place to provide that analysis and then allow the Government and Cabinet to make such a decision.

The Hon. DAVID CLARKE: Have you made such an analysis of that issue?

Mr NEMTZOW: Yes. Our department contributed to the analysis that the task force conducted.

The Hon. DAVID CLARKE: Are you aware of whether the task force is recommending that there be a fee levied?

Mr NEMTZOW: That issue is currently before Cabinet and as such Cabinet will consider it. As I am sure you know, there is a green paper that the Government has circulated that Minister Sartor and the Premier released in December. The green paper canvases a whole series of electricity issues, including demand management, and they will be producing a white paper and a series of policies in the coming months. I would certainly expect that demand management will be part of the white paper.

The Hon. DAVID CLARKE: Are you aware of whether the task force has made a recommendation on a fee, without saying what that recommendation might be?

Mr NEMTZOW: The task force has made recommendations on a series of demand management issues, including looking at a dedicated fund and the many different ways that one could support a dedicated fund should the Government choose to go down that route.

The Hon. DAVID CLARKE: And one way of supporting that dedicated fund would be to impose a fee on electricity consumers.

The Hon. ERIC ROOZENDAAL: I appreciate the Hon. David Clarke's question, but he has asked those questions 15 different ways and I think the witness has adequately answered it. This is just wasting our time and badgering the witness to keep tiptoeing around trying to get some issue out on this fee thing. I think it has been adequately answered in a number of ways. He has clearly referred to the green paper and a number of recommendations that are going to Cabinet. The Hon. David Clarke can continue to ask all the silly questions he wants but he is simply wasting the time of this Committee and he is trying to badger the witness by continuing to ask the question 10 different ways. The answer has been given succinctly and accurately, and I think we should move on to something a bit more interesting.

CHAIR: Mr Clarke is entitled to ask the question and, if he is not satisfied with the answer, to ask it in a different way. He may proceed.

The Hon. DAVID CLARKE: Thank you, Madam Chair, and I thank the Hon. Eric Roozendaal for his characteristically important observation. Getting back to my last question, is one of the suggested ways of funding this—what did you call it; what is the name of the fund?

Mr NEMTZOW: The demand management funds or energy savings fund.

The Hon. DAVID CLARKE: Is one of the ways available to fund that proposal through the imposition of a fee on consumers?

Mr NEMTZOW: There are a whole host of ways to fund that should the Government choose to do it. The green paper that the Government has issued that is with the public right now—in fact, public comments are open until February 25 and we have already received more than 31,000 downloads of that green paper from the Department of Energy, Utilities and Sustainability home page, so we have got a very strong public reaction and interest in these issues, which of course we are delighted with because of the importance of those issues—will look at that issue. I cannot imagine that

we will not get strong public input from experts, from the public, from industry and from all sorts of people about that issue, about demand management, what should government's role be and, if so, should there be a fund and how it should be established.

There are these funds throughout the world. More than 20 States in the United States have established dedicated funds—in New York, California and Massachusetts and many other US States—in the United Kingdom and elsewhere. There are as many variants on these funds, both from how to support them and what to do with them, as there are jurisdictions. There are so many possibilities here and the green paper is to canvass those possibilities and to get a New South Wales response that is appropriate. So, as I say, February 25 is when the public comment is finished and the Government has said right in the green paper—it is committed—that there will be a white paper with the final policy results within two months, by late April. So it is quite soon and I think the gentleman will have answers because those decisions will have been made by that juncture.

The Hon. DAVID CLARKE: One final question: Have you discussed with the Minister the idea of a fee being levied on consumers? Is that something you have discussed with him?

Mr NEMTZOW: I discuss issues with the Minister on a more than daily basis—

The Hon. DAVID CLARKE: Is that one of them?

Mr NEMTZOW: I do not think it is productive now to go into a whole laundry list of every issue I discuss with the Minister, most of which are confidential. In the nature of the relationship between a director-general and a Minister, most of them are Cabinet considerations. So I think it is just more appropriate to say that I think that is a confidential matter and I think it is inappropriate to answer that or any other particular question about private conversations that I have with the Minister.

The Hon. DAVID CLARKE: Without stating one way or the other, have you put a view—

The Hon. JAN BURNSWOODS: I thought that was your final question.

The Hon. DAVID CLARKE: It is supplementary to my final question. Have you put a view to the Minister on the issue of a proposed fee on electricity consumers?

Mr NEMTZOW: As I say, Sir, all those conversations, I think, I have the right to treat as confidential between a director-general and a Minister and, as a result, let me just leave it at that. Those are confidential conversations and, rather than characterise what has or has not been spoken about in what way, let me just leave it at that.

The Hon. DAVID CLARKE: Good. Thank you.

CHAIR: Continuing on the theme of demand management, the Independent Pricing and Regulatory Tribunal [IPART] draft determination of electricity prices stated that distributors in New South Wales undertook very few demand management activities over the current regulatory period—that is, 1999 to 2004. For example, their total expenditure on demand management is equivalent to just over 1 per cent of their expenditure on network assets. Is that a satisfactory level of investment in demand management, given that energy companies have been forced to pay to the Government over \$6.8 billion in dividends, tax payments and debt loading in the past five years?

Mr NEMTZOW: Let me, if I may, Madam Chair, split your question into what I think are two parts, if you will allow me. The first question you asked is, I think, whether that is an appropriate level of expenditure on investment. I think you will find the unanimous response is that it is not appropriate in this current period, looking forward to the future. I think you will get that response—I do not mean to speak for others—from the utilities and from IPART. Looking forward—I was not here during that period so I would rather respond, if I may, from here forward—demand management is a very important part of New South Wales energy equation and our supply and demand balance. We need many responses to ensure that we maintain the extremely high level of reliability, low prices and safe system that we have today. Demand management is one component of that equation, and therefore it will be very likely necessary for the utilities to increase their investment in demand management. So I would imagine for the future—if we look back five years from now at this period—

it will be a level of investment for the future that is significantly higher than those numbers that you just cited.

In your second question you asked me how that relates to dividends. I am not in a position to be able to respond to that. The dividends are, of course, a matter between the shareholder Minister, the Treasurer, and the State-owned corporations so it is a question better directed to them. I do not believe there is any relationship, though, between dividends and the operation of the system. We have this reliable system, we have this high-performing system, because they have invested appropriately. Of course, looking forward, we are increasing investments in a lot of areas, including network reliability, distribution level reliability, demand management et cetera.

CHAIR: So it is agreed that 1 per cent was not really appropriate in the past. What do you think would be appropriate in the future?

Mr NEMTZOW: I will make two comments, if I may. One, I do not think there is a specific number—a per cent goal. I know in other settings, in the United States where I have spent most of my career, there has been that very debate about finding a per cent. That is usually not the right way to go. Usually the right way to go is to look at the system, both as a whole and the individual utilities, and to make an assessment about what resources are needed. New South Wales's electric demand is growing at a considerable pace—summer peaks have been growing over the past few years; about 3.8 per cent a summer over the previous summer. In the future we have to make projections about that growth based on population growth, economic growth and other considerations. So it is best to look at those factors, look at what is happening in the marketplace on demand and supply that is happening any way and then make an assessment about what is the appropriate investment. That is exactly what is going on.

The Chair may also be aware that in the determinations IPART also announced that investments in demand management would receive a more—that the utilities could be more confident of their regulatory treatment. The utilities had made the case—and I think IPART agrees because it changed its policy—that the utilities were uncertain about whether they would be properly allowed demand management investments. IPART has clarified the rules on that so that has cleared the way for it. I think that is a good and important reform that happened in 2004. I know from my work with the utilities, and I work with all of them—the State-owned ones and the privately owned ones—that they are much more interested in and supportive of putting their top talent on this issue than they were even two or three years ago.

CHAIR: In relation to electricity pricing, what is your assessment of how much electricity prices in this State should rise over the next four years?

Mr NEMTZOW: IPART has already made the determination, and of course that is the role of IPART: to be independent and to make that determination. It has approved increases over the three-year period for the companies. They are modest; they average 5.8 per cent. We all wish it were lower, however I think that is an appropriate amount. I think IPART has considered all the appropriate factors, including the need to keep electricity prices as low as possible and to keep the burden as low as possible on consumers, large and small, but also to give investment resources to the companies so that they can continue to maintain the integrity and health of the system.

CHAIR: You mentioned a moment ago the growth of demand. It is estimated that demand will exceed supply in the fairly near future. When do you think generation shortfalls in New South Wales will kick in?

Mr NEMTZOW: I have two comments on that. That is a commonly held view. I think we have to be careful about that view because a lot of people have gotten themselves confused about that view. First of all, we have to remember that we are part of a national grid. We call it "national" but it is not quite national because Western Australia and the Northern Territory are not part of it. Tasmania will be joining it this year. The majority of the electric system in this country is one grid, from Queensland to New South Wales, South Australia, Victoria, the Snowy system and the ACT. So it behaves as one grid. So the most important issue is that the system as a whole has a sufficient supply-demand balance.

Secondly, you asked about New South Wales. We have to understand that it is part of a system. There is not a perfect ability for electricity to flow between the States; sometimes there are constraints between New South Wales and Victoria and New South Wales and Queensland when the amount of electricity that is transferred between the States meets the available physical capacity. That does not happen often but it does happen in the course of the year. But most of the time we do not care about the specific supply-demand balance within New South Wales. In fact, just this year NEMMCO—the National Electricity Market Management Company—that runs the grid on behalf of the country lowered the reserve margins that are required to New South Wales for that very reason: because the interconnects between here, Queensland, Victoria, South Australia and the Snowy are so robust and so reliable that we know that the system can move in different places.

We also know from the historical record that periods of peak demand tend not to be coincidental, which means that they tend not to happen at the same time in New South Wales, as in the other States, which is good. When it is a hot day here, like yesterday, we are able to get supplies from the other States. So the most important thing to remember is that we are looking at the overall balance. I refer to your specific question about New South Wales. Right now these are the best estimates and we estimate this very conservatively. This and the water business are two of the most conservative engineered businesses going. You have to be so sure that there are adequate resources. So our projections are very conservative.

The projections we do at the department are very similar to the ones used by NEMMCO, the industry body. As I said earlier, they are more conservative than the projections that North America or Europe uses to ensure an adequate supply. Right now we are confident that even under conservative assumptions of medium economic growth and a one in 10 summer—which is a statistical way of saying that a given summer will not be average but will be as hot as one in 10 summers, which is unlikely but which may happen—we will have adequate supplies for at least five years, if not longer. As long as New South Wales and the whole system are able to bring in new supply resources over that period, as we are—we are upgrading existing resources as we speak; we have several thousands of megawatts of new resources that have been proposed within the State as well as beyond the State—and as long as those keep coming on there will not be any problem about what you are discussing. Our job is to monitor that to ensure those new supplies that are coming on line are of a quality and price that we need.

CHAIR: NEMMCO predicted that New South Wales will suffer shortfalls in 2008 and 2009 and that there will need to be a reliance on power from Queensland to meet that shortfall. You mentioned an increase in capacity. Can you tell the Committee where that additional capacity is coming from? Is it from coal, gas, or alternative and renewable resources? Could you give us a bit of information about that?

Mr NEMTZOW: I will answer some of your questions now and if I cannot give enough detail I will provide answers to the others in writing. The answer is: All of the above. I also want to correct one statement. When you read the NEMMCO stuff it is very tedious. It is all in six-point type with footnotes. You have to read all the conditions that it puts into those general statements so that you are fully aware of how it comes to its conclusions. NEMMCO conservatively runs the industry—that is what we expect and need out of people in that industry—but it does not account for a supply resource until it has reached a certain stage in the process.

Even if it is being developed it might not yet count in the NEMMCO system, so it does not give it credit in its supply-demand balance because it wants to ensure that it is really coming on line. That is fine; that is an appropriate standard. The harder challenge then is the question that you just asked: How do we think about all those resources? The answer is: It is all of the above. There is new wind coming in and there is an upgrade of existing coal plants. Many of the coal power stations in New South Wales are 20 or 30 years old so there are opportunities to technically upgrade them, to upgrade their boilers, turbines and busbars throughout the whole system to get more electricity—several hundred thousand more megawatts just from upgrades.

There are the demand management opportunities that we spoke about earlier. National gas opportunities will be coming on line. Some of the national gas will be in the form of small distributor generators and some of it is likely to be large central stations. So the answer really is: All of the above. I suspect, like so many other systems in growing, economically vital places such as New South Wales,

it will continue to be an "all of the above" kind of answer as we look at the whole mix, the whole basket of available resources. That is where the smart money is betting. Again, it is hard to know right now exactly how it will fall out. The list that we have, which I will be happy to provide to the Committee, is a list of all the projects that we know about. Again, it is a judgment call because not all of them will bear fruit. Right now it is hard to know exactly which will and which will not.

CHAIR: If it is all so rosy why is it that on the first day of this summer 70,000 customers on the South Coast of the State had their power cut off because of insufficient generation capacity in New South Wales? Can you explain to the Committee how Integral Energy was forced to shed its load, which meant cutting off power to those customers? Could you please explain the decision-making process that led to cutting off power to the homes in that area? Why was that part of the State targeted for the cut off? Could you give us an explanation of those events?

Mr NEMTZOW: That is a good question. It was an unfortunate incident. The system is not supposed to work that way and that was unfortunate. It was very early—on 30 November and 1 December—even before the official summer started. Utility managers have to operate the system based on historical assumptions and projections about demand patterns, of which weather is a major factor. It is not the only factor, of course. Economic activity, the holidays and sporting events even show up in the demand if everybody has a television on, et cetera. So they do their projections. That actually happened twice in 2004. In March 2004 we had a very late peak. It was the highest March peak that has ever been recorded because of some hot weather on 8 and 9 March 2004.

Those who operate the system look at the historical record, make projections about demand and then schedule their operation and the maintenance of their facilities based on that record. Typically, they do as much of their operations and maintenance of their power plants—big, expensive very hot pieces of equipment, so you have to make sure they are maintained well and aggressively during the periods of lower demands so that you can turn off the plant to make sure the workers are safe and to make sure that nothing is hot and spinning and all that—around March, April or May when the weather cools off. They keep doing that so that they will be ready in December and January when it gets hot.

What happened in 2004 was unfortunate. It has not happened before and it is very unlikely but it did happen because of the hot weather on 8 and 9 March. The maintenance schedule had been delayed for the power plants; it started later than it should. They went through the different plants, the different agents and the different maintenance regimes. On 30 November and 1 December when we got that unseasonably hot temperature there were more plants off line than could handle the load at that point. It was a perfectly reasonable projection on our part based on the historical record, but with the abnormal temperature they got it wrong. So as a result there was a shortfall. It was a system-wide shortfall.

This was not a New South Wales decision or an Integral decision; it was a NEMMCO decision. It is charged with that. Being responsible engineers, their first goal is to protect the physical system. If one power plant or transmission facility trips off, it can change the voltage in the entire system and do damage to other equipment and we would then have a much bigger problem. That is what happened in the United States of America and Canada in 2003. I am sure you recall from seeing it on television and from reading it in the papers that it was an enormous mess. People were stranded overnight because the voltage irregularity rippled through the system and crossed national borders. NEMMCO is very good at avoiding that kind of situation.

When the problem happened it turned off some plant to protect the rest. It had to shed load, which is kind way of saying that it had to cut off some customers. Then within the NEMMCO regime, the previously agreed to system, it had to make a decision and it chose the Illawarra and some customers in the Integral area. It is a decision that is made at the NEMMCO level. I am not familiar enough with its algorithms or its decision-making process, but it is forced to make those difficult decisions when we get these odd events.

CHAIR: Having happened once this summer is there any way of guaranteeing that it will not happen again in the same way?

Mr NEMTZOW: Samuel Goldwyn from Metro Goldwyn Mayer—a very colourful character—once said, "Never make predictions, especially about the future." In that spirit of Samuel Goldwyn it is hard to make these predictions, especially about never. As you know, the weather yesterday was warmer than projected, but it is February. When it is February you can expect hot and humid weather. You can expect people to have their airconditioners on, and you make sure that everything is up and running and that the system is humming along as best as you are physically able to do. If we get three days of 40 degree weather, that will strain the system enormously. Hopefully, that will not happen.

CHAIR: You said earlier that these sorts of phenomena do not happen all at once across the nation.

Mr NEMTZOW: They tend not to. They are very rare, but they do happen.

CHAIR: So obviously the maintenance schedules have to be able to kick back in very quickly. They have not been able to, have they?

Mr NEMTZOW: Again, because of the two anomalies—the very late peak of summer in 2003-04 and the very early peak of summer in 2004-05. It was almost a perfect storm, a bad accident of meteorology. I think the challenge to the NEMMCO system and to the utilities that we are discussing is: How do you do the best projections you can so that the system is as close to 100 per cent reliable as humanly possible without having two of everything? Instead of being 99.98 per cent reliable you can make it more reliable if you build two of everything.

You could have two transmission lines, twice as many power plants and two power lines down each street. That would make the system more reliable but it would come at such a cost that nobody would want to bear it. The system is extremely reliable. It cannot guarantee 100 per cent performance under every situation. No electricity grid in the world can. Electrons are too volatile and too uncontrollable for that. So it is extremely unlikely but I am afraid a guarantee like that is just not possible in the electric business anywhere in the world.

Ms SYLVIA HALE: I notice that your remarks were based upon an appreciation of the historical record. Surely we are looking at a situation where what you called odd events will occur more frequently, or that seems to be the pattern that is developing. Are you taking those sudden peaks in demand and odd situations into account in the future rather than purely relying on the historical record?

Mr NEMTZOW: That is right. The answer to your question is yes. Again, this is primarily the responsibility of the utilities and NEMMCO, the national body that oversees them, but also of our department in our oversight role. So the answer to your question is yes, we do. Our department does some of the best modelling that is done anywhere on these issues. We have to look at those statistical anomalies. When you said that those odd events are increasing we are fearful of an increase in odd events. An example is rainfall and global climate change. Overall patterns of global climate change are now becoming quite apparent to anybody who studies them.

What is the impact on New South Wales in the short term and the medium term? The answer is yes. One has to assume, because of the global climate change issue, that weather will become more volatile, more extreme, that summers and heatwaves will be more frequent and less long. The answer is yes to all of that. However, as is the case, modelling weather is one of the most complex modelling issues in the world. There are super computers at work in country after country that are trying to do that and it is still far from a precise science. We have to model it as best we can and then on top of that assume conservatively. We assume that a series of bad events will happen and that there is enough of a buffer in the system to protect us from a whole series of events or a whole series of statistical anomalies. So that is how that work is done.

Ms SYLVIA HALE: If, as you concede, we are in a period of considerable climate change, do you consider that it is critical in the department's planning that demand management is curbed in order to reduce that emission of greenhouse gases?

Mr NEMTZOW: The answer is demand management is an essential part of the energy and electricity future of this State and every jurisdiction throughout the world. It is important for me to discuss the term "demand management". Demand management is a useful term but it is not quite precise. Energy efficiency is the more commonly used and more accurate term. The most important thing is not to expect people to turn off things on a very hot day. Nobody expects that. If you expect that you will be deeply disappointed.

The future is about getting products and services that deliver what we want, whether it is light—and these are pretty good lights. If you look at the luminare, that is the box around it, it is not that old-fashioned kind of lens that just collects dust. It may seem silly, but this kind of lighting, just of the box alone, that piece of sheet metal, can use as much as 15 per cent of electricity to produce the same amount of quality light. We are not asking people, and we would not succeed, to turn out lights and turn off airconditioners and stop doing this and that. The secret is the efficiency, to get the same amount of light, the same amount of heating or cooling, the same amount of refrigeration appliances, television, but using new technology that allows that equipment to operate efficiently. That is the best of both worlds, to get the best that we expect in affluent societies and minimising the financial cost of providing the energy and the environmental cost of emissions. That is part of New South Wales' future.

Ms SYLVIA HALE: Reverting very briefly to unusual storm events and outages, and in Sydney we have had the experience in the past week or so, one of the reasons those outages occur is that power lines come down in storms. What are you doing about the undergrounding of cables?

Mr NEMTZOW: The undergrounding is an important issue. The Independent Pricing and Regulatory Tribunal [IPART] has developed rules on undergrounding and the utilities are compelled to follow those rules. It is a tough issue because I do not know anybody who enjoys seeing a power line or enjoys knowing that the power line that may serve their home or business is exposed to the weather or trees. However, undergrounding is very expensive. So, IPART has developed rules that allow each utility to calculate when it is appropriate to underground and when it is not. It is a grey area. I do not think there is any black or white answer to that. Obviously in an urban area such as Sydney the lines are undergrounded and in rural areas they are above ground. That is how the system works, and that is very typical.

Ms SYLVIA HALE: One thing about Sydney is the lines are not undergrounded.

Mr NEMTZOW: It depends what parts. Sydney is a big place, particularly as it grows in the western suburbs. Many are undergrounded, particularly in the central business district. There are also safety issues.

Ms SYLVIA HALE: Are you insisting that in all new land release areas, such as in the south-west of Sydney, that power supplies be undergrounded?

Mr NEMTZOW: I do not believe that decision has been made. Regulations governing undergrounding, as I say, are IPART determined. The ones regarding western Sydney, I would think, are the jurisdiction of the Department of Infrastructure, Planning and Natural Resources [DIPNR], as it sets up a series of rules governing that. I do not think that decision has been made.

Ms SYLVIA HALE: Rather than saying are you insisting, are you requesting that power supplies be undergrounded?

Mr NEMTZOW: I would have to take that on notice. That would not be our department directly. I can find out whether DIPNR has already made that request or whether utilities are considering that. I do not think it has been firmly decided exactly who will provide what utility services to what part of the new growth areas. So, until that happens you can still set up rules for anybody to follow but it may be premature at this stage. I just do not know, so let me to follow it up.

Ms SYLVIA HALE: How much of your budget is allocated to the undergrounding of power lines?

Mr NEMTZOW: I do not believe we have any such delineation.

Ms SYLVIA HALE: There is no allocation whatsoever?

Mr NEMTZOW: That is right. Again, we do not perform any of that function directly. It is performed by the utilities, Integral or Energy Australia, under the IPART guidelines. We do not have any direct budgetary or implementation responsibility there.

Ms SYLVIA HALE: Given the costs to industry when there are outages, and also to domestic consumers, it would be in everybody's interest if there were a concerted effort to underground cables, both in long-term costs of maintenance plus in the event of unusual storms?

Mr NEMTZOW: It is a tough issue because, again, one of the problems of electricity here is that it is different from water or natural gas. Electricity does not always behave so great underground. It depends on a lot of conditions, including the voltage of the line. If it is very high voltage you need a big buffer around it, as you can imagine. It depends how moist the soil is and the degradation of the wires. So, while there are a lot of benefits to undergrounding it also comes at considerable cost—both first-time cost of undergrounding and then maintenance costs. Some maintenance costs go down but others go up. So, while having cables underground is certainly desirable, it comes at significant cost. In some cases it can be as high as 10 times the cost of having traditional power lines. Again, in some cases utilities or their customers or society as a whole will want to bear those costs; in other cases that will not be the case. It is very hard to generalise on the undergrounding issue.

CHAIR: In following up something Ms Sylvia Hale asked you, you said customers would not be asked to turn off their power, but is it not true that energy companies like Energy Australia have been asking business customers to agree to either switch off their power supply completely during peak load events or use their own generators? How does that sit with what you told Ms Sylvia Hale?

Mr NEMTZOW: I think you raise two very important issue is. One is what signals do we send to customers about the electricity system? The traditional way to predict and provide was that the customer had no responsibility and the utility managers would predict the future demand and provide it by building supply-side options. Every system around the world has advanced and matured since then to recognise that there are important responsibilities on the supply side and on the demand side. It is primarily on the supply side. We all want utilities to provide, as the ones in New South Wales do, low-cost reliable and environmentally sustainable electricity resources. However, there are ways to set prices and send prices signals, and with new advances in metering, with digital technology and remotely readable meters, to give those consumers who want it—whether they are big or small, it could be Blue Scope Steel or a homeowner—the ability to know what the costs are they are bearing at any given time and they can choose to turn things off.

In some cases, I am not sure it happens here, in other parts of the world, in advance they can give the electricity utility permission, when it is really expensive, to flip off their water heater for an hour and they get a discount on their bill for those peak periods. As far as I am aware, they are all voluntary except in those extreme times that we discussed earlier, the load shedding incident that NEMMCO required. The goal is, they are designed to work not in those very extreme times when there is a systems failure but the other times to give the consumers the information they need to make a voluntary choice. Some will choose to leave things on and run things but others will respond to the price signal or perhaps they will think it is their civic responsibility, whatever the case may be, and respond behaviourally, and you have to look at that mix of things.

The other issue of individual generators, I am not aware of any utility here that has required anybody to provide their own power. What I think that issue is really about, as well it should be, is again—and you asked the question earlier—what resources will be available to make sure that New South Wales can meet its future electricity needs. One of the basket of potential resources is called standby generators or distributed energy generators, and these are facilities that exist throughout the State—they exist in every modern city in the world—that people use for backup power for an IT system or for some other catastrophic failure, but some owners want to be able to put the power into the system if they will be properly reimbursed for their costs and their hassle factor. That has been very successful in other places so naturally the utilities here are looking at whether that is appropriate. In Sydney they are not requiring that of anybody, as far as I am aware, but the goal is, rightly so, to set

up a system so if somebody wanted to use that individual generator, they would be appropriately reimbursed for that.

CHAIR: Many of those generators would be diesel generators, would they not?

Mr NEMTZOW: I would think so. I imagine that the majority are.

CHAIR: Have you made any assessment of the greenhouse impact of having those diesel generators operating under those circumstances all over Sydney and throughout the rest of New South Wales?

Mr NEMTZOW: No, we have not, and that is an important question. Because most of them are used in a standby capacity—they are there in case of emergency—they have to be periodically started and tested in the course of the year. That leads to emissions and carbon dioxide and other emissions, as you point out. We have not done a complete assessment of that but in doing such an assessment you would not only look at the environmental impact of those generators but also accept that some of them will be turned on anyway, as they are now, not producing any useful power at all but still have a small environmental impact. That needs to be factored in.

CHAIR: The State Government has had energy companies offer consumers the opportunity to purchase green power for the past seven years. Can you tell the Committee what amount of green power has been produced in New South Wales and what percentage of it has been purchased in New South Wales, and how many consumers have taken up the offer, and what percentage of total consumers that represents?

Mr NEMTZOW: I cannot provide all those figures at the moment. Let me take that on notice and reply to the Committee in writing on that. The short answer is that it has increased. It is still a modest number but it has increased. I believe it was 13 per cent this year over last in the number of consumers who have chosen them. We also see it is not only family or residential consumers but also business consumers who are voluntarily choosing to pay slightly more for that green power. The good news is it is going up but it is still quite a small number and we are looking at ways to make sure consumers know it is available and they can choose to do that if they want. But let me get back to you with the precise numbers.

Ms SYLVIA HALE: Is the amount of green power that is available sufficient to meet the demand for it?

Mr NEMTZOW: Yes, right now it is. We have a program that our department runs and it has now become a national program. We work with energy departments throughout the country, but we are the lead on it, a green power accreditation system. What is important in green power is because there are many varieties and flavours—there is dark green and light green and other combinations—is to allow the consumers to know what they are buying and the consumers can do whatever they want with the information. So we run an accreditation program, and the other State energy offices do. A couple of the key factors in that accreditation program is making sure that they are new renewable resources. If you just ask somebody to do it and they take resources out of the system and give it to you and charge you more for that, that does not help to develop green power. It has to be new, it has to be qualifying technology to make sure it really is renewable and it is not just an assertion by the generator, and there are a variety of other accreditation standards. Right now the answer is yes.

One other factor is that it is not already qualifying for the Commonwealth Government's mandatory renewable energy program [MREP], because that would be double counting. They are doing that anyway under the Commonwealth guidelines. To be certified for green power it has to be beyond that. Right now there is adequate green power to meet all those needs. If the number goes up over time, we have to stay on top of that to make sure there are adequate resources over time. We do not just produce a new power source, whether it is renewable or traditional, at a moments notice, but so far there are adequate amounts.

Ms SYLVIA HALE: And you anticipate that being the case for the next two or three years?

Mr NEMTZOW: Yes. That is right. Right now we have throughout Australia, but certainly in New South Wales, what has been called a golds rush. The Commonwealth emirate target has not been increased in a number of years and the Commonwealth Government recently announced a decision to not increase it, to keep it roughly at 2 per cent. Not all that 2 per cent that is required to be purchased under the Commonwealth system has been produced yet, so there are now renewable energy resources being developed throughout the whole country to sort of capture, to sort of win, the race to get the last of that 2 per cent because they are afraid that after that 2 per cent, the growth rate will slow down considerably.

That is one of the reasons you might see so many stories about large wind farms that are being developed, not only because of technological advances but because of this desire to get the remaining Commonwealth emirate targets out there. South Australia is seeing it, we are seeing it, Queensland is certainly seeing it, so that is the good news. There are a lot of smart developers looking at opportunities, so for the next several years there are adequate green resources. The question is for the future, especially if more people become cognisant of the cost of global climate change and embrace green power as part of the response to that. We have to make sure that there are enough resources available for them.

The Hon. DAVID CLARKE: During the series of questions I earlier put to you as to whether it was being proposed to hit electricity consumers with a levy to curb consumption, you mentioned that there had been funds established in a series of States in the United States to deal with these issues. Do you recall mentioning that?

Mr NEMTZOW: Yes.

The Hon. DAVID CLARKE: Has one of the major means of financing these funds set up in the States in the United States been the imposition of a levy?

Mr NEMTZOW: As I hope I said earlier, there are a whole variety of approaches that have been taken. For example, California, who obviously has learned very painfully from some of the mistakes they made in their regulatory structure in the 90s, has just announced in the past several weeks a new demand management system that looks directly at working with the utility companies and using the utility companies' resources to do that. Whether that has a levy or not, I do not know, but I do not know that it does. So there are all sorts of combinations. I think the real issue here is: How do you get the investments in the resources that are needed to meet the supply and the electricity needs of New South Wales and the future?

As you may know—I do not know if you have had a chance yet to look at the Government's green paper—the overriding theme, the overriding goal of that green paper is to provide the greatest certainty possible for investors in the electricity system in New South Wales to provide the kind of regulatory certainty that investors want so that they can make large investments and not be afraid that the rules are going to change on them, which is perfectly reasonable. But those are investments, whether it is on the demand side or the supply side or whether it is alternative energy or traditional energy, whether it is coal or gas, it is the same set of issues. We have to create a framework that meets the public's goals—and that is what the Government's framework is—but meets investors' needs so that we can get those private investments.

We are very optimistic that will happen. We have not needed large investments in the supply infrastructure, or demand for that matter, in New South Wales for a number of years because of overcapacity that has existed for a number of years and so it is a whole variety of things and some of this will include utilities and the traditional way that utilities do business, in which they look at all the appropriate costs, they make some tough decisions, they basically collect their receipts, they add their receipts and they turn them over to the Independent Pricing and Regulatory Tribunal [IPART] and IPART verifies that those are legitimate costs and says that "for all the legitimate costs—whether it is supply, demand, transmission, safety, whatever it may be—we will put it into the rate basis and reimburse."

That is one way to do it. There are dedicated fees to do it. There are all sorts of ways to do it and that is what we are canvassing in the green paper. I am personally not aware of any issue that the Government or Cabinet has taken off the table—maybe that has happened but I am not aware of any

of that and I do not think it is the case—so the whole thing is on the table: demand, supply, transmission, connection with other States, and that is what we have to do and what will be sorted out over the coming months.

The Hon. DAVID CLARKE: Cutting through all of that, when you talk about the real issues, I guess the real issue for consumers is whether they will be slugged with a consumption tax to help fund all of this. Moving on, would you agree that there are two basic approaches to dealing with this question of adequate electricity supplies? The first is to increase supply and the second is to reduce demand. Would that more or less be a summary of the two major approaches?

Mr NEMTZOW: Fair enough.

The Hon. DAVID CLARKE: If we take the second, that is, to reduce demand—

Mr NEMTZOW: Sorry, can I suggest that I do not know of anybody who is talking about or expecting reducing demand. There have certainly been discussions of reducing growth in demand, so if I could make that qualifying statement.

The Hon. DAVID CLARKE: Right.

Mr NEMTZOW: I should not say I do not know of anybody because I am sure there is somebody out there.

The Hon. DAVID CLARKE: I guess reducing demand and reducing the growth in demand in some people's eyes would be two sides of the same coin, as it were. In reducing demand would you agree that there would be two approaches—a reduction in the increase in demand, voluntary proposals and compulsion, would that be basically correct?

Mr NEMTZOW: Yes, from a semantic basis, but I do not think that is really where the debate is.

The Hon. DAVID CLARKE: Right, okay. Do you see compulsion as a viable option in reducing increase in demand?

Mr NEMTZOW: I am not aware of any discussion, I have not been party to it; I have not heard it. I have been in many meetings on this topic. The answer is no. I have not heard any discussion, I am not aware of any discussion, I do not believe there is any discussion of compulsory reductions in demand. There is an issue of compulsion and that has to do with basics, which is the new building code for new homes in New South Wales, that on a compulsory, mandated basis makes requirements on the energy and water consumption of new homes and it is expanding, of course, to multifamily homes.

So there is compulsion in that way in terms of forcing changes in building practices and the Commonwealth has a compulsory scheme on appliances, so if you buy a refrigerator in this country, the Commonwealth has a mandated compulsory scheme on the efficiency of that, so, yes, there is compulsion within the system but certainly not in terms of demand reduction in the way that you are asking the question.

The Hon. DAVID CLARKE: So as one who would make recommendations to the Government on this area, you would never be proposing that there be some compulsion in this regard as far as consumers are concerned?

Mr NEMTZOW: I do not believe it would be successful to ask consumers under normal conditions. To borrow an analogy from other areas, let us look at the water area. There is a drought now and we see different behaviour among consumers than when there is not a drought. That is reasonably obvious, so it is impossible to say now—and we all know that during World War II consumers throughout the world were asked and even required to use fewer resources in general, so I do not want to say "never" in terms of being able to predict every possible set of circumstances that could happen in the future of New South Wales, however, there is no reason to be concerned about mandatory or compulsory demands for a reduction in electricity demand in New South Wales. It is

just not a part of the equation. I do not believe there are any successful examples of that anywhere in the industrial world, again outside of extreme conditions such as drought or war or something beyond what we are talking about right now. That is not part of the equation.

The Hon. DAVID CLARKE: What is the total cost of basics for new homes?

Mr NEMTZOW: Per home or across the State?

The Hon. DAVID CLARKE: Per home?

Mr NEMTZOW: I will have to get back to you on that. We do not have much experience with it since it has only been in effect since 1 July. Let me get you that figure. Let me also suggest and anticipate what response I will provide. I would imagine that the answer will have a whole band of answers because, as we know, any time you look at a new product, some home builders are quick technology adopters and quick adopters of new practices while some take a little longer. That is human nature.

The Hon. DAVID CLARKE: It is a very important area.

Mr NEMTZOW: It is, absolutely.

The Hon. DAVID CLARKE: You have no figures on this at all? You have no estimates? There was no research carried out into this?

Mr NEMTZOW: There was modelling that was conducted in advance and Department of Infrastructure, Planning and Natural Resources [DIPNR] conducted that because basics is a DIPNR responsibility. However, in something like that, which is new and without a whole lot of experience, you do the models and you get it as right as you can but then you look at the data, as soon as you have data, to see if it matches that. Again, I will get it for you or you can ask it of DIPNR and we will get you numbers. I would just advise caution. With such a short experience, I would not read too much into those numbers quite yet, but it is an important question to raise.

The Hon. DAVID CLARKE: You do not even have a range, you do not have an estimate, an idea of how much this is basically costing?

The Hon. JAN BURNSWOODS: Ask DIPNR tomorrow. It is this afternoon actually. You could do it this afternoon.

The Hon. DAVID CLARKE: I thank very much the honourable member for her assistance but I will frame my own questions, thank you very much.

The Hon. JAN BURNSWOODS: Under the standing orders you should ask your questions of the appropriate authorities rather than badgering a witness who is not in charge.

The Hon. DAVID CLARKE: Madam Chair, I suggest that Jan Burnswoods asks her own questions because so far she has not bothered to ask a single question on these important issues that are before us.

The Hon. JAN BURNSWOODS: Point of order: Madam Chair, as you know, you discussed with the Government members at the beginning of this session and we made it clear to you that we have some questions later, but not at this stage.

CHAIR: Yes.

The Hon. JAN BURNSWOODS: That, I thought, was a concession on our part, which follows the well-known practice that perhaps David Clarke is too ignorant or too new to understand of the major series of estimates committees in which the Government members waive their right to ask questions. I would ask you to counsel him perhaps not to be so rude and offensive and not to display his ignorance in the way he is currently doing. He is also, of course, displaying his ignorance in continuing to badger a witness on an issue for which the witness is not responsible.

CHAIR: Thank you for that. Do you have another question?

The Hon. DAVID CLARKE: Yes, Madam Chair, and you might caution the honourable member not to try to verbal me as to how I ask my questions or what the content of my questions will be.

Mr NEMTZOW: Can I give you something illustrative from other jurisdictions? Would that be helpful to you?

The Hon. DAVID CLARKE: Yes.

Mr NEMTZOW: The United States, for example—and I hope that you will either forgive or indulge my United States centism where I have spent my career—we have had building codes that are adopted at the State level or the municipal level in the United States. There are no national codes; they vary all over the United States. They have had energy-related building codes starting as early as the 1970s in some jurisdictions and they have been adopted over time. What we have found is that the cost is very minimal because what it requires generally, not always but generally, is changes in practices among homebuilders. Sometimes it requires actual changes in costs—more installation, different kinds of glazing for windows, but generally it requires changes in practice. How you line up a building to whether it captures the sun in winter or avoids it in the summer due to deciduous trees, for example.

Many of these improvements cost very little upfront, measured in hundreds of dollars on homes that cost hundreds of thousands of dollars. That was the case in the early years and it became the case over the years, as well as government bodies, State and others, providing research and other ways to help lower the costs. The other part of the equation from the experience in the United States and Europe is that the savings have been enormous because the building stock, of course, lasts for so long, for decades if not longer, so you get the savings on water, on electricity, on others, for a longer period of time so the record is quite good, the cost balance is good. Again, we do not have data yet in New South Wales but other data is very encouraging.

The Hon. DAVID CLARKE: We have a situation here where this very important model was introduced. This is a very important area, these basics for new homes. It is going to affect, in a major way, builders and consumers. Surely there must be some costing of this?

Mr NEMTZOW: Yes.

The Hon. DAVID CLARKE: Do you have any papers dealing with that costing? There must be some idea how much this is costing consumers and builders?

Mr NEMTZOW: And I do not have any papers because, again, it is not my department's responsibility. We provided technical assistance to DIPNR to help them do that, but again, you are asking for costings. I really think what there is and what was done in advance of this was modelling. I just want to make that distinction, so it is models of costing; it is not actual costing.

The Hon. DAVID CLARKE: Do you have any of those models of costing here?

Mr NEMTZOW: We do not, no, and our department did not conduct that. That was conducted elsewhere.

The Hon. DAVID CLARKE: Which department conducted those?

The Hon. JAN BURNSWOODS: DIPNR, for the sixty-fifth time.

Mr NEMTZOW: Basics was introduced, I think, before I became director-general, so I cannot tell you with certainty what models were used or what assessments were used or what costings were used. I do not know that. I do know that they examined the issue of projected costs, projected savings and used technical expertise from my department, and I am sure many others in the industry, et cetera, in making those decisions, but I am just not familiar enough with how DIPNR did that and

how they came to the projections that they did. I also saw in Australia—again, it was right after I got here—very similar to what happened in the United States and what happens in Europe all the time, that industry has one number, government has another number, other parties, academics or public interest groups will have a different set of numbers and then the real-life data is whatever the reality is, and hopefully it matches those, but usually there is a difference.

Industry—and I do not blame them because I think we understand that when there is a new regulation, especially a significant one that is imposed on them—tends to talk about how expensive it will be. I cannot speak for this industry because I do not know what assessment it did. However, often industry looks at a static analysis—what is it like today to meet the new standard for cars, buildings or whatever—not at the role of technology, innovation and practices. People are smart; they figure out ways to meet the goals set for them as inexpensively as possible. Again, it is imprecise science. Over time the record will get better. We will do our best to get the information the committee is looking for so that honourable members can understand why this decision has been made. So far, so good. DIPNR would hear more loudly than I would. My department deals regularly with the housing industry and energy and water consumers and we have not heard significant complaints that BASIX is stopping people from building their dream house, and that is encouraging. That is an anecdote and I am not providing it as costing data, but it is reason to be encouraged.

CHAIR: I revert to the demand-management issue. Would any levy imposed on consumers be in addition to the Independent Pricing and Regulatory Tribunal [IPART] approved price?

Mr NEMTZOW: Those decisions have not been made, so it is impossible to speculate. As I said, I am sure honourable members know that IPART has changed and updated its methodology for how it looks at those expenses. I do not know the answer, because it is unknowable, but I suspect that there will be all sorts of different variants.

CHAIR: You referred earlier to discussions you had with the Minister and the Government and stated that they were Cabinet-in-confidence. Surely many of your discussions would not be Cabinet-in-confidence.

Mr NEMTZOW: Yes, but I think they are all confidential and that is the appropriate relationship between a director-general and a Minister, as do many others. I request that the committee respect that confidence.

CHAIR: You referred to your experiences in the United States. Given that this is your first appearance before the committee, can you provide honourable members with a brief indication of your experience before you came to the Department of Energy, Utilities and Sustainability [DEUS], where you have worked and on what projects?

Mr NEMTZOW: I have been involved in energy issues my entire career. I will make this brief, but the important issue for everyone is how one gets on the professional path one follows. I got my drivers licence and a few months later the OPEC oil embargo commenced. That was 1973 and 1974. When one is 17 years old with a new drivers licence in the New York suburbs it is important to be able to get gasoline. That was the beginning of my interest in energy issues. I recognised that these issues were global in nature and that they affected so much of the world. I have two degrees in the field: The first from Brown University and the second from Harvard University—a Masters in Public Policy in the area of energy policy and economics. I have worked in a series of governmental and non-governmental organisations. I was a staff member for a senior member of the US House of Representatives—a congressman who was a very senior member of the Energy Committee. As a result of that work and other work I have done I have been involved in just about every energy issue that has come up in one form or another, as well as many other resource-related issues beyond energy. As I said, my academic training is a mix of economics and policy, which allows me bring a methodological approach to these issues.

Throughout the industrial world, and increasingly throughout the world, the issues are very similar across jurisdictions. In the 1970s and before, Europe, and particularly Eastern Europe, had centralised energy systems and decision making. They have moved away from that, although not as far as they would like. Energy systems are more interconnected and, as a result, all jurisdictions are learning from each other. That is one of the reasons Australia is such a professionally rewarding place

to work. Like my home country—the United States—Australia sees itself as part of the new world and does not stick to the way things have been done for 1,000 years. Australia is often at the forefront of energy, water and sustainability issues and is thinking about how to approach them in a way that makes sense in the Australian setting. I trust that my professional background in government and outside it running an association of companies interested in sustainable energy will be useful as Australia, and New South Wales in particular, looks at those issues.

CHAIR: Did you know the Premier of New South Wales before you were appointed?

Mr NEMTZOW: I had been in a meeting with him. I had spoken with him about sustainable energy issues.

CHAIR: Shortly before that?

Mr NEMTZOW: It was in either September or October 2003. I became director-general in March 2004.

CHAIR: Did you have discussions with the Premier about being appointed to this position?

Mr NEMTZOW: No, never.

CHAIR: With whom did you have discussions about the appointment?

Mr NEMTZOW: I was first informed about the opening in November or December 2003, when the position was announced. I have several international colleagues in the field and I have been in the field a long time. Some of my colleagues here in Sydney said there was an opening and they thought I would be well qualified and encouraged me to apply, which I did. I then went through the process. Honourable members may be familiar with it. One submits a written application and luckily for me, because I was in the United States at that point—I had returned from Australia—everything was done on the Internet. That makes the process much easier for international or long-distance applicants. As with any other position, one sits around and one day the telephone rings and an interview is arranged. The interview was with three senior public servants. My panel was Dr Col Gellatly, the Director-General of the Premier's Department; Dr Elizabeth Coombs, the Assistant Director-General of the Premier's Department; and Roger Wilkins, the Director-General of the Cabinet Office. I was interviewed first by telephone and they then asked me to come to Australia for an interview, which I did. I was then interviewed with Minister Sartor and after that I was offered the job.

CHAIR: Can you provide the committee with details of your salary, including all benefits paid to you as director-general?

Mr NEMTZOW: Yes. Would the committee like that now or in writing?

CHAIR: Now if you have the information.

Mr NEMTZOW: My salary is \$240,000 a year. I am a senior executive service [SES] grade 6 officer. That is somewhere in the middle of the band. The grade determination is made for each SES position in government in advance based on responsibilities required of the position. I received a recruitment allowance, which is, again, part of the standard procedure. This information is in the annual report. I also have the standard package of remuneration that is available, including relocation expenses and so on. Otherwise there are no benefits; I do not have a car. I have no particular benefits of note to the committee.

CHAIR: Do you get any airfares back to the United States?

Mr NEMTZOW: No.

CHAIR: You may wish to take this question on notice. Can you provide the committee with the salary and any other benefits paid to the top 10 salary earners at DEUS along with job descriptions and titles?

Mr NEMTZOW: I need to take the entire question on notice. To be fair to the officers, there are issues of confidentiality in the Public Service. I will need to check the rules so that I do not inadvertently breach that confidentiality. However, I will provide whatever information I can.

CHAIR: I understand that.

Ms SYLVIA HALE: My question possibly bridges the gap between water and electricity. The Government is spending \$4 million on investigating the feasibility of a desalinisation plant. Would you care to a comment on that process in terms of the implications for energy usage and greenhouse gas emissions?

Mr NEMTZOW: Mr Evans is probably in a better position to respond, because the department is a member of an interdepartmental committee, along with many other departments. I may not have the details of the process. However, in terms of the substantive issue, energy is a component of all water decisions. Pumping water is an energy-intensive activity, especially if hills or long distances are involved. That is a law of physics that we cannot do anything about. The energy considerations of all water decisions are part of the metropolitan water strategy and its implementation. Whatever the scenario with water, energy is always an issue and it is being considered.

Ms SYLVIA HALE: However, desalinisation requires such a large amount of electricity that the Premier once described it as "bottled electricity". The estimate in the *Sydney Morning Herald* last November was that it would be the equivalent of putting an additional 53,000 cars on the road in terms of greenhouse gas emissions. However, from the point of view of your operation, that would presumably represent a major increase in demand rather than a curbing of demand.

Mr NEMTZOW: One must keep a number of issues in mind. First, no decision has been made whether to proceed with a desalinisation plant. The honourable member referred to the feasibility study. The Government is considering that, so I am reluctant to speculate on the energy consumption of something which does not exist and which has not been agreed to.

Ms SYLVIA HALE: Are you having input into that process?

Mr NEMTZOW: Yes. We are part of the interdepartmental committee that Sydney Water has organised as part of the metropolitan water strategy. To get to the substance of the question, very good progress has been made throughout the world in lessening the energy input necessary for desalinisation. The newest desalinisation plant is the Ashkelon plant in Israel. It is very large and it uses less than half of the electricity input of a similar sized plant built 10 years ago. Being able to cut by half the electricity consumption required to produce the same quality of water is very impressive technological progress. Does it consume a lot of electricity? Of course, every large system does in every other field. However, great progress has been made and I can assure the committee that the energy considerations, along with all the other factors, are being considered by the Government before any decisions are made.

CHAIR: You have acknowledged that extra energy supply is being considered in relation to the metropolitan water plan. Can you advise the committee of your assessment of the extra energy that will be required and the greenhouse gases produced as a result of pumping extra water from the Shoalhaven into the Sydney supply?

Mr NEMTZOW: I do not know what that figure is. Any time you pump water, especially uphill, of course, it consumes power. I just do not know what the magnitude of that is.

CHAIR: Can you ascertain if there has been any assessment done by DEUS at all on that?

Mr NEMTZOW: Sure, I can do that for you.

CHAIR: And what it is?

Mr NEMTZOW: Yes.

CHAIR: Similarly, can you advise the committee on your views in relation to sewage reuse in this State? Is there adequate attention being paid to try to prevent the loss of the equivalent of 1,100 Olympic pools of sewage that is washed out into the ocean every day? What should be happening about that?

Mr NEMTZOW: I am sorry, I did not follow the question. A loss by what means, just the normal outfall?

CHAIR: Yes.

Mr NEMTZOW: I am sorry, I am not familiar enough with that issue.

CHAIR: Obviously I am asking from the sustainability segment of the department's jurisdiction. Do you have a view about allowing the private sector to access Sydney's sewage and recycle it for either non-potable residential and domestic use or environmental flows?

Mr NEMTZOW: Certainly I do not, and the department does not, have a view on that issue. The Government is considering that. You may have noticed that the Premier, I think just after the New Year, asked IPART to do an investigation of that issue because it is certainly a current issue about what access regime should be available to a party to have access to sewer for recycling or other purposes. So that is a very current and in important issue. We see recycling and reusing grey water initiatives throughout New South Wales—and there have been some very good successes in Eurobodalla. Sydney Water has one of the best done in Rouse Hill so there are lots of opportunities there. Your question is a very important one and the Government will be looking at those issues of access and the difference mix to ensure, again, those multiple goals of: providing inexpensive, high-quality drinking water throughout the State, Sydney and beyond; providing environmentally responsible disposal of sewage; and looking at the whole integrated cycle to make sure that it is done in the best way. That is certainly are under consideration and the IPART investigation I am sure will help to guide the Government's thoughts.

CHAIR: Mr Evans, we will now deal with water matters. What role did Sydney Water play in determining the current application of water restrictions? How were they determined?

Mr EVANS: The regime of water restrictions fits into a general approach to water management in Australia. I might start out describing that more broadly and then come to the specifics of the question. Australian water systems, unlike those in countries a lot of us came from originally, are predicated on the uniqueness of the Australian climate. Australia, particularly the eastern seaboard, is so much short of water in aggregate—in fact, its rainfall is heavier than in lots of places in Europe—but we are characterised by extreme diversity in rainfall. The diversity of our rainfall is only matched in one or two other places in the world—South Africa and parts of California. The reason I mention that is what that means is that stream flow run-off is highly diverse over time because we are a land of droughts and flooding rains.

Because of that, historically, water supply in Australia is predicated on large storages. In fact, for a city in Australia you need storages of approximately eight times as large to provide a given level of water security and as you might need, for example, in central Europe because of the drizzling rain they repeatedly have there, whereas here we have these long periods of dry and then periodic bursts of heavy rain. So throughout Australia water supply systems have historically been predicated on large storages. Now that is, in effect, to get you through the periods of droughts as opposed to flooding rains. And when you are in such a period right around Australia it is established practice that you apply water restrictions if your storages decrease significantly in order to give those large storages the best chance to remain reasonably full before the next lot of rain comes.

So throughout Australia varies, and it is established practice to introduce restrictions when supplies gets into the range of 50 or 60 per cent, depending on the jurisdiction, and those restrictions in all cases start off with outdoor use. So you try to basically limit outdoor use to allow the storages, as large as they are, to retain a reasonable level. It is worth just noting that in the period of the present restrictions they are essentially outdoor restrictions and they are designed to impose least inconvenience on the economy and the population. They limit the time of day and the method by

which you can apply water in the garden, basically. In that time demand has gone down by about 10 per cent, and we have interestingly enough in the period from spring to now towards the end of summer, partly with the aid of those restrictions, filled the storages at approximately 43 per cent. So we have, as a result of application of the restrictions regime, the same as they have in Perth, Canberra and Melbourne in recent years, been able to hold the rate of deterioration in the past five months.

Having said all that, you specifically asked "What was the role of Sydney Water?" There is a group made up of Sydney Water and the Sydney Catchment Authority because, as members may be aware, the supply of bulk water for metropolitan Sydney is actually managed through the Sydney Catchment Authority and not Sydney Water. There is a group of the two organisations that provides advice to the Government on the level of restrictions, and that advice is modelled on historical periods in Sydney and elsewhere in New South Wales—experience in Melbourne, Perth, Canberra et cetera—and we submit that advice to the Minister and the Minister makes the specific decision.

CHAIR: Sydney Water and the Sydney Catchment Authority provides specific written advice to the Minister?

Mr EVANS: That is right. We had discussions with the Minister and then it is a matter for him to decide.

CHAIR: The Minister actually makes the decision?

Mr EVANS: Yes. I should say too that it is important in these situations not to have unduly mechanistic preprogrammed responses because what you might do as a drought unfolds, depends in part on: community response; the time of year whether you are coming into summer or winter, weather outlook; the lengths and shortness of the days; and all sorts of things so it is a situation that you need to manage, in a sense, as you are going along.

CHAIR: What were the recommendations of Sydney Water in relation to the current application of water restrictions?

Mr EVANS: I was not at Sydney Water at the time these restrictions commenced so that is a matter I would have to take on notice.

CHAIR: Would you provide the committee with what Sydney Water did recommend and the information as to the recommendations, if any, that were not accepted? What steps have been taken by Sydney Water to prepare the guidelines for level three water restrictions? Is there a specific set of recommendations that have been submitted to the Government? If so, when were they submitted? Who did they go to? What were they?

Mr EVANS: They are matters we are considering. As I have just said, we will work through these situations based on how circumstances evolve. We are presently in level two restrictions and we are actively considering what level three restrictions will be. I will take on notice your request on specific information and get back to you. I should add that there is often in debate a tendency to assume you will axiomatically get to the next level of restrictions. The next level of restrictions is notionally set at approximately 40 per cent but, as I have just said, storage is presently at approximately 43 per cent which is where it was last September. You may, for example, vary what restrictions might be, depending on whether you are in daylight saving time, whether it is the start of summer or the end of summer, the middle of winter et cetera. So there is the dynamic in the process.

CHAIR: Were you in your current position when level two restrictions came on board?

Mr EVANS: That is correct.

CHAIR: We will get that information?

Mr EVANS: Yes.

CHAIR: You just referred to the dam levels a moment ago. In view of the need for the original water restrictions that were introduced in 2003, and for them to be amended as dam levels

decreased, and given that we are not far away in percentage terms from the level three water restrictions threshold, why has there been no public consultation and no indication from the Government as to what the next level of restrictions will, in fact, be if they are clicked in?

Mr EVANS: As I said, the process is inherently a dynamic one. You do take account of the community response to the existing level of restrictions, the response to restrictions for trials, et cetera. And there are a variety of ways by way of community attitude survey or whatever by which you can gather information about what would be the appropriate next level of restrictions. We are gathering information in that way through a variety of means and we are confident we have a reasonable handle on the community attitude on these matters.

CHAIR: How do you do that?

Mr EVANS: By direct means. We do routine customer surveys, as any major utility would do. We also have a capacity, of course, through the call centre, through a range of contacts we have, through discussion with interest groups. For example, there is a Green industry group of people who are involved in irrigation equipment and the like with whom we are having discussions as well. We gather all that information together as a basis of judging the community access stability issues. We also continue to observe experience in Melbourne, Perth and Canberra and elsewhere.

CHAIR: Surely part of the dynamics would be to take the customers into the utility's confidence, would it not?

Mr EVANS: That is right and therefore you do seek to evaluate customer attitude and customer opinion from as wide a range of varieties that you can.

CHAIR: Do you actively seek customers' input?

Mr EVANS: As I say, through the customer surveys techniques and from talking to stakeholders who have a particular interest, yes we do.

CHAIR: Given that you were there for the introduction of the stage two restrictions, you must have some memory of that particular very important set of recommendations to the Government?

Mr EVANS: Yes.

CHAIR: What can you remember about what you recommended on behalf of Sydney Water and what, in fact, was put in place?

Mr EVANS: It is my memory that what was put in place was very similar to what was recommended. The change from level one to level two restrictions were changes essentially in the duration in which people could use outdoor watering systems, particularly handheld watering. There was at the time some discussion as what we introduced was a time of day limitation and at the time we actually introduced a time of day which required people, from my recollection, to use water before 9.00 a.m. It was during wintertime and we had representations from people who felt that was inconveniencing them, especially pensioners and the like, on cold mornings. Again after consultation with the Minister we varied the hours of the day, I think my recollection was, to 10 o'clock rather than 9 o'clock to provide a reasonable window for people to be able to water without inconvenience. We are not perfect and there are opportunities to learn from what we do and to be flexible enough to make changes if we have to.

CHAIR: It was the Minister who made that variation?

Mr EVANS: No, it was joint. As I say, it was based on our discussions with him, we made that decision sort of thing. It is important I should add in all this that the whole history of the management of drought in Australia, which goes back hundreds of years now—is that you position yourself in managing these periods of restrictions so as to maintain, in a sense, the voluntary effort of the community. It is important that you are able to communicate with the community that drought is part of our landscape, that we are privileged to live in a society where most of the time there are adequate supplies. But history tells us that community accepts reasonable restrictions if you

demonstrate that you are flexible in how you apply them and you try to limit the impact on their lifestyle. That is what the restrictions are designed to do. They are designed to prolong the life of the storages without putting unreasonable limitations on people.

CHAIR: With respect to the metropolitan water plan, can you advise the Committee how much of the \$4 million that has been allocated to investigate desalination has actually been spent and detail what activities?

Mr EVANS: Again, just a small piece of context here, it is important that people do not see the metropolitan water plan as a desalination plan. In fact it is not. The plan has very many pages and it has a minor reference to desalination. The plan's essential characteristics are to pursue and maintain a program of demand management through basics and other things that have been touched on today. It also provides for the increased transfer of water from the Shoalhaven system, which has also been touched on today, and increased recycling, some of which was announced yesterday. Within that context, however, it also says that as a contingency measure the \$4 million you referred to will be allocated to investigate desalination as a contingency plan in the event the drought goes on for some years.

As Mr Nemptow mentioned, there has been enormous technological advance with desalination techniques. Essentially, that provides the opportunity which was not necessarily around 20 or 30 years ago to have desalination as a contingency plan so that if drought is going on and on then you have sufficient lead time to select sites, design, construct and run desalination plants to act in effect to stretch out supply longer. The conventional wisdom around the world though is that if you have other storages you would not use desalination other than as part of a contingency response or a diversification response. The reason for that is that it still remains very expensive and it has greenhouse implications.

The specific answer to your question is that \$4 million is allocated to do, in effect, a feasibility study to ensure that if the drought continued we would be positioned to proceed with subsequent steps over the next 18 months. The \$4 million has been allocated to a consultancy made up of the firms GHD and Fechner, which are Australian and German firms that have a lot of background in this matter and that have been actively involved in a similar study in Perth, where over the past 18 months as their drought has gone on they found it necessary to advance their contingency planning. So we are able to draw on the experience of Western Australia.

What that study is doing—and it will be completed in early May, as I think has been publicly foreshadowed—is basically do the first feasibility study to enable us to answer many of the questions we are all interested in: how much power, where, how big a plant, how to optimise its location so that it is located between the ocean and the distribution points in the system so as to minimise costs, pumping costs, greenhouse gas, et cetera. That is known as a scoping study or an options study. That study is under way now and, as I said, it will be finished in a few months time.

CHAIR: So if the decision process takes, say, two years it is possible that Sydney could be out of water before such a plant would actually be built.

Mr EVANS: No. As I say, the whole approach to getting the study done early in the piece is to ensure that the decision process and detailed design and construction, if it proved necessary, could be done within the timeframe necessary for the unlikely event that the drought went on and on and on. It is more by way of what I call a contingency plan rather than something you are saying you will definitely do. But if water supplies were to continue to deteriorate over whatever period, then the whole approach is designed to enable the initial feasibility and concept studies to be done in such time that you could subsequently do your detailed design, procurement, commissioning and operation inside the timeline of the water supplies diminishing. So that is the whole approach, and we are very confident that we can operate within that approach.

CHAIR: If there were a couple of years of doing the feasibility, then working out the extent of such a plant and then maybe three or four years to build it, it could be up to six years away?

Mr EVANS: Yes. You made a series of "if" statements and I understand why you would say that. The first thing is that in some circumstances it could take many years to build infrastructure. In

fact, it may be that desalination plants, if it rained, may not be built for 20 years, depending on technological development and the cost of other options, et cetera. But what you have to do is also be able to cope with the less optimistic scenario and that is where the lead time of these feasibility studies—as I said earlier, an accelerated program of concept and detailed design and then awarding of contracts—would allow the capacity to go on line substantially earlier than you were saying. We have in part based that model on the experience that has existed in Perth over the past four or five years as they have lived through a sustained period of drought longer than the one we have had. It is important to make these decisions logically and sequentially, but issues as you say within the timeline of ensuring that capacity would be available before you got down to say 10 per cent of storage. So you need a buffer in there.

CHAIR: The Premier said that the review process for such a plan would be in the order of two years, is that right? Are you still sticking to that?

Mr EVANS: The process could occur either under a scenario where you are simply saying, "We want to see what we might do in 10 or 15 years time." In that case you could take longer to do it. That is one scenario. Or you could say, "No, we want to compress the timing of this and bring forward detailed design and the like as the drought continues." That is what I mean about contingency planning. So it depends on which scenario you are talking about. As I was saying earlier, we live in a very adaptive world. The scenario you run with must depend on the rate of decline of supply. If supply was to recover to 90 per cent tomorrow you would in all probability move to a longer-term consideration because you are dealing with a different circumstance. However, if supply continued to deteriorate then you would accelerate. I think they are reasonable decisions to make.

CHAIR: On current usage, if the supply was not replenished Sydney could be out of water within 80 weeks and the whole desalination process would be irrelevant, is that correct?

Mr EVANS: No. As I said earlier, you have to work off what you believe are possible outcomes and under the current rate of deterioration—in fact, in the past five months there has been no deterioration, so you could turn it round the other way and say you will never get there. You have to balance out the possibility of, say, a trend severe drought continuing. But even during a trend severe drought you get some rain. We often forget that you do get certain inflows to your system. You get a certain amount of recovery. So we are confident that within the accelerated time frame we can implement it if we need to. We would have additional capacity in place before you "ran out of water".

Ms SYLVIA HALE: When you were talking about this scoping study for the desalination plant you said that it would be looking at issues such as how much power it would use, the optimal location, et cetera. You did not mention whether it would be looking at the problems of disposal of by-products. Will that be investigated?

Mr EVANS: Yes, very much so. How desalination works is that you take salty water, usually from the ocean rather than from inlets because the quality of water in the ocean is more consistent over time; it is not influenced by rainfall events, et cetera, and most of these plants work best in a stable environment. So you would extract water from the ocean. You then do what is called a pre-treatment of it, which is essentially preparing it for the actual desalination aspect, because seawater has suspended solids and other things in it and you have to remove them in what we call a pre-treatment process. You then have a fluid that has dissolved salts so they are in solution.

Ms SYLVIA HALE: I do not mean to be rude or to cut you off but we have limited time. I simply wanted your reassurance about the problems of disposal of the by-products.

Mr EVANS: What I was about to say briefly is that you then push the fluid that has to be desalinated, and that could be waste water or fresh water—the technology is broadly the same. You create a brine stream, which is what you are referring to, which is the concentrate. The concentrate has salt in it and the water you send off into the system does not. That is called the brine stream and that would have to be returned to the ocean. Another advantage of disposal to the ocean is that you return the brine stream to a very big receiving environment where it can be re-diluted and absorbed into the ocean, rather than return it to a more confined waterway.

Ms SYLVIA HALE: But presumably it would also depend on the location of the plant. If you had any toxic material in the water you were recycling you would also have a problem with recycling that toxic material, rather than pumping it back into the ocean.

Mr EVANS: Yes, but that is one of the advantages of extracting what is essentially clean water from the ocean. You are not concentrating toxic material; you are concentrating salts that naturally exist in salt water.

Ms SYLVIA HALE: Does that mean that the water you are using would have to come from a long way off shore rather than close?

Mr EVANS: Not necessarily a long way off shore but from a stable environment. You are probably better not to extract it from a surf zone, for example, where sand, sediment and everything is stirred up.

Ms SYLVIA HALE: Or sewage.

Mr EVANS: Yes.

Ms SYLVIA HALE: You said that desalination was only a minor part of the metropolitan strategy, but in the Premier's press release yesterday he puts it at number two. He said that the metropolitan water plan includes using recycled water, preparing construction of the desalination plants—he obviously gives it a high priority—and using new technology to tap into new water supplies and bringing water from the Shoalhaven.

Mr EVANS: That is right.

Ms SYLVIA HALE: Plus savings incentives for industry and the home. As Mr Nemptzow pointed out, considerable energy resources would be expended in pumping water from the Shoalhaven to Sydney and we have the energy implications of a desalination plant. Do you not think that these measures will contribute over the long term to the problem of greenhouse gas emissions? Are you, as it were, sacrificing the environment in order to resolve the water crisis?

Mr EVANS: All aspects of how we live have environmental impacts. In Sydney we are dealing, in a sense, with a problem of wealth. We are an attractive destination for immigrants and others; the population is going up and that generates demand for housing, motor vehicles—the list goes on. So inevitably in a society that is in a sense being successful in growing more wealthy you get increased stresses on the environment because you have to access water, you have to pump it around. As you rightly say, there is an energy implication no matter what you do. If you pump water from across a long distance that costs energy. If you extract it from the ocean it costs energy. If you recycle it from waste water it costs energy as well—different amounts depending on the circumstances.

So, yes, there is a clear challenge there to be met, and that means you have to look closely at your opportunities to offset that challenge. The first way you start off is by trying to meet it at source—that is, manage demand so that the extent to which you have to access water, no matter where it is, is reasonably minimised. I will not go into it all now, but there are demand management initiatives that we are running in Sydney that by world standards are very big demand management programs. As an aside, we use as much water now as we did, I think, a decade ago even though we have 20 per cent more people trying to use it. So there has been a lot of progress made and we obviously have to continue that process.

But, having done what you can do on your demand management side, part of your choice about how to manage the situation is to pick the supply responses that minimise the whole community cost, including your environmental cost. That is substantially what the metropolitan strategy is about—it is saying, "Okay, given we've done basics, demand management et cetera, where do you get your supply from if you're going to have an influx of people?" The least economically and environmentally costly way of doing that is with the Shoalhaven transfers, which you and I have referred to. That is one reason why desalination is there as, if you like, a contingency draft plan rather than a centrepiece of your long-term plan.

Ms SYLVIA HALE: Would you not agree that rivers—I think you were talking about diverse run-offs over time—need low flows in order to allow vegetation to grow on their banks but they equally require high flows, or flood events, to flush the rivers because that generates fish spawning and a whole range of other things?

Mr EVANS: That is right.

Ms SYLVIA HALE: When there is the flood event at the Shoalhaven, which is when I understand it is proposed to bring the water up to Sydney, that is the time when the Sydney catchment area is likely also to be experiencing a flood event—heavy rain—and, in effect, that solution is not, from the point of view of the health of the river or as a major contribution to Sydney's water supply, particularly important, or at least the outcomes will not be significant.

Mr EVANS: If I can comment on that, first, when rivers in Australia flood they tend to flood very, very largely. The flow pattern variation of a typical Australian river is far greater than, say, the Rhine in Germany, because it is fed by drizzle, seepage and all that goes with it. So the principle of these transfers from the Shoalhaven is that you are able to extract a peak flow, which is a very large peak, without significantly impacting on the size of that peak. So the impact on fish habitat and the like is not significant because, essentially, your peak is so big that you are able to grab a little bit of that big flow as it goes past without fundamentally changing the characteristics of that peak. Of course, that all has to be subject to studies, environmental impact assessments and all that goes with it but I guess that is the opportunity that the Australian environment presents to us. We often worry—rightly—about the challenges we face but you have to learn to maximise the opportunities that your environment presents, and the very big variation in stream flows potentially provides you with an opportunity.

Ms SYLVIA HALE: Yes. But is the Shoalhaven not already experiencing problems with salinity, I understand about 12 kilometres from its source, and the prospect of lessening those flood events will have a bad impact on the river?

Mr EVANS: I will answer your question but I should say that the first thing to remember is that this is the responsibility of the Sydney Catchment Authority so you may want to put specific questions in its direction. But to give you a general response, the impact of tidal intrusion—which is what you are referring to in your question—is usually, but not always, a low flow event. As I said before, if you have a very big flood taking a bit of water off the top of that flood will probably not make much difference—but it all has to be subject to modelling and everything—to your trend saltwater intrusion because the saltwater intrusion issue is more a low flow issue. Anecdotally, I worked for some years in the tropics and when tropical rivers, such as the Daly and other in the Northern Territory, come down you can drink the water some miles out to sea because in the wet season there is a huge flow. That is the opportunity we have to learn to manage, while accepting the sensitivity of the low flow environment you referred to. We have to learn how to get the best out of it, as it were.

Ms SYLVIA HALE: Mr Nemptzow referred to the dual reticulation that has been in existence at Rouse Hill for the past five years, I understand. I presume that is what the Premier was referring to when he talked about his major investigation into water recycling in Sydney's north-west and south-west. It seems to me that they are investigating at the moment putting in place a system for dealing with an influx of people into those areas over the next 10 years.

Mr EVANS: Broadly, yes.

Ms SYLVIA HALE: But the problems we are facing at the moment involve the existing population rather than the demands of the future population. Is Sydney Water actively fostering or undertaking an extension of the dual reticulation system within the metropolitan area?

Mr EVANS: Good question. You are right that, in a sense, growth presents you with an opportunity to deal more sensitively with the growth. With respect to what I call the backlog, you have to look at what represents your best environmental and economic opportunities to get your gains. The fundamental observation or learning of the past decade is that you can get gains best in the backlog by going for a change in behaviour—change in the use of appliances within the home, change

in garden design and all that goes with it. That is because at relatively low cost to society and to the individual you can install water-efficient shower roses—which we subsidise heavily—and more water-efficient appliances et cetera at relatively low cost and with a subsidy. We apply a \$100 subsidy to households if they want to what we call "retrofit" the house. Around a quarter of a million people have made that choice, and that choice is still open to others.

But if you want to go further and, in a sense, mimic what you are going to get out in the new growth areas you have to create a dual reticulation system. The dual reticulation system has two issues. One, it is financially really expensive to do because you have to go into the established suburbs and literally dig them up—tear up the road and bury a new set of pipes. In doing that, you absorb energy and there are other environmental consequences. Secondly, you have to get recycled water to flow through those pipes and that means burning energy, if necessary desalinating et cetera, in order to create the highly treated water to put back through the recycled system. So when you do your total financial and environmental budget, if you like, on the whole idea, it turns out that you are better off looking to subsidise appliances, encourage change in garden design, require new and renovated houses to comply with the basics and all that sort of thing rather than, in effect, going out and retrofitting the plumbing that has arisen in the past 200 years. It is just environmentally and economically very expensive. I do not have the numbers but I suspect that it makes burying powerlines look like a Sunday school picnic in terms of cost.

The Hon. DAVID OLDFIELD: Mr Evans, in relation to the grey water issue that you have been talking about, in Western Sydney recently—I understand that it has happened before—there was a problem when the water connections were crossed, so to speak, and people were drinking grey water, washing and showering et cetera. I understand that there was some illness as a consequence of that and some 400-odd homes were affected, if I remember rightly. What sorts of steps have been taken to make sure that such a thing will not happen again?

Mr EVANS: Good question. It is really profoundly important to separate the two streams. One of the fundamental advances in community health in the past 100 years has been to separate the waste and fresh water streams. It is probably the single biggest contributor to improved community health that we have been able to achieve. So when we go into recycling we have to be very careful not to cross them or mix them up again. It does not mean that you cannot do it; you just have to be careful. In the circumstances to which you referred, on the evidence we have there was no health impact on people. The reasons for that are twofold. First, the recycled water is treated to a very high standard before it is put into the system. We consulted with the Department of Health et cetera to confirm that. Of course, it is one reason why the recycling options are quite expensive—you cannot just recycle any old flow; you have to get it almost to drinking standard before you do it.

Secondly, you asked what you do about it. Clearly, you have to have really strict plumbing inspection and quality controls to protect against accidental or deliberate cross-contamination. In the particular case to which you referred there were some very strong barriers put in place. It was a cross-connection that arose from a house under construction, not from a house that was occupied. There was a deliberate act by somebody to remove a couple of these barriers that provide the protection to prevent those things happening. We are fully investigating that and also formally reviewing the whole risk chain, if you like, from a level of treatment right through to your plumbing inspections et cetera to ensure that events of the sort that you referred to are eliminated or minimised. So we are very conscious of the learning in that. We think it is very important to be able to act decisively, and we are.

The Hon. DAVID OLDFIELD: Thank you for that. It was recently pointed out to me a situation in Kirribilli where water crossing one person's property was providing the water for the property next door as well but the metering was only taking place on the initial property from where the water was crossing. A complaint about this caused Sydney Water to rush immediately to the scene and cut off water to the inside property, if I can put it that way. Of course, that situation is not the fault of the people living in the inside property. What sort of responsibility does Sydney Water have to reconnect those people?

Mr EVANS: I do not know of the particular case.

The Hon. DAVID OLDFIELD: I would not expect you to.

Mr EVANS: I will get back to you on the details of that. There are occasions in some very old suburbs in some cities in Australia—I cannot comment about this particular case—where there are things called "shared services". In those cases we are dealing with plumbing that might have been put in 100 years ago. So it may have been the result of some historical arrangement that was not on the books, as it were.

The Hon. DAVID OLDFIELD: It would have been because all the properties were on the one title at one stage.

Mr EVANS: Yes, it may have been a common title thing. Wherever possible we like to ensure that individual consumers have their own meter so that they are getting signals about their consumption through price et cetera. Wherever possible, if we detect something like that, we will get out there and give them their own meter and make sure that the neighbour is not paying for the water.

The Hon. DAVID OLDFIELD: But as a general question: What sort of responsibility do you take to reconnect people under these circumstances? You have a situation where you have two houses with water crossing the land of one to get to the other. It is discovered, almost by accident, that the metering is only taking place on one property and, as a consequence, the innocent people next door have their water disconnected.

Mr EVANS: I see. I will have to look into that. I do not know the details of that case but I will find out. Without wishing to sound reactive, I have learned from being in the water industry for 15 that you have four million customers out there and individual circumstances can arise as a result of historical plumbing or whatever where, to answer the question, you have to get in and understand the history. I will take that on board and find out.

The Hon. DAVID OLDFIELD: I have been to the site and I understand its history. I am concerned about the fact that innocent parties have been completely disconnected from their water.

Mr EVANS: They have not been reconnected?

The Hon. DAVID OLDFIELD: No, they have not been reconnected.

Mr EVANS: I will definitely look into that.

The Hon. DAVID OLDFIELD: There is some discussion about who will be responsible for costs, et cetera, to reconnect water to a property that has had water for 80 or 90 years but that has suddenly been disconnected.

Mr EVANS: I will ensure that that is chased up. Perhaps I could get the address from you later. I assure you that we will be onto that.

The Hon. DAVID OLDFIELD: With regard to water restrictions how would you gauge the success of water police and fines, et cetera?

Mr EVANS: The approach to water restrictions right around Australia, first and foremost, is to try to secure and retain community support. We are dealing with a situation where what matters most is people's preparedness to co-operate. The water police are there not to provide day-to-day perfect enforcement; rather they are there to show those people who are doing the right thing that they will crack down on those who blatantly are not. We have issued some thousands of notices and fines. I think their major advantage is not so much to frighten people into behaving; rather to reassure the community that if someone is not behaving we will not stand back and let it happen.

At that level I think they have been reasonably successful. We have to go on results. As I said earlier, we are getting in excess of 10 per cent less demand than under a situation without restrictions, which I think is a terrific outcome. The effect of that—in Canberra, Perth and everywhere else—is that it helps to put you in a situation where society can manage reasonably well with a drought, which is part of Australia's environment, without necessarily being drawn unreasonably into premature desalination or whatever. So I think there is a community payoff for people's co-operation. These

other alternatives cost community resources and, as we all know, those resources can be used elsewhere.

CHAIR: I call Government members.

The Hon. DAVID OLDFIELD: Have you had any problems in getting funds from people?

The Hon. JAN BURNSWOODS: The Chair called Government members.

The Hon. DAVID OLDFIELD: I did not hear that. Could the Chair monitor more closely the 20-minute period so that members on the crossbenches get 10 minutes each?

CHAIR: Yes. I call Government members.

The Hon. ERIC ROOZENDAAL: What has Sydney Water done about reducing leaks in its own system?

Mr EVANS: I referred earlier to the preserving of consensus of support in a community when you are in a difficult time like a drought. Part of that is for Sydney Water to be doing its own bid as well, both during droughts and between them. I will give you a little bit of background as I think it is important to put my answer into context. We have about 20,000 kilometres of water mains and around five million rubber joints or plastic joints that sit between each length of main. Water supply systems around the world have these; there is nothing unique about us. Water supply systems around the world therefore suffer from leakage and that leakage is typically not an obvious gushing water main or a burst water main, which is very telegenic; it is slow leakage from one of these five million joints, or in fact many of them, or slow leaks below the surface.

Over time water utilities—Sydney Water has been very active in this—use emerging technology and extra resources, that is, we put in more money to drive down that leakage level. We have driven it down by around 10 per cent or more in the last year. That compares favourably with the Australian average and more than favourably with most experiences overseas. We are doing that by inspecting one-third of the mains every year and by a \$80 million program of mains replacement and repair. In an ideal world we would all prefer it if no main ever leaked and none of these five million joints ever seeped, but they do. In deciding how to spend the community's resources we have to ensure that we spend them in a way that reflects best value in total water saved. So we are actively improving leakage performance but we have to accept that it is a bit like painting the Sydney Harbour Bridge—the job never finishes. The extra money we put into that will reduce leakage but there will always be some leakage.

The Hon. KAYEE GRIFFIN: What is the status of Sydney Water's residential retrofit program? Is it assisting householders to save water?

Mr EVANS: Yes. As I said earlier, by national standards Sydney Water runs a very aggressive program of demand management. An important plank of that is individual property retrofits. In answer to an earlier question I was explaining that we believe that represents much better value to the community than digging up the suburbs and building a dual water reticulation system. So we have an arrangement under which we will provide on a subsidised basis around \$130 worth of retrofits for shower roses, water-efficient tap fittings, et cetera, if householders request it. We will do that for around \$20. So we promote very aggressively the availability of that program. Around 260,000 properties have exercised that option in the past few years. That, in turn, has made very substantial water savings that help us in the long run but that also help us through the drought. I can provide separately if you wish specific numbers relating to those savings.

The Hon. KAYEE GRIFFIN: Yes, I would appreciate that.

The Hon. JAN BURNSWOODS: Could you tell us about the use of the northside storage tunnel? I guess in times of drought it is not used as much as it was in earlier flood times. Having served on three upper House committees relating to this matter I feel I would like an upgrade.

Mr EVANS: That is a good question. What we often forget during droughts is that the other side of the coin is the flooding rains. Around \$450 million of community resources were put into that northside tunnel, so you want to be assured that it functions. The tunnel has been functioning for about four or five years. I am sure you are aware how it works. You probably know a lot more about it than I do, having been on committees. It is designed to capture wet weather overflows that arise from storm events. Even though we have had relatively dry period in recent years I am informed it has operated on some 70 separate occasions and that has captured 15.5 billion litres of effluent that would otherwise have overflowed into the harbour environment.

You might well say, "What happens to it if it does not go into the harbour?" The answer is that what is called effluent or wet weather flow interception transports the flow to sewerage treatment plants where they receive some treatment, but otherwise in extreme events they bypass to the ocean outfalls. So you avoid this influent being discharged into a confined space with lots of human and ecological use, such as Sydney Harbour, and you divert it out through the long ocean outfalls. I guess it is a bit similar to the answer I gave about desalination. We are seeking to ensure that our impact on receiving environments reflects the nature of those environments. The Pacific Ocean is the world's single biggest entity—it is an incredibly big, robust and diverse place—whereas our harbour is obviously much smaller and more sensitive. We are learning over time how to ensure that our human impact is allocated to the environment where it can best absorb it. I guess that is what that tunnel is all about.

The Hon. JAN BURNSWOODS: Has anyone done any research, or is it possible to measure whether the extent of the clean-up of Sydney Harbour—the return of whales and so on—is related to things like the northside storage tunnel and other stormwater retention steps that have been taken over the past decade or so?

Mr EVANS: There is no doubt that there is immeasurable improvement to the receiving environment because you know that these flows are not ending up there. As you said, there are also a number of other impacts, such as improved stormwater management, hopefully better community behaviour in relation to the picking up of litter and things like that, which also contribute. So it is difficult to isolate it. But I think there is a fair bit of evidence that it is a better and cleaner environment now. I will take on board whether I can obtain for you any more explicit data.

The Hon. KAYEE GRIFFIN: What is Sydney Water doing in working with businesses to reduce their water consumption?

Mr EVANS: As I said earlier, one of the long-term objectives of water management is to broadly keep the community on side and informed about the things that you are trying to do. You exist as a water utility, not as something separate from the community but part of it. You are using their resources to do things for them. An important part of that is to be operating at all levels of the community. So if you are looking at water conservation you obviously want to improve your own performance. As we have discussed, you try to assist households with improving their performance through water efficient appliances, et cetera. Another big user is industry.

As David Nemtzw said earlier, we attempt to avoid in Australia unduly mandating how people use inputs to their businesses. We have to remember that they employ people and that they are part of our economy. We have found over time that the best way to manage the business relationship is to involve them in a program that we call Every Drop Counts, under which we recruit businesses. We have had around 240 of them on board in recent years. Basically, we get in and assist them in understanding their use of water. We examine what opportunities there are for improvements and we encourage and promote those opportunities through a system of awards, communication, et cetera. In a sense it is a big customer service.

It is a special service for big customers, but it is designed to help them save water. It has produced enormous savings, often for very low investment. Sometimes businesses miss things out in their own decision-making processes. We have had cases where people have been able to improve their water efficiency enormously with what are relatively minor investments. So we are proposing to continue that Every Drop Counts Program with business. Basically, we will ensure that they, along with the rest of the community, remain on side.

The Hon. KAYEE GRIFFIN: Sydney Water has run a number of projects in conjunction with high schools. I am aware in particular of the water quality project that was run in conjunction with Canterbury Girls High School. You might need to take these questions on notice. How many projects are running? How important is the water quality information that is coming out of those high schools?

Mr EVANS: There are two parts to your question. Sydney Water participates heavily in a program called Streamwatch, which is what I suspect you are referring to?

The Hon. KAYEE GRIFFIN: Yes.

Mr EVANS: In conjunction with the Department of Education and Training we incorporate water and catchment awareness programs into the syllabus for primary and secondary schools. Apart from educational assistance it also involves providing laboratory kits that enable students to measure water quality performance in sensitive catchments and to understand turbidity, conductivity, suspended solids and all sorts of things. We collect data from that which also helps us to understand the state of the catchments. The idea of that is to give students not just propaganda about water quality and the importance of the environment but also things that are integrated into their day-to-day education and experience. That very positive scheme applies right throughout our area. If you like, I will obtain more detail on the number of schools that have been impacted.

The Hon. DAVID CLARKE: Mr Evans, what is the current water volume as a percentage of capacity at Warragamba Dam?

Mr EVANS: I will have to take specific advice on this, but I think Warragamba is around 38 per cent or 39 per cent. There has been rainfall in the past week and I do not have the figures in front of me. But I can get those figures or get them through the catchment authority.

The Hon. DAVID CLARKE: Is that 38 per cent or 39 per cent readily available and accessible at present for consumption?

Mr EVANS: Yes. I think what underlies your question is the issue of access to the so-called deep storages?

The Hon. DAVID CLARKE: Yes.

Mr EVANS: Do you want me to explain that?

The Hon. DAVID CLARKE: Yes.

Mr EVANS: The amount of water available is measured not literally by the quantity of water in the 11 dams but by the quantity of water that is above the existing off take points. So, when we say the total storage is 43 per cent, it is 43 per cent above the off take point. What that leads to, and this is common around the world, when dams were built, and it might be 50 years ago or whatever, for a particular technology there is an off take point. It is a bit like having a bath and not having the plug in the bottom but having it a third of the way up the wall. For whatever reason, that is how those dams were constructed. That provides an opportunity during times of drought and before desalination might be necessary—this is in reference to that earlier question—to shift the plug from the side of the bath down towards the bottom. That work is proceeding now and that effectively gives us extra storage to utilise if the drought went on. That work is at a cost of around \$100 million that is being conducted by the Sydney Catchment Authority, the owner of the present dams. That is one reason why it is not correct just to say if the storages keep going down we will run out on a particular day, because in addition to inflow you are going to get a boost from being able to access that residual water.

The Hon. DAVID CLARKE: What would happen if that additional pumping equipment was not installed?

Mr EVANS: The first thing is, bearing in mind it has not been there for the past 100 years, if we had normal rainfall events, in the short run it would make no difference at all. However, if it were not to be installed and your worst-case scenario of deterioration of supply were to continue, you

would get to a point where you had that additional storage there but you could not access it because of the design of the off take points. That is why as part of the metropolitan strategy announcements the work is being done to effectively shift the off take points lower so that that would be available in the event that supply deteriorated.

The Hon. DAVID CLARKE: Shifting to another matter, the question of saving water, are you aware of a problem in Governor Macquarie Tower, the home of most Ministers, where all the urinals are flushing 24-hour a day?

Mr EVANS: Yes, we have approached the owners of that building, a property management consortium, to participate in the Every Drop Counts program, and they are considering that. We have written to them in January with a further invitation for them to participate. The issue is not entirely unlike the discussion I had before about retrofitting dual pipe systems in the suburbs. The issue all property owners have to consider is the cost of retrofitting the new appliances into a building they have already constructed. As I said earlier, we have avoided the route of mandating to people how they must use water, but we have followed every encouragement to encourage people to make change, and we will continue to do that for Governor Macquarie Tower.

The Hon. DAVID CLARKE: How long has a problem been continuing in Governor Macquarie Tower?

Mr EVANS: On my memory, the building was constructed in excess of a decade ago. Once it was constructed, legal responsibility for how it is run rests on whoever holds the lease. Therefore, the method of plumbing that exists there would have existed since construction.

The Hon. DAVID CLARKE: So that 24-hour-a-day, seven-days-a-week flushing of urinals has been going on for 10 years?

Mr EVANS: I am not certain that there is 24-hours-a-day, seven-days-a-week flushing. That is something I would have to take on notice. I suspect, and again I would have to take this on notice to confirm it, the plumbing configuration in most buildings that are relatively new is unlikely to have been changed in recent years, without a conscious act. I would have to check whether there has been a change in that duration. I will get back to you on that.

The Hon. DAVID CLARKE: If you will take that on notice?

Mr EVANS: I will. I would be happy to do that.

The Hon. DAVID CLARKE: And also if you could take on notice what steps Sydney Water has taken in the past to try to bring that matter under control?

Mr EVANS: Certainly.

The Hon. DAVID CLARKE: While on rules for consumers and rules for government, are you aware there is not one dual-flush toilet operating in Parliament House, or should I say is that the situation?

Mr EVANS: I am not familiar with that detail. I will have to find that out. I am aware that Parliament has signed up to be a member of the—

[Interruption]

The Hon. DAVID CLARKE: You would agree, Mr Evans, it would create a very bad public perception if we are calling on the public to take action on matters like this and the same action is not being taken by the Government?

Mr EVANS: In this case we have conducted a survey of Parliament House. It is a member of the Every Drop Counts program. I am informed that the following things have happened: it has installed triple-A-rated shower heads throughout the building, 68 in total; it has installed flow restrictors in amenity hand basins, sensor operated flush systems for urinals, which I suspect addresses

the issue you were referring to with respect to the other building; it is changing the management of cooling towers and it has made some other operational changes to how water features and the like are managed. I will have to get back to you, because I have not researched the question of how the toilets are configured.

The Hon. DAVID CLARKE: Is there an updated drought management plan?

Mr EVANS: There is a current drought management plan that we are operating under. I will have to check the definition of what you mean by updated. There is a current one, and I will get back to you on the question of when it was updated.

The Hon. DAVID CLARKE: When did that management plan come into effect?

Mr EVANS: As I say, I am not familiar precisely with a date when the current version was updated, but it is a plan we have been operating off in the time I have been in the organisation, as far as I am aware.

The Hon. DAVID CLARKE: What would you say if I suggest that Sydney Water and the Government have said that the contingency options contained in the current drought management plan are outdated?

Mr EVANS: What I would say is that whatever we do as droughts unfold reflects the best knowledge that exists at the time. If you take, for example, the past 12 months, there has been substantial improvement in knowledge, for example, of the lead times, possible technologies and other arrangements that could be brought to bear for application of desalination on an accelerated basis. So, I would probably say to you that almost any plan in this area that you have is continually in need of update. That is not to take the negative view that it is out of date but you need to ensure you are able to implement whatever is the best practice available at the time. That spans across a whole range of things we have already discussed today—supply responses, community education, enforcement, restrictions, et cetera. When you look at the total span of options, I believe the approach being taken is right up there with best practice.

The Hon. DAVID CLARKE: You are very familiar with the current drought management plan?

Mr EVANS: I am familiar broadly with its contents but I am not familiar with the precise details of each component of it. But I am familiar with what we are doing to deal with the drought.

The Hon. DAVID CLARKE: So you are not in a position to say it is fully updated or not?

Mr EVANS: Typically with plans of this sort—and you have to appreciate that in a big organisation you have many plans, whether they be safety plans or drought plans or acid management plans, a whole range of plans on the key things that matter to you. You update them periodically to reflect the learning, say, of a 12-months or 18-months period, or every two years or whatever it may be. You do not continually update and reform plans every single time because clearly that is inefficient and you could find yourself doing a lot of planning and not much else. We will be revising the formal drought management plan in the light of the knowledge acquired from this drought and from similar drought is in Melbourne, Perth, Canberra, et cetera. So, there is not a continuous formal updating process but there is a process to make sure we are constantly harvesting the available knowledge and bring it to bear.

The Hon. DAVID CLARKE: If you can take on notice and let us know when it was last revised?

Mr EVANS: Yes, fair enough, not a problem.

The Hon. DAVID CLARKE: If indeed it has been ever revised.

Mr EVANS: Yes.

The Hon. DAVID CLARKE: Has Sydney Water looked at all since 1995 at the possibility of recommending the need for construction of another dam?

Mr EVANS: In the time I have been in the organisation, which is only 10 months, 11 months, the responsibility for bulk water—in fact, for most of the period you referred to—has been that of the Sydney Catchment Authority [SCA]. They are the ones handling the deep storage matter that we referred to and all the bulk supply issues. So, the question of planning for construction of dams appropriately rests with the catchment authority, not us. We have been asked to look into the desalination question but the bulk storage question is statutorily and operationally the responsibility of the SCA.

The Hon. DAVID CLARKE: That drought management plan, would you be able to arrange to produce a copy of the plan for this Committee?

Mr EVANS: I will look into that. I suspect that would not be a problem.

CHAIR: Can you advise the Committee how many water police, so-called, there are at the moment and has that number been declining?

Mr EVANS: I will give you the answer to the best of my knowledge. I think that number is around 50, but I will confirm the precise number. To my knowledge, no, it has not declined. But as I said earlier, we have equally not sought to overraise the reliance on enforcement, because of the importance of maintaining a community consensus to this approach rather than a punitive one.

CHAIR: You might care to provide us on notice how the number has gone up and down?

Mr EVANS: Yes, no problem.

CHAIR: And what was the maximum number at the business period compared to now?

Mr EVANS: Yes.

CHAIR: And how many vehicles are allocated to those personnel?

Mr EVANS: Yes.

CHAIR: And the source, where do they come from? Do they come out of the maintenance works section of Sydney Water?

Mr EVANS: I can tell you they come from a variety of places but I will be able to break that down for you.

CHAIR: And also if you could provide the Committee with up-to-date statistics in relation to the fines on a month-by-month basis and suburb by suburb and local government area?

Mr EVANS: Yes.

CHAIR: Those imposed by Sydney Water or by local councils? That would be appreciated.

Mr EVANS: Not a problem. I can tell you the number of fines is around 2,000 in total.

CHAIR: Getting back to the earlier question of the Shoalhaven transfer issue, the Premier, I think, has said that an extra 145,000 megalitres would come from such transfers and from deepwater storage. You earlier told the Committee that the Shoalhaven transfer is not a definite project; it is still being evaluated, so it is possible, is it not, that it might never actually come on board?

Mr EVANS: Well, I did not mean to imply it was not a definite project. I was trying to imply that, as with all projects of that magnitude, you need to do your full engineering, environmental assessment, et cetera. The actual execution of it is, again, the responsibility of the Sydney Catchment

Authority, so specific questions should be directed to them. But I should correct any impression I may have given that it is not a definite project. It is a definite project.

CHAIR: When would be the earliest that such a project could come on stream, so to speak?

The Hon. JAN BURNSWOODS: Point of order: This witness has said in answer to many questions about this that it is not a matter for Sydney Water, it is a matter for the catchment authority.

Ms SYLVIA HALE: Well then, he can say so again surely rather than you say it for him.

The Hon. JAN BURNSWOODS: I believe the catchment authority comes within the portfolio of the Minister for the Environment. I ask you whether it is appropriate for questions to continue to be addressed to a witness from an authority that actually has no jurisdiction in this area, particularly given that General Purpose Standing Committee No. 5 is having its own estimates committees within the next week or two. Surely to go over and over a series of questions that have nothing to do with the jurisdiction of Sydney Water is quite an inappropriate use of the time of this Committee.

CHAIR: I would say in response to that that Mr Evans has already told the Committee that he works with the Sydney Catchment Authority obviously, so I will repeat the question.

The Hon. JAN BURNSWOODS: But Madam Chair—

CHAIR: I have answered your question.

The Hon. JAN BURNSWOODS: I am getting very close to moving dissent from your ruling, I must admit, but may I try again. We have now had a number of questions in which the witness has said these are not within the jurisdiction of Sydney Water. There is a quite separate body. It comes within the portfolio of another Minister.

CHAIR: I understand that.

The Hon. JAN BURNSWOODS: I would repeat: it is not appropriate for you to continue directing questions to the wrong agency. I would ask that if you do want these questions asked, you make some arrangements with some of your colleagues to ask them in the appropriate committee while witnesses from the appropriate Minister are present.

CHAIR: Obviously if water is transferred from the Shoalhaven into the Sydney catchment then obviously it is of direct relevance to Mr Evans' jurisdiction, so I will ask the question again.

The Hon. JAN BURNSWOODS: It is not obvious at all. In fact, many people would argue that that is a total misapprehension of the way in which the system works.

CHAIR: My question is: From Sydney Water's point of view, are you able to tell the Committee if the Shoalhaven transfer comes on board, what is the earliest time that you would expect it to be operational?

Mr EVANS: I can respond at two levels. First of all, I would encourage you to address your specific questions to them because they are the ones doing the necessary re-evaluation and that involves knowledge of contractual possibilities, lead times for approvals, et cetera, and that is one reason I am reluctant to speculate as to how the day-to-day progress of that is going. For these sorts of projects where you are spending hundreds of millions of dollars sometimes of community resources, my experience has been that it is very important to make sure that comments are not made about delivery times and the like which are not well informed because otherwise you can compromise the efficiency, from the community's point of view, as to how you actually go about delivery.

What I can say, though, is that the Metropolitan Water Strategy, which is a matter of public record, says that "it is expected that construction of stage one of the new infrastructure will commence by 2007, to be completed by 2009". So that is a matter of public record in a published document and, for the reasons I have enunciated, I would like to limit my comments to that.

CHAIR: Sure. Do you know what proportion would be dead storage compared to the actual transfer of water?

The Hon. JAN BURNSWOODS: Here we go again. This is not appropriate. It would be like asking the staff of the Minister for Education and Training these questions. They are out of order for General-purpose Standing Committee No. 4.

CHAIR: Mr Evans, can you answer that question?

Mr EVANS: I would simply say that the quote I read is in relation to the Shoalhaven transfer, it is not for the dead storages. They are two quite distinct projects with their own budgets, scheduling, contractual and development consent issues and that is why it is important, I think, that you get the story from the horse's mouth.

The Hon. DAVID OLDFIELD: What sort of success is Sydney Water having with regard to the water-saving devices that you are subsidising, like the showerheads? Are there any numbers that we might understand?

Mr EVANS: Yes. I would just have to get to the specific briefing that I have on that because I have not got the precise number at the forefront of my mind. But essentially what we are finding is that you go to a house with a retrofit and in the vast majority of cases people are accepting its installation and retaining its use. The effect of that is that every day when they have a shower or whatever, there is a saving introduced by the water-efficient appliance, et cetera. Based on the numbers which, if you just give me a second I should be able to get out for you—sorry, I might have to take it on notice—but there are some precise numbers that I can provide, which go through the specific savings per household that we believe we are achieving and the aggregate savings that are achieved when they are all added up, but I will have to get them to you on notice. I apologise, I have not got them immediately here.

The Hon. DAVID OLDFIELD: That is all right. I am happy to get those on notice. I started to ask this before. Just briefly, what is the success with regards to the actual collecting of the moneys from fines from the 2000-odd people?

Mr EVANS: Again, I will take the detail of that on notice.

The Hon. DAVID OLDFIELD: Sure, that is okay.

Mr EVANS: My understanding is that that has not been a significant issue. It is essentially like an infringement notice and people who wish to can contest it, but most people, I think, do not contest it, but I will get you some numbers, if you like, on the payment rate.

The Hon. DAVID OLDFIELD: Okay. Whilst you did not raise this before when you were answering the Hon. David Clarke with regards to dual flush toilets and what have you in Parliament House, I expect that it is Sydney Water that is undertaking the flushless urinal experiment on floor 9?

Mr EVANS: I am sorry, I have not visited floor 9.

The Hon. DAVID OLDFIELD: I am trying not to these days.

Mr EVANS: I will have to take that one on notice as to who is involved with that.

The Hon. DAVID OLDFIELD: I am presuming that it is you guys; I cannot imagine who else it is. A plumber came in and changed all the urinals around and there is no water down there anymore. There are pretty interesting aromas and what have you. Could we get some sort of full understanding of where that is going and so on?

Mr EVANS: Yes, I would be happy to get you some feedback on that.

The Hon. DAVID OLDFIELD: Thank you.

Ms SYLVIA HALE: In terms of water consumption, what is the break up between domestic usage and industrial and agricultural usage in the Sydney Basin or the Sydney area?

Mr EVANS: In the Sydney Basin—and I will confirm these numbers—Sydney is increasingly becoming a services sector economy and so our large industrial users are tending to become less relatively significant and we are getting more and more residences as the nature of the economy of the city changes. I will get out some numbers which show the trend of that because I think the level is interesting, but the trend is really interesting too because it does reveal a lot to us about what we have to do to pursue water savings in the future. We have got to fight next year's war not last year's war, and increasingly water use is going to be dominated by the residential sector. The break down—and I will have to confirm these, but to the best of my knowledge the break down is around a 70:30 split.

Ms SYLVIA HALE: Seventy in favour of industry?

Mr EVANS: No, in favour of domestic, and then importantly within the household about 25 per cent of that in normal conditions is outdoor use, so when you are looking at demand management and other things you do, you have to break down the composition of demand in the way you are complying to work out which bits, if you like, can you attack most effectively, and discretionary outdoor use is usually regarded as, in a sense, easier to get at than indoor use because of some of the points that were made just then, but industry reuse can sometimes be very effective because you get a big bang in a particular site.

An example of that is the BlueScope Steelworks in the Illawarra, where we are constructing a recycling scheme that will be the biggest industrial recycling scheme in Australia, which basically recycles highly treated water into what used to be the BHP steel plant down there and will release, I think it is around 20 per cent of the storage capacity for the Illawarra for other use. But, regrettably in a way, the Sydney economy is expanding in a way where there are not very many BlueScope Steels, so you have to be looking on a horses-for-courses basis at basics and all those other measures.

Ms SYLVIA HALE: When you say, "we are constructing", is that Sydney Water?

Mr EVANS: Sydney Water.

Ms SYLVIA HALE: Does that mean that Sydney Water is paying for it even though, presumably, one of the big beneficiaries is going to be BlueScope Steel?

Mr EVANS: Which we will sell the effluent to them. Rather than selling them freshwater we will sell them effluent and, therefore, release the freshwater supplies for other uses.

Ms SYLVIA HALE: I can certainly well appreciate the political problems if it came to adopting a more punitive approach to domestic usage and the installation of appropriate water-saving devices, but I would have thought those problems did not exist in relation to industrial use because, after all, industry is subject to so many mandatory requirements in terms of disposal of what it can tip down the sewers and whatever. Is it counterproductive to pursue a more aggressive role as to water efficiency use in relation to industrial purposes?

Mr EVANS: This gets to the heart a bit of the philosophy of how governments want to govern really and, therefore, I can make some observations but I am not the decision maker here. But from a utility point of view, we do try to avoid mandating where you do not have to. As you say, there are some mandates. People cannot run an industry and discharge harmful things into the sewer that might impact on our work force or impact on the treatment or the receiving environment. I think that everyone accepts that is the law and that is what you do. On this broader issue of water consumption, as I have already said, the judgment we have reached so far is that it is better to try to bring people with you rather than enforce and, in particular, what we have to deal with here is that from an industry's perspective, we may say, "Well, this is only one more regulation. What are you worrying about?" Industry might say, "Yes, but it is one of a whole string that tends to make us not want to do business in New South Wales", so there is the need to preserve that balance.

The other difficulty is that if you enforce something, what do you enforce? What is inefficient use? For a given technology, say 10 years ago, you may have said to someone, "Well, you should do X". Since then technology might have changed. For example, with the reverse osmosis that was used in desalination, we know there has been enormous change and there are new opportunities and it is a lot cheaper than it used to be, et cetera. So what you might enforce is a constantly moving feast and it is, I think, a bit of a risk for government and utilities to be painting themselves into a role of directing in such a dynamic environment. You run the risk, I think sometimes, that industry just sits back and says, "Well, you tell us that", and you are then lagging behind technology change and you remove from them the incentive to look for the best answer themselves. I think it is a pretty complex question.

Ms SYLVIA HALE: You spoke earlier of the expense of installing dual reticulation in existing built-up areas. I presume with relation to the Premier's announcement yesterday where he is investigating a public-private partnership out at the new release that that is a way of suggesting that private enterprise pick up the tab for that, rather than the Government. How far is Sydney Water constrained in the infrastructure improvements that it undertakes by the need to pay dividends to the Government?

Mr EVANS: The dividends that Sydney Water and every other water and power utility in Australia pay are paid out of post-tax earnings. We run with the view that we will invest in maintenance and additions to infrastructure in a way that minimises the aggregate cost to the community. We have asset management and maintenance plans and capital expenditure plans. We are expending \$500 million a year on capital, which is much higher than the figure four or five years ago. They are all predicated on our believing that by doing that we minimise the cost to the community. Therefore, we invest consistent with those rules and the payment of the dividend comes after we look at the profit following investments.

We go to IPART and say what we want to spend on operating and capital investment in the next four or five years and we present the rationale. We are happy to have it scrutinised at public hearings and so on. However, we also say what we believe will yield the best outcome for the community and that that is what we want to do. IPART gives us the money and we go away and do it. If that means we do whatever we must, we do it. However, we do not capital ration ourselves because we have to pay a dividend. That is a very important principle that we must maintain because our job as the steward of the \$20 billion of assets is to ensure we look after them on least-whole-of-life-cost basis. As is the case in all of these situations, one must spend money to save money and to get good outcomes. In a nutshell, that is the approach we take.

CHAIR: Mr Evans, thank you for your time today; we appreciate it.

Mr EVANS: No problem.

CHAIR: We will probably see you again at budget estimates.

Mr EVANS: I imagine you will.

The Committee proceeded to deliberate.
