

CORRECTED VERSION

ENVIRONMENT AND NATURAL RESOURCES COMMITTEE

Inquiry into Melbourne's future water supply

Melbourne — 8 September 2008

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Witnesses

Mr B. Furmage, general manager, strategic planning, and

Mr C. Chesterfield, general manager, waterways, Melbourne Water.

The CHAIR — I call our next witnesses: from Melbourne Water, Ben Furmage, general manager, strategic planning, and Chris Chesterfield, general manager, waterways. I remind witnesses that all evidence taken at this hearing is protected by parliamentary privilege under the Constitution Act 1975 and further subject to the provisions of the Parliamentary Committees Act 2003. Any comments you make outside the hearing may not be afforded such privilege. All evidence is being recorded today, so could you speak clearly so Hansard can pick it up, and also be conscious that there are people in the audience who might want to listen to what we are saying. Witnesses will be provided with proof versions of the transcript in the next couple of weeks, post this hearing. Thank you very much. I will allow you to present. Who is leading?

Overheads shown.

Mr FURMAGE — Chair, members of the committee, I am Ben Furmage, the general manager, strategic planning, and this is Chris Chesterfield, general manager, waterways. In making my presentation today I would firstly like to run through Melbourne Water and our current operating environment. I would also like to outline our contribution to meeting Melbourne's water needs in terms of, in the short term, making the most of available supplies; in the medium term delivering some major increases in the size and diversity of our system; and then also supporting planning for the longer term.

In terms of who we are, Melbourne Water is a statutory corporation fully owned by the Victorian government. We provided wholesale water, sewerage and recycled water services to metropolitan and regional retail companies. We also provide drainage and waterway services throughout the Port Phillip and Western Port catchments. The nature of our business means that we are involved in most elements of the urban water cycle, providing opportunities for integration. We manage around \$8.7 billion-worth of man-made assets, as well as an extensive network of natural assets, such as rivers and creeks, spanning an area of approximately 12 800 square kilometres.

In providing services we work with government, the private sector and the community to deliver a sustainable water future. The graphic on this slide, which is probably easier to read on your handouts, shows the current industry structure and roles and responsibilities. At the top you have got the government providing the regulatory and legislative framework. That is enforced by a suite of independent regulators. The water businesses are below that, providing services to our customers. The commercial relationships between Melbourne Water and the retail businesses are governed by bulk water supply agreements. Retailers have customer contracts with their customers.

In terms of the water supply system, we manage an integrated network of large harvesting storages as well as a suite of seasonal balancing storages. That integration enables us to move water around the system to meet a range of quality, cost and security requirements. Our system also has a significant amount of storage capacity, particularly the Thomson Dam, that provides us with a buffer to help us through dry times, but obviously when that buffer is drawn down, it takes time to recover.

We also have the benefits of protected catchments. We are one of the few large cities in the world that has protected catchments. That, combined with the largely gravity-based transfer system, means that we are a relatively low-cost and low-energy footprint water supply business.

Moving to the sewerage business, we collect wastewater discharged to the reticulation networks and transferred through by the retail companies. We use around 400 kilometres of large transfer mains. Again, they are mostly gravity fed, although we do have four large and a number of smaller pump stations. We have two treatment plants — in the east and west of Melbourne — and we have achieved a good history of 100 per cent compliance with EPA requirements in returning that water to the environment.

We also have an increasing history of recycling and reusing treated wastewater. In 2006–07 Melbourne Water recycled around 61 billion litres. There are also a number of local treatment plants dotted around Melbourne. When you add the recycling achieved from those plants, that number goes up to around 66 billion litres, or around 22.5 per cent of the total wastewater received.

We currently supply two classes of recycled water. Obviously the higher the level of treatment, the more flexibility that you have in reusing the water.

The picture at the bottom there is our Hoppers Crossing pump station. That has recently been converted from potable to recycled water, saving about 100 megalitres a year.

To our waterways business, we are responsible for managing waterways, flood plains and regional drainage, and we aim to protect and improve river health and increase environmental, economic and social value. We also manage flooding risks across the greater Melbourne area and the Port Phillip and Western Port catchments.

Our service area covers the entire Port Phillip and Western Port catchments following the extension of our area in 2005 by order in council. That includes around 8400 kilometres of waterways.

Water-sensitive urban design is a key driver for us, particularly in accommodating growth. As the graphic shows, that can take place at a household, at a local and at a regional level. There are some additional photos in your handouts providing illustrations of the sorts of things that we have been doing. We can take questions on those during the question time.

To our recent operating environment, as alluded to earlier, we have had a step-down in the inflows to our major storages. The last 11 years have been the lowest on record in terms of inflows. The last 11 years are 37 per cent below the average of the preceding 84 years. That includes three significant El Nino events in 1997–98, 2002–03 and 2006–07. With those lower inflows our storages have declined. We have had two years where the reduction over the 12 months has been at least 20 per cent, and we have only had three years where we have had a positive increase over the course of the 12 months, and in each of those three years the increase was less than 6 per cent. We have had a draw-down in our storages and an increase in restrictions as a result.

In terms of the community's response, it has been very impressive. The top graph there shows the reduction in total demand, and below that is the reduction in per capita demand. Per capita levels have dropped significantly — 34 per cent as discussed earlier by Mr Harris— relative to the average in the 1990s. We are now down at levels that have not been seen since the late 1930s, so we have achieved a lot with demand management to date and while it is clearly part of continuing to conserve water and managing our scarce water resources, it is unlikely that demand alone will recharge the storages.

The water businesses are also making sure that their own houses are in order through reducing system losses, and improving the way we manage and monitor the qualified environmental flows. We are protecting water quality. We have a range of measures in place and more contingency measures available if water quality becomes an issue because storages start to get low, and we are also supporting retail water conservation initiatives.

This is the chart that was put up earlier showing the augmentations set out in *Our Water Our Future — The Next Stage of the Government's Plan*. Melbourne Water's contribution to this is that we are delivering a number of these, including the Tarago treatment plant which will provide on average another 15 gegalitres a year. We are also delivering the pipeline for the Sugarloaf project and we are supporting the integration and development of the desalination project. In addition, we are also upgrading the eastern treatment plant which will provide over 100 billion litres of class A recycled water, potentially reducing demand on our scarce water supplies and improving environmental outcomes. As part of that process we are conducting a range of technology trials which will test the available technologies within the Melbourne context with a focus on minimising life cycle costs but also positioning us well for whatever the future may hold in terms of high-end recycling.

The treatment trials will be finished towards the end of this year. In early next year we will finalise the solution that we will be putting forward in consultation with government and the EPA for delivery at the end of 2012.

Finally, in supporting the long term, we are undertaking research into some of our key uncertainties, such as climate change and also some of the technology options — for example, how do we further reduce our environmental footprint through renewable energy generation? We are drawing on the experiences of other water businesses around the country and around the world. We also do not assume we have all the answers, so we are working in partnership with the private sector, research agencies and the community to ensure that we put the right people in touch with the right problems to deliver a sustainable water future. Thank you.

Mr INGRAM — Clearly Melbourne Water would see itself as a reasonably efficient manager of, what, \$8 billion worth of assets?

Mr FURMAGE — Yes, 8.7.

Mr INGRAM — Why in your view are we going to, if you like, a part privatised or PPP model with the desal, and would it not be better to actually keep that type of infrastructure within a government-owned entity to

avoid any of the risks of demand management or profiteering, if you like, from the supply of water through a private company?

Mr FURMAGE — We currently contract out around 97 per cent of our capital delivery and almost three-quarters of our operating costs are market tested so we already have some extensive engagement with the private sector. The delivery mechanism for the desalination plant was really a decision for government, taking account of the costs and benefits of the different delivery options, so we will work with government to make sure that that the new asset is integrated effectively into the system and that all quantity and quality risks are managed appropriately.

Mrs PETROVICH — Thank you for your presentation today. I am quite curious about this because we hear all the time about the no dams policy. Can you outline to me where Melbourne would be today without the Thomson Dam if it had not been built, and would it be considered not viable if it were proposed today?

Mr FURMAGE — I do not have that particular information at my fingertips, and at the moment all I can say is thank goodness for the Thomson Dam because it has provided us with a buffer that has helped us get through an unprecedented period of low rainfall and low inflows.

Mrs PETROVICH — I am just quite curious because we have seen today a number of proposals for amounts of water that will be produced through desalination and stormwater collection and recycling of water, looking at filtering through wetlands, which will have to be built.

Mr FURMAGE — I think what you are seeing today is a portfolio approach to an uncertain future, so the Thomson Dam was built and that decision was made and it has provided us with tremendous support and security. What you have seen today is a range of measures that are sensitive to cost, environmental impacts, the effects of climate, and the time required to build large assets. I think today you have seen that we are doing things at a household level and we are doing things at a major asset level. It is about the fact that in the presence of uncertainty, you need options, so it is about taking forward a range of options.

Mrs PETROVICH — It just strikes me that if we are going to treat more water, we are going to have to have somewhere to put that and I just have not seen anywhere to date that being displayed to me.

Mr FURMAGE — Okay, we have, yes.

Mrs FYFFE — At the moment, this week, water is being pumped out of the Maroondah into Watts River, then into the Yarra and pumped up into the Sugarloaf. Why are you not using the aqueduct for moving this quality water down? The aqueduct, I understand, has a shorter lift to the Sugarloaf and less impact on the environment rather than sending it down the river where a large percentage will be lost and where it is going to be mixed with more polluted water from sewerage farm discharge, or is it because the aqueduct cannot manage the volume of water that you are going to be pumping out, which I understand could be 1 billion litres this week?

Mr CHESTERFIELD — That came about in order to provide some additional flows for the river.

Mrs FYFFE — To the Yarra?

Mr CHESTERFIELD — To the Yarra, so we have had an environmental flows study that has been done on the river, and in fact it was an initiative of one of our operators to call up our environmental flows team and say, 'It is proposed to do this water transfer', and it would have been done by the aqueduct but they thought that another option was to put it down the river and to use that as an opportunity to monitor the benefits of doing that, so I guess we see that as a bit of an indication of how we are dealing with getting more integrated management happening across the organisation so our operators are actually thinking about the impacts of what they do on the river and ways of the river benefiting from their operations.

Mrs FYFFE — But this is pure water, or almost pure water, which of course has to have some treatment, that is going to be pumped down and mixed in with less pure water, which is going to cost more to pump up than using the aqueduct, and the aqueduct is there for what you are not doing, what you should be doing, providing the water, or is it because Maroondah Dam is getting close to full and you do not want an overflow coming over Maroondah Dam?

Mr CHESTERFIELD — My understanding is that we are creating space. Moving water around like that is about creating space, and this was seen as an opportunity to use that movement of water as a way to benefit the environment and to also monitor some of the benefits from those flows in the river.

Mrs FYFFE — I guess the impact of photographs of water pouring over the wall of the Maroondah Dam would not look very good at the moment, with all the money that is being spent on all the other activities going on.

Mr CHESTERFIELD — I guess it is still being extracted and pumped up into Sugarloaf.

Ms LOBATO — From your presentation it is clear that Melbourne Water advocates for households to have on-site water tanks. Given the success of Queenslanders' rate of take-up of installation of water tanks with 240 000 being installed since 2006 and Victorians installing 25 000 in five years, has Melbourne Water considered increased subsidies, and are you advocating for Victorians to take up rainwater tanks at a greater rate?

Mr CHESTERFIELD — I will touch on that if I may. There is a lot of argument about the rate of uptake at the moment. There have been a couple of studies conducted that indicate that there are significantly more rainwater tanks being installed than is indicated by the numbers that have taken up the rebates. I guess from my perspective, coming from the waterways side of the business, our interest is the benefits that things like rainwater tanks and water-sensitive design can provide to protect the health of our waterways, but also how some of those measures can provide benefits in terms of flooding and drainage. I think while there is still a lot of debate about the extent to which rainwater tanks can supplement water supply, there are also other benefits around protecting the health of waterways and managing the impacts of urban development in terms of increasing run-off and increasing pollutant loads that have an impact on our waterways. Also in some areas there will be future needs to upgrade some of the drainage infrastructure, and the need to do those upgrades could be mitigated to some extent by on-site measures such as rainwater tanks. I think from a Melbourne Water perspective it is about the range of benefits you can get from something like rainwater tanks.

Mr VINEY — With the work that is being done at the eastern treatment plant for creating 100 gegalitres of water — —

Mr FURMAGE — In that order.

Mr VINEY — It has occasionally been put to me that that ought to be treated to the standard to be used as potable water and put back into our water supplies. I have two questions around that. One is: is there significant extra cost to take it from the class A standard that you are going to take it to, to the standard where you could put it back into the water supply, and what are the issues we would have to deal with in terms of that, if you were to go down that path?

Mr FURMAGE — High levels of treatment almost always involve high levels of cost. I think the work we are doing through the trials at the moment is about fleshing out for a Melbourne context what are the different technologies that we would use to deliver possible future options should the government decide to go there. That is something we will be in a better position to look at in the new year.

Mr VINEY — Have any estimates been done yet? Is it a significant additional cost? Is there a substantial amount of additional treatment involved?

Mr FURMAGE — It would be a material increase, but really there are a range of technologies out there, and we just have to understand what that would mean, given what arrives at the plant and under what circumstances.

Mr VINEY — What are the other issues that are associated with putting that water back into the water supply to get it to that standard? Are there any other issues we would have to deal in terms of the use of that water?

Mr FURMAGE — I think you have to not just look at the end-of-pipe solution but you need to think about the system systemically in as far as what arrives at the plant. You need to think about what is discharged and whether there are the right incentives and controls around what comes into the sewage system. Can we treat it as a resource? We need to think about the treatment solutions, and then we need to think about what end use it is going

to be put to and what is needed for that end use. There would be a lot of extra work that would need to be done before we could go there.

Mr VINEY — Am I right in saying that in essence if you are able to use that water instead of potable water being used for other purposes like in power plants or in parks and gardens, for example, in fact the cost benefit is significant just to use it as class A because you are able to save potable water, if you like? You are not using potable water for purposes that it is not required for, and therefore you are not treating it to the higher level of costs, but you are still saving that amount of water. Is that the kind of thinking behind treating it to class A rather than treating it to the potable water level?

Mr FURMAGE — I think that is right. At the moment the government has very clearly said that we are not going to indirect potable use, but we are about promoting fit-for-purpose water use so that our scarce water supplies are used for the purpose that they are most suited to and that other qualities of water are available for other uses.

Mr WALSH — Ben, given that you have invested, or are going to invest, more than a billion dollars of your customers' money in the north-south pipeline and the food bowl project, can you inform the committee of what you believe the price per kilolitre of the water out of the pipeline will be? Given that you are only guaranteed 75 gegalitres into 2010-11 — and I understand that after that you only get a third of the savings — and given the Auditor-General's concerns about the rigour of those potential savings being achieved, could you inform the committee of the price modelling you have done if you receive less than 75 gegalitres per year as to the cost per kilolitre increases that will happen if the savings are less than 75?

Mr FURMAGE — I might have to take that one on notice, I think.

The CHAIR — If you do not mind. You can take it on notice, as long as you provide us with that information.

Mr FURMAGE — Yes, sure. We will get back to you with a timely response on that.

Ms DUNCAN — Thank you for your presentation. We have heard again lots of suggestions about how we might improve the water supply to Melbourne, one of which is — and you talked before about having closed catchments — a suggestion that if we were to stop logging in those catchment areas, we would have an increase in water flow to our catchments. Have you done modelling on that, and what does that show?

Mr FURMAGE — I think that particular issue is the subject of review at the moment. There was a review identified in the first *Our Water Our Future* document released by government. That is under way and being done through a public process.

Ms DUNCAN — When is that due?

Mr FURMAGE — It is not too far away. I am sorry; I do not know.

The CHAIR — The National Water Commission has undertaken some work, and it published it in July 2008 — *Approaches to Urban Water Pricing — A Waterlines Occasional Paper* — around assessing current urban water pricing options. They suggested there were three types of options — that is, retaining the current arrangements, the introduction of scarcity pricing, and urban user trading or a tradable entitlement regime. Has Melbourne Water undertaken any work in relation to any of these or any other water pricing options for Melbourne water users?

Mr FURMAGE — Yes. Our prices are set through a public process via the Essential Services Commission. As part of that we considered a range of tariff proposals. In the past we have looked at things like scarcity pricing, and that is the subject of considerable debate at the moment. I think it has some conceptual appeal, but there is a significant further amount of work that needs to be done to think about the practical consequences — for example, the size of price movements that customers could potentially be exposed to and the billing arrangements that would need to support that sort of a regime. That is something that needs to happen that has not been done as yet.

The CHAIR — Can the committee have access to any of that work that you have undertaken? You can take it on notice.

Mr FURMAGE — Yes, I think we can provide the committee with some additional information.

The CHAIR — One of the things we would be interested in is what influence water pricing will have in relation to conservation and efficiency measures. I can go away for three months and not turn on any tap in the house, and I will come back and still have a water bill because the water bill has fixed user charges that assume I am using a certain amount of water whether I am using it or not. From a pricing incentive point of view certainly the committee would be interested in that.

Mr FURMAGE — Sure. Pricing has an important role to play, so we will provide some extra information on it.

Mr INGRAM — In relation to the size of the desal plant, part of the criticism is that it is one very, very large system, and one of our terms of reference is looking at smaller models. There has been an argument put previously that there is no efficiency gained, or efficiency cost gain if you like, from large systems to smaller systems and that there is actually an environmental benefit from smaller systems, because you can discharge an intake from under the sand. Does Melbourne Water look at the smaller models — that is, basing a number of desal plants rather than having the one big system down at the eastern end?

Mr FURMAGE — Yes. A range of options were considered in coming up with the proposal at the moment. You need to think about the sites where the desalination plants are — for example, if they were located on the Surf Coast, it would actually have to change the way the system is currently operated. Currently the water comes from the east to the west. If they were in the bay, due to the circulation of waters within the bay, you would need to think about the implications of source water quality and the implications of the salty wastewater that would be put back into the bay. That is where we got to with the Bass Strait solution.

Mr INGRAM — But no efficiency is necessarily gained from having one large one or a number of smaller ones?

Mr FURMAGE — Normally you do get economies of scale with large infrastructure. If you have got flexibility around the operation of that plant, then that can also give you the flexibility that you need in operating the system.

Mr WALSH — Chair, could we have those reports made available to the committee, please?

Mr FURMAGE — Sorry, which reports?

Mr WALSH — The reports you have talked about that formed the basis of your decision to have one big desal versus the range of options that you looked at.

Mr FURMAGE — The one I am referring to has already been made available to the committee.

The CHAIR — We will discuss it further. Thank you very much for that information. Mr Chesterfield, thank you for that. Transcripts will be forwarded to you over the next few weeks.

Witnesses withdrew.

