

**STANDING COMMITTEE ON
ESTIMATES AND FINANCIAL OPERATIONS**

2016–17 ANNUAL REPORT HEARINGS



**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
TUESDAY, 13 FEBRUARY 2018**

**SESSION THREE
WATER CORPORATION**

Members

**Hon Alanna Clohesy (Chair)
Hon Tjorn Sibma (Deputy Chair)
Hon Diane Evers
Hon Aaron Stonehouse
Hon Colin Tincknell**

Hearing commenced at 1.45 pm

Hon ALANNAH MacTIERNAN

Minister representing the Minister for Water, examined:

Ms SUSAN MURPHY

Chief Executive Officer, examined:

Mr ASHLEY VINCENT

General Manager, Assets Planning Group, examined:

Mrs DEBORAH EVANS

Head of Pricing and Evaluation, examined:

Mr MARK LEATHERSICH

General Manager, Assets Delivery, examined:

The CHAIR: This is the annual report hearing with the Water Corporation. On behalf of the Legislative Council Standing Committee on Estimates and Financial Operations, I welcome you to today's hearing. Can the witnesses confirm that you have read, understood and signed a document headed "Information for Witnesses"?

The WITNESSES: Yes.

The CHAIR: Thank you. It is essential that all of your testimony before the committee is complete and truthful to the best of your knowledge. This hearing is being recorded by Hansard and a transcript of your evidence will be provided to you. It is also being broadcast live on the Parliament's website. The hearing is being held in public, although there is discretion available to the committee to hear evidence in private. If for some reason you wish to make a confidential statement during today's proceedings, you should request that evidence be taken in closed session before answering the question. Agencies have an important role and duty in assisting the Parliament to review agency outcomes and the committee values your assistance with this. Is there a brief opening statement of no more than two minutes?

Ms MURPHY: The only opening statement I would like to make is that I understand that whilst it is a hearing on the annual report, the committee may be interested in lots of other aspects, so whilst we have tried to prepare for the annual report, we are very happy to take questions on any topic at all to do with the Water Corporation.

The CHAIR: That is a pleasure to hear.

Ms MURPHY: If we cannot answer the question, we are happy to take it on notice.

The CHAIR: Procedurally, we have been trying to focus on the annual report and leaving it to the minister to take questions of policy. As we do not have a responsible minister here, we will just proceed—that is very generous—and see how we go. We will try to focus on the annual report, and if anything comes to light, we will play —

Ms MURPHY: We love to share our message.

The CHAIR: I am sure you do. Thank you very much, Ms Murphy. We are going to start off with questions from the committee and then go to questions from participating members, of which there is only one, Hon Dr Steve Thomas.

Hon TJORN SIBMA: Thank you, Madam Chair, and thank you for appearing before us today. My questions pertain to current operations and the potential of desalination plants as part of our water supply. In particular, I refer to page 52 of the annual report. There is also an infographic earlier on in your annual report, which I think has both desalination plants producing something like 150 gigalitres. That looks to me to be slightly more than half of the water supply. I just want to get a sense of whether or not that current output represents the maximum production volume of those two plants taken together.

Ms MURPHY: Yes. The first plant we built has a nameplate capacity of 45 gigalitres per annum and the second plant has a nameplate now of 100 gigalitres per annum. We have consistently operated the Perth plant at above the 45 gigalitres, so around 46, 47 or 48 depending on climate. Similarly, by moving around and using some different operation methods we are able to get a little bit more out of the southern seawater one as well. Last year it was about the 100; this year we are hoping to get a little bit more, maybe 104 or 105.

Hon TJORN SIBMA: When running plants at their maximum nameplate capacity, what kind of operational implications does that hold? For how long, hypothetically speaking, can you run Binningup up at about 100 gigs, if that is its nameplate capacity? Are there increased maintenance costs or other sort of opex implications of doing that?

Ms MURPHY: No—well, obviously, the longer you run a plant, the more rapidly pumps and bearings and things wear out, but we operate both of these plants in alliances with the private sector. The way the contract works is that our alliance partners have a number of days per annum for their maintenance shutdown, and the Water Corporation also has a number of days per annum for us to have our network shutdown. Most of the way, to date, that we have been able to get more production out of the plants has been to line those up better. We had always assumed the worst case in our planning that when we needed network time, the plant would be able to operate and vice versa. It has really been about better managing the operations between us and our partners.

Hon TJORN SIBMA: This might be hypothetical—it is not intended to be—but seeing the current composition of water production being largely borne by these two plants, there has been some speculation as to whether a third plant might be required in the near future, whether that is over a five to 10-year horizon. I am just wondering whether or not the Water Corporation has undertaken any preliminary studies as to the requirement for a third desalination plant.

[1.50 pm]

Ms MURPHY: A lot more than preliminary studies. If you look at the way water is manufactured versus the way water is used, we are able to manufacture through desalination, through our groundwater replenishment, which is taking highly treated wastewater and injecting it into the groundwater, and through our existing groundwater allocations. We can supply the needs of Perth with a shortfall of between about 30 and 40 gigalitres per annum, and that is the amount of water we still really require from our dams. Our plan is to do two things in parallel: to endeavour to have three years' worth of that extra water in the dams so we have a three-year buffer on our operations, and to develop a number of sources, such that any of them are three years away from being able to deliver water.

We have a number of desalination options and some groundwater options that we are developing and planning to go to approval on in the next year or so so that we have them up our sleeve. That

does not mean we have any intention of building them at all, but we believe that if we want to have water security, we need to have plans that are actionable, albeit, we, hopefully, will not need to action them. At the moment, we probably have about two and half years of that extra water in our dams. It has been an absolutely perfect summer for us; we got 100 millimetres of rain with no damage from the cyclone and the weather has been unseasonably cool, which has been very good for water use. So we are in not a bad place at the moment, but we will continue to manufacture water at full capacity to have that water in the dams to give us that buffer. We are looking at many options; we have started a lot of the early assessment of the various parameters that are needed for environmental approvals and later this year we will probably be moving toward more general approval discussions, but, as I said, we do not envisage building those plants—certainly not in the next forward estimates period.

Hon TJORN SIBMA: One follow-up question, if I may, Chair, and I will then yield my time for the meantime. Taking your future water source options for approval, presumably you are referring to cabinet for a decision by the end of this year. Is that a milestone to which you are working?

Ms MURPHY: No, this is not approval to build anything or to finance anything. We will be having broader discussions about the types of plants that are possible, broader discussions more with environmental authorities about what is required, and potentially some community discussions about what the community want. It is not the final point of a decision to cabinet; it is a wider, broad set of options that we can narrow in on should the need arise. I think it is prudent to plan for the worst and hope that we do not need those plans for a long time.

Hon COLIN TINCKNELL: I refer to page 30 and the more than 60 per cent completion of the Subiaco wastewater treatment plant upgrade. You state that the remaining 40 per cent is due for completion by January 2018; has this occurred?

Ms MURPHY: I can hand to Mark Leathersich, who is the general manager of asset delivery.

Mr LEATHERSICH: I guess the short answer would be yes. The project is in the final stages of commissioning at the moment—all the assets are essentially constructed. Work on site now is around remediating the site and leaving it in an appropriate condition for the operators to then move in. But elements of the plant have been operating now for several months, and it is proving to be a success, so the time frame has been met.

Hon COLIN TINCKNELL: Thank you. This is completely different this one. I refer to page 23 and the 4 400 Facebook and Twitter interactions, as well as the 6 010 web chat instances. What have been the main topics of interaction?

Ms MURPHY: The most exciting topic of interaction in social media this last financial year along has been our sniffer dog. I know it sounds ridiculous in an organisation that prides itself on technical excellence that the most exciting thing we have got is a spaniel who can sniff the chlorine in the water and find leaks, but there is something irresistible about a Spaniard, a spaniel—there is plenty irresistible about the Spanish—no, about a spaniel in a little coat sniffing along. It was a bit of an experiment that we tried to get two existing dogs that were trained to sniff the drugs—you know the ones that are at the airport—and we did a short bit of training with their proper trainers about if they could smell different sorts of water, and they could easily detect water with chlorine in it from wet ground around it. It is a great way to walk through some of our buried pipelines in country areas and find very small leaks that are not visible externally. So, we borrowed two dogs, and that had an enormous social media following, and now we bought our own dog, which is the daughter of one of the two dogs we had. She is arriving fully trained from the east coast at the end of this month and one of our young engineers has now been retrained as a dog handler. It is just such a

cute story. What we try to do with our social media is get a serious water message across, but in a more engaging way.

Hon COLIN TINCKNELL: Was leaks the main topic?

Ms MURPHY: No, it is not really leaks; it is more a puppy.

Hon COLIN TINCKNELL: So it was mainly about that.

Ms MURPHY: It is more about the puppy than the leaks. On social media, most of our stories are about waterwise gardening plant selection; they are really waterwise tips—those sorts of things. The web chat is a bit different. Web chat is often somebody asking questions, whereas social media is more receiving information. The web chat varies. Sometimes it is billing inquiries and those sorts of things. We get quite a lot of inquiries from university students wanting information about water planning and desal and those sorts of things as well.

Hon COLIN TINCKNELL: On page 32 you refer to stage one of the new Broome Road industrial area—the development that is going on out there. What is planned for stage 2?

Ms MURPHY: No idea. Ashley, do you have?

Mr VINCENT: I do not have any specific information about stage 2. My understanding of the stage 1 works is that the pipelines should service future stages. We should have built infrastructure that can cater for future growth of that development. We constantly undertake planning and upgrade works as towns grow. Broome has been that sort of example for a number of years, out to decades. We tend to extend the bore field and the infrastructure in the bore field and required distribution infrastructure as the stages develop. I do not have specific information about stage 2 in that context.

[2.00 pm]

Hon COLIN TINCKNELL: Would that be available on notice?

Mr VINCENT: We can provide it, yes.

The CHAIR: We will take that as C1. Just to be clear, we do not necessarily have an expectation about future information; we do try to focus on the annual report, so it is very good of the corporation to provide that information.

[*Supplementary Information No C1.*]

Hon COLIN TINCKNELL: I have three questions on another theme. I refer to note 25 on page 78 of the annual report under “Financial Instruments”. The overview at 25.1 states that the corporation has exposure to the following risks from its use of financial instruments: credit risk, liquidity risk and market risk. With regard to credit risk, how many customers have applied to the government for the hardship utility grant scheme to pay their water bills? I have other questions but I ask that question first.

Ms MURPHY: I do not have that information with me. The Water Corporation as a whole has a very modest credit risk because under our act the debt lies with the property and the owner of the property, so if a customer were to fail to be able to pay their water bills, that money would be recovered when that property is eventually sold. Our credit risk is actually very minor indeed. Customers who receive HUGS grants pose no credit risk to the water corporation because the HUGS grant is paid by other parts of government to the customer, so the Water Corporation again suffers no credit risk. It is only business customers who are unable to pay their bills who potentially would leave us with any credit risk, so our bad debts are very modest compared to an organisation with a turnover of our size. The number of customers—as at what date? It is very complicated because

bills come every second month. So a customer could be on six payment plans in a year and it might be that one customer has six plans and another customer might have only one plan ever in their life.

The CHAIR: Are you able to extract the data in terms of the number of customers rather than the number of HUGS payments? What is the easiest way to —

Ms MURPHY: Yes, but it will bobble around a lot. If you pick a date, we can come back with that information.

The CHAIR: Maybe just for the last financial year. Is that what you are seeking?

Hon COLIN TINCKNELL: I think so; I would be very happy with that.

Ms MURPHY: So as at 30 June?

Hon COLIN TINCKNELL: Yes. I am looking at customers. I am also looking at how many have applied.

Ms MURPHY: We will not know that, I am afraid. You do not apply to the Water Corporation for a HUGS grant; you apply —

The CHAIR: To Communities.

Ms MURPHY: Yes. We will only have records of which of our customers who have overdue debt have received a HUGS grant.

Hon COLIN TINCKNELL: But they do apply to the Water Assist scheme?

Ms MURPHY: The Water Assist scheme is a Water Corp–managed scheme and that is a separate scheme. That is really about helping customers who may need longer to pay or putting them on payment plans where they are paying only a small amount each week or each month, depending on what the plan is. We have a range of ways to assist customers who are having difficulty, be it having difficulty paying their bill or in the short term have had a whole lot of bills that have come in at once and are looking to have that spread out. Again, not very many of our customers access HUG schemes because, remember, we do not cut off water. If people do not make any contact with us and refuse to deal with us at all, we can restrict for up to two weeks, so less water is coming out, but because we do not cut people off, they tend to prioritise paying their other bills for things that they do get cut off over us. People tend to use those HUGS grants more for power bills than they do for water bills.

The question is: how many people were receiving the HUGS grant?

Hon COLIN TINCKNELL: There was a series of three questions. How many customers have applied for HUGS, both in the metropolitan and regional areas? I just want a breakdown of those. How many customers have applied to access the Water Assist scheme, once again in metropolitan and regional areas? What was the total amount paid to the corporation by HUGS? I can take that on notice.

The CHAIR: Let us allocate all of those questions with C2.

[Supplementary Information No C2.]

Ms MURPHY: Can I just be clear: the first question about the number who have applied for HUGS, I am not sure I can answer that.

Hon COLIN TINCKNELL: I understand.

Ms MURPHY: But the other two we can.

The CHAIR: Feel free to put the explanation for that in the answer to the question; that would be great.

Ms MURPHY: Yes, I am looking at the people over there who are going to do this!

Hon DIANE EVERS: For my first question, typically, I have a follow-up question to the media question about the spaniel.

Ms MURPHY: It was the best thing we have ever done.

Hon DIANE EVERS: It is. It sounds great. I am pleased you are getting one. I am from Albany and I was involved with the home smart water monitoring program a few years back. Often we did come across leaks that you could easily see without a sniffer dog. You are getting one dog. Is this working so well that you have plans to have others, and would you take them to the regional areas given that the cost of water supply out there is considerable?

Ms MURPHY: They will largely operate in regional areas. It is very hard for the dogs to sniff in—they cannot work in a suburban area because there are too many other smells. The planning was really for the farmland scheme where we have thousands of kilometres of pretty ordinary pipe that goes a long way out into the farmlands. For some of those, if they have small leaks, it is sandy soil and that water will just drain away. It really is for the regional schemes that we are looking at it more. Also, in some of the farm areas, people are not necessarily happy with people driving a big piece of equipment across their paddocks, but they are quite happy to have someone come along with a dog. Obviously, if we find a leak and we have got to get in and do something, we have to get in there. Let us take it one step at a time. I thought it was such a wonderful PR story; I did not even care if the dog found leaks. They are fantastic. They are actually so clever and it is so amazing. I just think it is a lovely juxtaposition as you get into the internet of things and all the digital sensors and everything is so technically focused that you can have something that feels good, and it is great for the Waterwise schools program too.

Hon DIANE EVERS: Yes. I think that if we look into things, there are a lot of things that feel good and work, and do not cost so much.

Ms MURPHY: Yes, although we are having some interesting debates about where the dog goes on the balance sheet, what is the asset maintenance plan and how do you depreciate it—all kinds of things that we have never thought of before, but they are great problems to have.

Hon AARON STONEHOUSE: I have not looked for it yet, but do you have a price for the dog and handler? Do you have a cost for that annually? I am just wondering how it compares to, say, the police dot and handler teams?

Ms MURPHY: It is modest; I do not know. The handler is one of our engineers, so we have got her anyway.

Mr VINCENT: It is in the tens of thousands. By comparison to other technologies, through the R&D work we did we have proven that it looks more cost effective than alternative, more traditional techniques.

Hon AARON STONEHOUSE: It is a lot cheaper than WAPOL's dog teams then, yes.

Hon Dr STEVE THOMAS: Surely you could get a sponsorship from Pal or something and make a profit out of it!

Mr VINCENT: We will certainly know more in a year's time when we put the dog to good use, provided we can get it away from Sue and the media team!

The CHAIR: We will see you next year about the cost effectiveness.

Ms MURPHY: Her name is Kep, which is the Noongar word for water, and if she is not on the cover of next year's annual report, I will be very sad.

Hon DIANE EVERS: My next question refers to the five-year statistical summary on page 51 and is in relation to the irrigation services. I note that for the years 2013–16, the services show annual quantities of 135 000 to 155 000 megalitres, and in 2017 it is down to just over 5 000 megalitres. I do note that on page 53 is a note that the Ord irrigation customers are no longer shown as part of that, but are there other explanations for why that irrigation service has dropped significantly?

Ms MURPHY: No, that will be the bulk of it. The Ord is by far the biggest. We own the dams and we are a bulk water supplier to a number of irrigation co-ops—so if you take out the Ord, the rest are very modest.

Hon DIANE EVERS: Is the Ord shown separately somewhere? Is there any reason why it is not in there and why it has been taken out?

[2.10 pm]

Ms MURPHY: I do not know the answer to that.

Mr VINCENT: I do not know the reason for that, sorry; that is a good pick up.

The CHAIR: We will make that C3—whether it is, and if it is out of that figure, where it is represented. [*Supplementary Information No C3.*]

Mr VINCENT: I think the only explanation I can give as to why it may have been removed is that they are not direct customers of the corporation. They are actually customers of the Ord Irrigation Cooperative. There is a note on page 53 that reflects that it is not a direct customer and for that reason they have been, I suspect, excluded, but we can confirm that.

The CHAIR: Okay, thank you. Are you good with that?

Hon DIANE EVERS: Would there be others that are similar? Is that Ord irrigation scheme a one-off or are there other large —

Ms MURPHY: There is nothing as large as the Ord irrigation scheme anywhere else in our network.

Hon DIANE EVERS: Okay, but there would be other private ones.

Ms MURPHY: Yes. Bulk water to irrigators is a very small part of our business. Most of the irrigators—Carnarvon and Gascoyne—most of them do their own.

Hon DIANE EVERS: Maybe it does not need to be there, I suppose, but that will come in the answer. Thanks.

The next question refers to page 49 of the report and the environmental performance of the electricity consumption. The electricity consumption per unit of output has increased year on year since 2013 and the rate of increase is increasing as well. What is the reason for this and what response will Water Corp put into practice to address the rising cost?

Ms MURPHY: The main increase in energy per kilolitre of water is because we are getting less water into the dams and more water that we are manufacturing—so as a percentage across the scheme of the water we have supplied, the desalinated component becomes greater. We are also moving into recycling wastewater and injecting that into the aquifer, which uses more energy than rain falling into a dam and falling under gravity. We are finding that is going up all the time anyway. Similarly with wastewater treatment, although we cogenerate electricity at Woodman Point and we are putting in a cogeneration facility at Binningup to use the gases that are a by-product of the wastewater treatment process to generate electricity, this measures the total energy so the fact that some of it we have generated is not included in that. We are using more energy to treat a lot of that wastewater because we are increasingly having to pump water greater distances. The larger wastewater treatment plants are more energy intensive because we have to keep our odour

footprint to a very small area. We have very strict odour requirements, which means that most of those big wastewater treatment plants in Perth are covered and we have odour scrubbers and we are keeping the air circulating around that so there is more pumping. We are trying to cogenerate as much as we can and use that to offset the amount of energy we are purchasing.

Hon DIANE EVERS: My follow-up to that was: Have you looked at other renewable resources, too? Would you consider creating more of your own energy through wind or solar?

Ms MURPHY: We are not installing wind energy. We are not an energy company—that is not our business—but we do cogen at the big treatment plants. Some of our small schemes at the far-flung reaches of the Water Corporation have solar powers on our bore fields or solar power for our pumping stations, but they all have to have a diesel backup of some sort. Some have got a gas backup; it depends where they are. We certainly look at that. You will probably see that the greenhouse gas number's going up, too, but that is because of the way this is calculated. The way that it is required to be calculated for reporting purposes is we multiply the amount of energy we purchase by the average greenhouse emissions across that scheme. The fact that we pay a premium to buy energy generated from a renewable source for some of our desal is ignored in that calculation.

Hon DIANE EVERS: Even that one that shows the total greenhouse gas.

Mr VINCENT: Yes.

Hon DIANE EVERS: Why; is that just the way it is?

Ms MURPHY: It is the way that federal greenhouse reporting works.

Hon DIANE EVERS: You are required to do it as the average rather than your actual use?

Ms MURPHY: Yes. But the average across the scheme is coming down.

Hon DIANE EVERS: Okay. Thanks for that information.

Ms MURPHY: It is bizarre.

Mr VINCENT: It is the way the federal scheme records and reports energy emissions.

Ms MURPHY: That is the average greenhouse emissions across the south west interconnected system divided by the number of gigawatt hours produced and then multiplied by what we actually use. We do not get a credit for what we do; well, we share that credit across the scheme.

Hon AARON STONEHOUSE: Looking at page 19 and some of the projected figures compared with the actual, it looks as though in all but one instance the corporation has fallen short of its projections for the year. The projected and operating surplus of \$744 million fell short by some \$36 million. Your return on equity is down; your return on assets is down as well. The stand-out is in terms of your capital expenditure, which, if I am reading correctly, looks like you managed to spend \$24 million more than what was originally forecast. Can you explain for a layman what is behind some of these figures and how the corporation is travelling compared with these projections?

Ms MURPHY: Almost all of it is due to the fact that developer contributions were significantly lower than forecast originally. As you recall, our budgeting process requires us to sign off our budget in the November before the year before we are starting. When a developer builds a new subdivision, they build all the pipes and pump stations required within that subdivision and gift those to the Water Corporation. Development activity has been significantly flatter than was forecast two years ago, so those handover assets are reduced and similarly the fees that developers pay to us for us to supply. Virtually all of the difference between our forecast revenue and actual revenue is the reduction in developers contributions.

Hon AARON STONEHOUSE: Does that explain the capital expenditure increase as well?

Ms MURPHY: No. Our capital program is very large—hundreds of millions of dollars—and you have to cross a date at 30 June, and \$24 million is about a day or two's extra work. What it is is that the assessed value of the capital works on that date was slightly over but it is the same projects and the projects are all on budget. It is a timing issue.

Mr VINCENT: In part that was driven in the last year by favourable weather conditions through April and May, which means you get better construction runs, greater delivery of projects and you get a bit in front. But when you are starting to talk about five days' worth of activity in front or a week's worth of activity, it is arguably an artificial date.

Hon AARON STONEHOUSE: Looking at page 80 and taking note of some of the lines in the lower paragraphs under liquidity risk; it is the fourth paragraph. At 30 June 2017, the current liabilities of the corporation exceed its current assets by \$281 million. A couple of paragraphs down, the borrowing limit was set to \$5.7 billion and a little later it mentions that it was raised to \$5.9 billion. My question—again, if you can explain for a layman—is: what is the Water Corporation doing to service its debt? I can see payments of debt. Page 77 shows some of the payments made back to the Western Australian Treasury Corporation and such. I am also noting that earlier in the report it mentions the board approving dividends back to the state government, which, I think, when you take into account the subsidies, come to about \$200-odd million. I have two questions. What is the Water Corporation doing to service its debt; and, second, what is the thought process of the board when it approves dividends to the state government when it still has such a substantial debt, something that outweighs its current assets? It seems like quite a substantial debt.

Ms MURPHY: I can let Deb answer in detail but, in broad terms, when the Water Corporation was created in 1995, the state gifted the existing asset base to the Water Corporation, so on day one we had zero debt. The stated aim of the government of the day was then to grow debt in the GTEs, because the rates and charges that we charge our customers include return on and of capital, so debt has grown in the GTEs, and we pay 85 per cent of our surplus as dividend, plus tax on top of that, to the state government, and then they pay —

[2.20 pm]

Hon AARON STONEHOUSE: So that is like a statutory requirement, or —

Ms MURPHY: It is not a statutory requirement, but we have paid 85 per cent for over a decade now. Both sides of government had decided that that was what they sought. We have one shareholder, and if that shareholder wants 85 per cent of their profit paid as dividend, they get 85 per cent of their profit paid as dividend.

Hon AARON STONEHOUSE: So it is not a decision that rests solely necessarily with the board then; it is something that is determined by the government of the day, what percentages of the surplus will be paid as a dividend.

Ms MURPHY: Yes. The board ascertains the calculation of what the actual dollar amount is—what that 85 per cent represents—as they go through the accounts, but I imagine that if the government was demanding something that was seen as not in the best fiscal interests of the Water Corporation, the board may engage in some form of discussion back on that. But we have been paying a very high level of dividend for many, many years now.

Hon AARON STONEHOUSE: Thank you.

Ms MURPHY: I might just add one other thing as well. In comparing our debt levels with our current assets, you could also look at the longer term assets as well, because they are the ones that actually

provide the services for which we get the revenue in from our regulated charges. They are contributing to actually servicing those debt levels as well. Our debt to equity levels are phenomenally low for a business of our sort. If we were owned by the private sector, they would crank our debt up.

Hon Dr STEVE THOMAS: It is interesting to talk about debt to equity levels and what it would look like in the private sector. Time will tell, but let us not go there, Madam Chair, for the time being.

The CHAIR: I am not the first to go there either!

Hon Dr STEVE THOMAS: I will just jump back to a comment from Hon Tjorn Sibma on future planning and, I guess, the next major water source of some sort. Acknowledging everything that you have said in relation to the planning process and having contingencies, which is great, has the modelling based on population growth et cetera given an indicative time frame of further out—you have basically said certainly not in this term of government, potentially, but I would have thought perhaps the next four years after that, given population growth, which has slowed significantly. Is that the time frame that the Water Corporation is looking at for a more long-term investment decision-making process?

Ms MURPHY: There are a few variables. Population growth is one variable. We are working very hard to reduce per capita water use, which is another variable, and if we are able to keep that trajectory down—really for the last eight or nine years we have pretty much managed population growth by per capita water reductions. If you go back 15 or so years ago, Perth's population is now 45 per cent bigger than it was 15 years ago. Last year we provided less water than we did 15 years ago, so we have been able to do that. So there are those control mechanisms. Climate is still a huge issue. There are two parts to the climate issue. One is the water that actually runs into the dams, but the other is about the climate patterns we have and what that does for water use. When you get 42 degrees for a week, nothing we say or do is going to control water use. People are going to use a lot of water. You lose that when it gets very hot. In the middle of winter, when it is raining—we have our winter sprinkler bans so people are not wasting water by watering in the rain—our water use is very low. With those two extremes, we know what is going on. It is the shoulder that matters. So if you get, as we did last year, a very warm and long spring, people tend to use more water, but this year we had a very long wet season that sort of dribbled into spring this year. Sorry—the year before, it was dry, but in 2017 it was still sort of raining almost into October—not much rain, but enough rain that people were not turning their sprinklers on.

Hon Dr STEVE THOMAS: It did not rain much earlier; that was the problem. June to September was pretty miserable.

Ms MURPHY: No, we did not get any rain in June. June was terrible, but that rain in spring changes garden usage. That is probably more important than population growth in itself. It depends. If we can get 30 gegalitres of run-off into the dams or thereabouts, year on year, with current projected growth, we could probably keep going for quite a long time. We are de-bottlenecking our desal plants to get a bit more out. We are doubling the groundwater replenishment plant, so that will go from 14 gegalitres now to 28 gegalitres. With those things coming on, it is possible we could go 10 years without needing a major source, so that we could have a set of catastrophic weather events, and be —

Mr VINCENT: Certainly, if we look at the last three or four years, 2015 saw the lowest inflows on record into dams, at 11.4 gegalitres. If you look at the last year, it is somewhere in the order of 94 or 95 gegalitres. If you put that into the longer context, even on a 10 or 15-year average, 90 is low. If we get years of 90, we are a long way away from needing another source. We do not plan on those winters, because if you looked at the last five or six, they are less than that; they are probably more

like 40 or 50. If we can get more than 30, we have got a reasonable window of time, so really the climate impact is probably the single biggest variable that we deal with on a year-by-year basis, and if you had a sequence of very dry winters like 2015, then that is the sort of thing that draws forward a source decision.

Hon Dr STEVE THOMAS: I was going to come to it later, but you raised it, so it is probably quite pertinent. The aquifer recharge program, which I think is excellent work, what is the ultimate potential capacity of that? Is it restricted by groundwater catchment areas? Is it restricted by how much water you can actually passage through sand during that period of time? How big could that get, and have you done any work on the cost recovery component of that yet to work out what that is costing you compared to other sources?

Ms MURPHY: Yes, we know the cost. At the moment we are doing the aquifer recharge at the Beenyup wastewater treatment plant up near Craigie. The reason we are using that wastewater treatment plant is that the catchment there is very much domestic. It is virtually all residential wastewater. You do not really want to have industrial wastewater that might have heavy metals and other things in it that makes the process more complicated. So it is a much more straightforward process up there. We have got 14 gigs per annum going in now. We started injecting in October or thereabouts, and we are growing that to 28. That is almost the limit on that wastewater treatment plant now. As the population grows in the area, we might be able to take that up a bit more, maybe to 30 or 35, but 28 is pretty much it for now. So that is the capacity there. If we look at our other big wastewater treatment plants, we have got a very large one at Subiaco, and one at Woodman Point. Woodman Point has got a more complicated aquifer system and a more industrial inflow. We are doing some work on that as groundwater replenishment, including quite an aggressive drilling program to better understand the aquifer. These are very deep aquifers that we are drilling. In fact, we have just started a drilling program where we are drilling 1 300 metres down to find where the water is. At the moment for Woodman Point, we already have a smallish scale recycling plant that supplies treated wastewater to industry, and we have been looking at expanding some of those schemes, and that may be more cost effective than reinjecting the aquifer. We will know more as we get better data. At Subiaco, we are looking at some shallow managed aquifer recharge to supply groundwater for public open space and potentially for some of the subdivisions that have been proposed in that area. Then, if you go right up to Alkimos, we built the Alkimos wastewater treatment plant, and when the flows get high enough, we always allowed space on that plant site to do some form of managed aquifer recharge there as well. It is an augmentation, but it is not a panacea, and you cannot just sort of cookie-cutter one option and move it around. The aquifers are all different.

Hon Dr STEVE THOMAS: Fair enough. Is there any estimation of what peak aquifer recharge for the City of Perth might look like?

Mr VINCENT: There is nothing to suggest that you cannot get all of the wastewater, if treated appropriately, back into the ground. The key thing will be what are the characteristics of the aquifer, and what does that mean in terms of the number of recharge bores you need and the locations of those recharge bores.

There is nothing to suggest that we cannot take that, effectively, to the limits of the wastewater flow. Some of the complexities that Sue talked about in terms of the salinity of the aquifer and the quality of the aquifer will determine how long you put it underground for, because there is a risk of putting very high quality water deep in the ground and seeing it become more salty and of a lower quality and drawing it back out in not as good a shape as you put it back down. Some of those things are the things we are working through over the next two to three years as we look at

characterisation of the aquifer at Woodman Point and Subiaco, primarily, recognising that Beenyup is, effectively, at its limit with the 28 gegalitre plant. If you take a simple rule that Beenyup is more or less a third of the wastewater flow you could arguably —

[2.30 pm]

Hon Dr STEVE THOMAS: That is 50 to 60 gegalitres at peak flow.

Mr VINCENT: Yes, and potentially more than that.

Hon Dr STEVE THOMAS: Which is not inconsiderable, but it will not be the equivalent of desalinisation ever.

Mr VINCENT: No, but it has the capacity to be built in modules and scalable over time to meet the growth in demand and the growth in water needs. I guess we would look at the timing and considerations around the knowledge of the aquifers and the complexity that is required in treatment before making those sorts of decisions.

Hon Dr STEVE THOMAS: I will get to my substantive question. Thank you for that. It was very interesting. If I could just jump you to—on page 30 you have “Pipes for Perth”, which is as good a reference as anything, really.

Ms MURPHY: This is Mark.

Hon Dr STEVE THOMAS: Excellent! The very man! Whilst that is a nice little project of replacing 150 kilometres of old pipes, I did note back on page 4 that Water Corp manages 35 000 kilometres of water mains and about 17 000 kilometres of sewer mains. I am a bit interested to know, in terms of your asset management plan—we talked about those assets that generated revenue quite conveniently before. How are we going in terms of maintenance and maintaining what is in some cases very old infrastructure? That 150 kilometres is overall a small proportion of the overall asset that you manage. I would be interested in the average age of some of those pipes. I am interested in how much water leakage there is, and I know there is a constant water leakage. That is not new; it was around 10 years ago when I was in another place. Is that water leakage still measured? What is its change, basically? This is probably going to be a long answer, probably. I apologise to everybody for that. This is critical to the asset and the future development of Water Corp. Where are we in terms of maintaining that asset at a rising standard?

Ms MURPHY: I can start then hand to Mark. You are one of the few people who have spotted that Pipes for Perth is not the biggest project in the history of humanity; it is just the one that has disrupted more people driving around the western suburbs, I think.

Hon Dr STEVE THOMAS: We from the south west do not worry too much about the western suburbs, do we guys?

Ms MURPHY: As you pointed out, Pipes for Perth is 100-year-old pipe being replaced. Most of our pipes have a long asset life. Our assets, compared to other water utilities, are quite young. In the expansion of Perth that has been done in the last few years, we have been able to replace things as we have dealt with growth. In general, our assets are not too bad. There were a number of questions. We do have an asset renewal process, but we calibrate that against actual failure rates. Some of our assets—the very critical ones—have sensors on them and are run through our operations centre. If there are changes in their performance, we might proactively go in and do some replacement. But many of our assets we run to failure. It is prohibitively cost expensive to go in and do something in advance. There are a variety of answers to that. We have a couple of hundred million dollars a year of asset renewals going through our capital program, so it is a not insubstantial amount of money. Leakage is very hard to measure. We measure a thing called unaccounted-for

water which is the difference between the amount of water we know we have made from our big metres at the desal plants and at the dams—quite a small number of very large accurate metres—and the amount of water that we know we have sold as measured by about 1.2 million households metres, which are generally highly inaccurate. Because they are mechanical metres, they run in our customers' favour as they age. Our metre replacement programs mean that many of those metres are 10 years or more old, so they are often reading inefficiently. The difference between that accurate number and that inaccurate number is of the order of about 12 percent of our water. In that, we have water that is provided for firefighting, which is not metered, through standpipes and hydrants, which we guess is a couple of per cent but probably not much more than that. Our aim is to keep unaccounted-for water below 10 per cent. That is the target. The concept is that if you are much below that you are probably spending more than you are getting for the saving on the water.

Hon Dr STEVE THOMAS: But 10 percent would be 35 gigalitres or something.

Ms MURPHY: Across the whole state—yes.

Hon Dr STEVE THOMAS: It is still a significant amount of water.

Ms MURPHY: Probably the biggest area of concern historically has been our farmland schemes—not the big main to Kalgoorlie—that is a solid pipeline, to put it mildly. In the 60s and 70s, when the farmland schemes were expanded, they were originally aimed to be for just stock watering in drought conditions. Over time—over the last 30, 40 or 50 years—many of those farms no longer have their own water supplies and are relying totally on scheme water. Those pipes are not necessarily in good condition. About two years ago we started a big farmland scheme. We have some software that is recording every leak and burst, finding the areas where we are getting most of them, banding some areas, replacing some areas and doing a lot of small scale projects across virtually the whole wheatbelt to try to get the worst areas fixed up. It has been a great series of projects for us because we have been able to contract with small local contractors scattered around the wheatbelt. We have been able to provide some opportunities for Aboriginal-owned contractors and Aboriginal partners. It has been a really good way to extend the life of those pipes. But every year those pipes get older and there are all kinds of issues in that area. You can have salinity problems if the soil is saline and causing problems with the pipe—a whole myriad of issues. Mark can talk about Pipes for Perth. There is more to come of the 100-year-old pipes—not much more. How much is left?

Mr LEATHERSICH: We have completed 100 kilometres and we have about another 50 to go. That is our high priority risk pipe in the older areas of Perth. We should be finished that, on the current trajectory, by the end of 2018 or mid next year. Whilst it has been a difficult program in some ways because we are digging in very public areas, we have dug holes and there are tens of other pipes there that are not marked on any maps. It is almost like hand-digging the roads to put our new pipes in. We leave the old pipes generally in place. We fill them up and they are left where they are. It has been a very interesting program. We have 10 local contractors who are engaged to do the work for us. At one point we probably had around 80 active sites across the metropolitan area. It has been irritating for customers and commuters. We have got plenty of feedback, which has helped us to change the way we do work. We pretty much do 24-hour-a-day operations, seven days a week with multiple crews—everything to help us minimise the window of impact on commuters.

Hon Dr STEVE THOMAS: If that 150 kilometres is like the tier 1 target, is there a tier 2 that is the next cab off the rank?

Mr LEATHERSICH: There are, but what you find when you dig these up is that some of them are fantastic and you think, "That probably would have lasted another 20 years." Others are in an absolutely appalling state. As Sue said, there is a certain amount of anticipation around the quality

of the assets. Ultimately, you have to dig them up to find out what condition they are in. Generally, we are basing it on age, material and all the feedback we get from bursts in the field. Every time there is a burst, it is recorded. When you start to see patterns of bursts, that is the time you go in and fix the main. It is not another 300 kilometres to do after that; we are focused on what we believe is the highest risk point in the high-risk areas.

[2.40 pm]

Mr VINCENT: That reflects the areas that were likely to cause the greatest disruption to the community, so you take on the areas that you know will be challenging in an unplanned event and try to address them based on ageing condition to the best of your knowledge, recognising that with buried pipes it is very hard to have a complete knowledge of the quality of the asset. We certainly learnt through the Wellington Street experience, which is what drove us to target the cast-iron pipes of particular age and condition. We recognised that there were some gaps in our understanding which we worked pretty hard to address and then drove a program.

Sue mentioned the age profile and one of your questions was around the age profile of our assets. We know we have a cohort of assets that were built in the early 1900s, less through the middle years through till roughly the 1950s, and then a big increase in the asset base from the mid-1950s through. Most of those assets are probably midway through their life. The early ones, like the Pipes for Perth targets—the old cast iron that was built near on 100 years ago—just because it was 100 years old does not mean it is not fit for service and that is where we do have to rely on the condition information, the performance information, the failure rates, but also take a risk view in terms of if this asset fails, what is the impact on the community and make judgements around that. It is never perfect but, certainly, if you look at our historic capital spend and effort in terms of renewals, if we went back to say 2009–10, we were spending in the order of \$50 million a year. If you looked at last year, 2016–17, it was in the order of \$270 million. This year we are in the order of \$180 million. That is reflecting that age profile coming through and also the shift in terms of our focus as an organisation away from growth-related works, and I guess through the period from the early 2000s to, say, 2015 or so —

Hon Dr STEVE THOMAS: You can call it the boom; it is okay; we all accept that.

Mr VINCENT: — the boom—there was a lot of growth-related work, which meant we replaced a lot of infrastructure for growth reasons, not renewal reasons. That has certainly shifted in the last couple of years, and our spend pattern and profile reflects that.

Ms MURPHY: We also have a better handle on what our assets are. That Wellington Street work really caught us off guard because our records show that those pipes were laid in 1946, which they were, but what our records did not tell us was that they were second-hand pipes when they were laid in 1946, because after the Second World War I think materials were scarce and people were recycling. So we went back and dug up the original field books and actually did quite a lot of work on our asset base. So the pipes that Mark is digging up were the ones that really are old.

Mr VINCENT: Genuinely 100-plus years old and they are in high-risk condition.

Ms MURPHY: Wellington Street also told us that if they burst when you are not planning for it, it is a massive job; whereas if you can plan the work, get the traffic management in place. Warn people. The other thing we learnt, and we learnt this the hard way, we started off in Subiaco just saying we were replacing pipes with minimal signage, and people were really annoyed about the traffic impediments. But by putting up the signage explaining that they were 100-year-old pipes and we were only going to bother you once every 100 years—that sort of thing—and making people, the customers, aware of why we were doing it and that it was actually part of making Perth better, really

changes the dynamic. I think that anyone who ever doubts that being open and transparent with your customers is the right way to go —

The CHAIR: Isn't it funny? Consumer engagement works!

Ms MURPHY: Every time, every time.

Hon COLIN TINCKNELL: Those pipes, the new ones that we are putting in, are they expected to last over 100 years? Is that the planning?

Mr LEATHERSICH: They are plastic; they will not rust and they will stay in place.

Hon TJORN SIBMA: My attention has been taken by the meter renewal program that appears on pages 16 and 24 of the annual report. I want to firstly confirm a few facts just to ensure that I understand where we are starting from. This represents \$120 million of your \$800 million capital works budget and the proposition here is to replace every single residential water meter in the state, of which you have about 950 000?

Ms MURPHY: Over 10 years.

Hon TJORN SIBMA: Over 10 or 15 years?

Mr VINCENT: Fifteen.

Ms MURPHY: Is it 15?

Hon TJORN SIBMA: Thank you for that. I was wondering whether, first of all, you can provide an update on how that program is rolling out.

Mr VINCENT: Yes. In its first year, we tracked ahead of schedule, which was good. We had certainly targeted to do 20 000; we did more than that in the first year of the program. We are on track for 70 000. I guess this reflects some of Sue's comments before that the age of some of our meter fleet was older than we would like—beyond the 15 years age bracket. We were trying to get ahead of some of those replacements and catch up a bit and then we go into, basically, a 15-year rolling cycle of replacement. That is all about making sure that we have an accurate reading meter to effect changes to the sort of non-revenue water or unaccounted-for water calculations across the scheme and ensure that we have reliable billing information. From a billing perspective, it is generally good news for our customers if we have an old meter because they tend to slow; they do not ever speed up, they always go slow, so they read less than you have actually used to the point where they stop. Some of the meters that we would replace in this program have actually stopped working, but we would pick those up through our normal meter-reading round. This total program reflects not only the sort of proactive replacement but also the ones that fail in service, and we do get a number of those every year. It is all about having accurate information about water use.

Hon TJORN SIBMA: Can I ask what governs which meters are replaced and by when?

Mr VINCENT: It is age profile as a general rule.

Ms MURPHY: Unless they have failed.

Mr VINCENT: If they fail in service and we record that they are not reading, then we replace them immediately. If not, we would do it based on age profile.

Hon TJORN SIBMA: That is the primary determinant of which geographic areas are covered?

Mr VINCENT: Absolutely.

Hon TJORN SIBMA: By meter and not by locations.

Mr VINCENT: No; we tend to do full streets, full suburbs because that is typically the way they were installed. You tend to get a rollout of a subdivision more or less of the same age, same vintage. It

makes sense from a replacement point of view. Most of the cost, if you did it another way, would be travelling. It is not the actual cost of the meter or doing the work onsite; it is getting between sites. You tend to find the most efficient way to replace meters is to go from one end of the street to another and start on the next street. We tend to do geographic blocks of a similar age profile as close as possible to 15 years or beyond that age profile.

Hon TJORN SIBMA: Is the installation work conducted by Water Corp employees or is that contracted out as a service?

Mr VINCENT: It is contracted as a service.

Hon TJORN SIBMA: Can I ask who it is contracted out to, please?

Ms MURPHY: Is it all one? PRA would do some.

Mr VINCENT: PRA does some—our Perth Regional Alliance.

Ms MURPHY: That is part Water Corp, part Programmed, so it is an integrated alliance. PRA would not do regional. Regional could be Water Corp people.

Mr VINCENT: Water Corporation staff.

Hon TJORN SIBMA: Possibly by way of supplementary, could I have the actual particulars of a contractual arrangement as it pertains to the rollout of the new meters?

The CHAIR: Where that information is available.

[Supplementary Information No C4.]

Hon TJORN SIBMA: I have a question concerning the meters themselves. For our benefit, can you talk to the advancement in their capacity to measure accurately water use, because what I want to get to is: is this a specialised bit of kit, which is ubiquitous or do you have to go to a particular, narrow set of suppliers?

Mr VINCENT: They tend to be from a relatively narrow set of suppliers, not because we choose a narrow set but that is the dominant force in the market. They are a pretty basic mechanical meter at its core. It is not a highly complex piece of gear. That reflects an accuracy versus cost optimisation, if you like. We know these things give reliable service for 15-year blocks—10 to 15 years. Fifteen years seems to be the optimal point of replacement; it is a reliable, highly cost effective way to meter customers. We operate within the sort of standards of plus or minus five per cent that are set federally. That is about making sure we are providing accurate information to our customers for billing purposes and that is what drives the sort of replacement programs.

[2.50 pm]

Ms MURPHY: They have not evolved much over the last 30 or 40 years.

Mr VINCENT: They have not evolved much is the reality. From changes to technology, you can get into things like automated meter reading via networked arrangements. We have got those installed in Kalgoorlie and the Pilbara and a handful around the metropolitan area. I guess the experience we have had to date would suggest that the cost–benefit trade-off has not justified moving to that as the preferred methodology across the board. That said, there are particular locations and cost of doing manual meter reading where it can justify automated meter reading as a proposition.

Ms MURPHY: But the automated meter reader is sort of a thing on a manual meter.

Mr VINCENT: The meter does not change.

Ms MURPHY: The meter is the same old meter; it just has a little smarty —

Hon TJORN SIBMA: Yes, it is just the dial.

Mr VINCENT: It is called a cyble. It just sits on the top and basically transmits a signal.

Ms MURPHY: For energy, you have already got, not surprisingly, power where the meter is, but for water, we do not want power where the meter is. Water and power do not mix, so you have to have batteries on them and then the batteries have to be replaced. It is actually quite clunky.

Mr VINCENT: We have certainly experienced the capacity of that technology in Kalgoorlie. Those meters have been in place for six or seven years. We have seen some of them work very well. We have seen lots of dog attacks.

Ms MURPHY: While we love our dogs, they eat the cybles.

Mr VINCENT: They eat the cybles. That has probably been the cause of failure for that meter fleet.

Hon TJORN SIBMA: Very enlightening!

Mr VINCENT: I am not sure it is helpful, but it is enlightening, yes.

Hon TJORN SIBMA: I feel enlightened, so you have met some sort of vague metric there.

Ms MURPHY: A KPI!

Hon TJORN SIBMA: More particularly as to the contractual arrangement for sourcing the replacement meters, presumably this is not a 15-year open tender with the same supplier. What is the arrangement? Would you be able to elaborate on that?

Mr VINCENT: It is certainly a tendered contract. It went to the market; I cannot tell you exactly when or the term of that contract. But it is certainly one that was put to the market and bid. I guess we have seen probably pretty stable delivery of meters through those arrangements over a decade plus.

Ms MURPHY: Most of those sorts of contracts we would usually go to the market for maybe three plus three years or something like that.

Mr VINCENT: I do not know the exact terms.

Ms MURPHY: We market test virtually every aspect.

Hon TJORN SIBMA: Which company provides the current tranche of meters?

Mr VINCENT: My understanding is it is Itron.

Hon TJORN SIBMA: Itron—are they an Australian company?

Mr VINCENT: They are a multinational or an international-based company.

Hon TJORN SIBMA: With an Australian branch office?

Mr VINCENT: Yes.

Ms MURPHY: Do they manufacture here? I think they do.

Mr VINCENT: I am not sure, to be honest.

Ms MURPHY: Not in Perth.

Mr VINCENT: No. They certainly have a multinational presence. Where they are specifically owned, we could find out.

Just on meters, in the global sense, there are two major suppliers—Elster and Itron—and you tend to end up with one or the other, and that is the experience across the water industry.

Hon TJORN SIBMA: Sure. Just in terms of the cost driver in the replacement project—I understand it is just something that you need to do—can you tell me what proportion of that \$120 million

allocation is actually consumed with the contract and buying the kit and what proportion would be installation?

Mr VINCENT: It is roughly 50–50.

Ms MURPHY: It varies in the metro region.

Mr VINCENT: It depends on the suburb layouts, distance between properties and how far people have to walk between meter changes, but they get remarkably quick. The labour in a tight compact suburb tends to be a smaller component. In a more spread out suburb, it tends to be a higher component.

Hon TJORN SIBMA: I have one final question on this particular topic, if you do not mind. I presume the Water Corporation has a manifest schedule for rollout which is publicly available, or are residents just going to receive a letter in the mail saying, “Next week, there’ll be some guys out the front of your house”?

Mr VINCENT: They certainly get some advance warning far greater than a week. It tends to be in the months and they would get a couple of notifications that we would be on our way. I do not think we published at any point a full schedule for 15 years.

Hon TJORN SIBMA: Even for the next 12 months, for example? Presumably, you are working on the basis of 70 000 per annum. Would you be able to table, understanding that things change?

Mr VINCENT: We would have a schedule for the next 12 months or two years. I just do not believe that we have published it.

Ms MURPHY: Regionally, it may be influenced by other works that they are doing. Sometimes if somebody is going in to do works in a particular area and there were some meters that needed replacing, they might do them all for logistical reasons and it might get morphed a bit depending on that. It is not a big part of the capital program but there must be a —

Mr VINCENT: There is a schedule, yes.

Hon TJORN SIBMA: There is a schedule?

Mr VINCENT: There is a schedule, yes.

Hon TJORN SIBMA: Maybe I can ask again next year.

Mr VINCENT: We will see how we go.

Ms MURPHY: If there is a particular address you would like checked out, we can perhaps —

Hon TJORN SIBMA: No. I am sorted out, I can assure you.

On another topic, Chair, with your indulgence, page 34 of the annual report touches on your graduate development program. There is actually no need to dive into that. I am more interested in a corollary to university graduates, particularly apprentices. Would you be able to tell me how many apprentices Water Corp took on in the last financial year and what your program for recruitment might be going forward?

Ms MURPHY: Absolutely. I would love to tell you that because I have prepared this. At the moment, as at 22 January 2018, we have 17 apprentices employed by the Water Corporation, seven of whom are Aboriginal. We have a further six who are employed through our Aroona Alliance. We have 63 certificate II or III in water industry operations trainees, 23 of whom are Aboriginal. We have one who is a certificate III in business trainee. We have seven school-based water industry trainees, five of whom are Aboriginal, and that is mainly through our partnership with Clontarf and school-aged ones. We have three further school-aged trainees who are at school and working part time in

business, which is a total of 97 trainee positions, if you like. We run quite an aggressive campaign for the certificate II in water industry operations and call for applications every year. We do not guarantee that they will all continue their employment. We do the one year for the certificate II. Most of those we will keep for a second year to do the certificate III and most of them will stay working for us, although some go to some of our partners. At the moment, we have two hydrographer trainees and 38 university graduates in our graduate program. Not all are engineering. We have some scientists. We have an HR person. We even have an economist. We have sunk that low! No, I should not say that.

Hon TJORN SIBMA: I am glad the dismal sciences are represented in the Water Corp!

Ms MURPHY: We have increased the number of vacation students we take, because for engineering undergraduates to graduate, they need to do a period in the workplace. When the boom ended, it was difficult for students to get that, so we have tried really hard to take more on. We had 32 over the summer, but there are 26 still with us at the moment until university goes back. We are very proud of the work we do with trainees and that is statewide. In fact, in some parts of our business in some of our regional areas where it has traditionally been difficult to employ people, growing your own makes perfect sense.

The CHAIR: Member, we might just pop to another member. I will just go to Hon Diane Evers first and then back to you.

Hon DIANE EVERS: I have just a couple of follow-up questions. I am not sure if I missed something there, but did you say that the new meters you are putting in only have an expected life of around 15 years?

Mr VINCENT: Correct.

Hon DIANE EVERS: So this program that is running for 15 years to replace all of them will start again at that point?

Mr VINCENT: Correct.

Hon DIANE EVERS: So it is really just an ongoing replacement of meters.

Mr VINCENT: Painting the Sydney Harbour Bridge is the best way to think of it—go from one end to the other and start again.

Hon DIANE EVERS: I just wanted to make sure I understood.

Ms MURPHY: They do not fail at the end of 15 years.

Hon DIANE EVERS: No, but they slow down.

Ms MURPHY: Yes. It is possible that they will not all be replaced in exactly 15 years. I would hate to give you the impression that it is quite that slick.

Hon DIANE EVERS: No. I get that, because my next question follows on from that. You say that they slow down, including one that stopped. But you are trying to keep the—what did you call it?—unaccounted-for water under 10 per cent. I am just wondering what would you expect the percentage of unaccounted water is that is actually going through these meters. When people do get the new meter on, is their bill going to jump by two per cent or 10 per cent?

[3.00 pm]

Mr VINCENT: Some of them jump quite significantly because they may have had a meter that was effectively stopped, so they can get quite significant increases. Part of the communication we make before we go through a meter change program is “expect to see your bill increase”, because that is the general rule of thumb—most people’s bills will increase. If we look at the proportion of non-

revenue or unaccounted for water that is associated with metering, it is somewhere in the order of 25 to 30 per cent of the total associated with metering. We do that based on the knowledge we have of our meter fleet but, if anything, that would be the bottom end figure; it could, in fact, be a bit higher than that. It is a reasonable proportion that is effectively unbilled consumption.

Ms MURPHY: It is 25 per cent of the 10 per cent or 11 per cent.

Mr VINCENT: Of the 10 or 12 per cent, yes, so unbilled consumption.

Hon DIANE EVERS: That is likely to continue because you cannot change it unless you try to upgrade the meters even quicker, and that is not cost effective.

Ms MURPHY: It is probably uniformly spread over society on average.

Hon DIANE EVERS: We were talking about the treatment of wastewater and then recharging the aquifers with that. But the water from the wastewater plant, how clean is that? Is there anything in there so that you have to put it back into the aquifer or is it at a drinking level when it comes out of the aquifer?

Ms MURPHY: It is virtually desalinated water. It is purer. You would have to buffer it before you could put it into a pipe to drink but it is of a standard that you could drink. You could go for a direct potable re-use solution. There are a few reasons why we do not do that at the moment. One is because you have to put it somewhere; you have to store the water somewhere. If you were to pump it up into a dam, a dam is a really good place to store water, but it is up, so you actually need energy to pump water up to a dam because our wastewater treatment plants are invariably down because we use gravity as much as we can. Whereas when we say we pump it into an aquifer, that is not totally true because it is a kilometre down, so gravity is kind of your friend. There are some energy constraints that make it not ridiculous to store the water in an aquifer. An aquifer has no evaporation so it is quite good. As long as the quality of the aquifer is not degrading the really good water that we are putting in there, that kind of makes sense. One day direct potable will probably be the norm in parts of Australia—probably in Perth—but that day is not now.

Hon DIANE EVERS: It does not have evaporation, so when the treated water goes into the aquifer, can you measure it and find that it is all going there or is there any loss along the way?

Mr VINCENT: You can certainly measure the changes in pressure within the aquifer. You can measure the volume you are putting in. It is effectively a sealed pipe going down until you get to your recharge point. You can pretty confidently state that the water is going back down. I guess the complexities are around how that recharge is recognised in future allocations and some of the planning and regulatory environments that exist. As Sue mentioned, the key advantage of putting it underground is that it allows for those periods in the winter months when the water use in the scheme is not as high. It is a great place to store water. When we are starting to talk about 28 billion litres of water, it is a very large volume. Storing it and preserving it in the ground for a period to use down the track is a great way to do it.

I guess what we have seen with the expansion to 28 gegalitres is that the choice of locations for recharge is critical. We do a lot of work with the Department of Water and Environmental Regulation around the locations we are recharging. That is about trying to support some of the broader environmental objectives that the department has around retaining aquifer levels and connection to surface environments and so on. We have been quite careful about taking the water offsite and injecting close to lakes and wetlands areas to try to bolster those to deliver more than just storage of water.

Hon COLIN TINCKNELL: I have just a few quick ones. When you were talking about trainees, I think you mentioned that there are about 30-odd Aboriginal people out of the 90-odd trainees, which is

fantastic. On page 34—you do not necessarily have to look at that—you mention the native title strategy. Could you briefly, just quickly, explain that strategy?

Ms MURPHY: The native title or the RAP?

Hon COLIN TINCKNELL: It is mentioned as the native title strategy on page 34. I imagine the RAP would have something to do with it.

Ms MURPHY: It all comes under the auspices of our RAP. Our current RAP is at the end of this financial year, so we are in the process of really challenging ourselves to do better going forward. We have a team who look at land use and what we can do to better work with Indigenous partners and Indigenous teams across the state. I guess from our point of view, we are really a whole-of-state water utility so we are working with everyone in the state. Those relationships are probably more critical than they are for some other government agencies and government entities. That land use team is looking at native title issues everywhere, but we are also partnering with the South West Aboriginal Land and Sea Council, the new agreement, and doing a lot of work in that area because a lot of the land that has been handed back is land in our catchments, so we have been looking at better ways to manage those catchments in partnership or perhaps divest some of the catchment management to our Noongar partners or whatever we can do.

Hon COLIN TINCKNELL: You have answered my question. That is what I was referring to. Thank you for that.

I have just a few financial ones. In relation to “Other expenses” on page 57, I am looking at page 62, note 6(b), “Derecognised assets”. What is that? It is in account for the increase from \$8 million in 2015 to \$52 million in 2016.

Ms MURPHY: It might be a tank that we no longer use that we bypass and we have eventually written off. The replacement value of our assets is \$30-odd billion.

Hon COLIN TINCKNELL: The last one was other expenses. On that same line, 6(b), can you just explain what those other expenses refer to? I notice that it was \$88 million in 2017.

Mrs EVANS: I might have to take that on notice.

Hon COLIN TINCKNELL: The very bottom line.

Mrs EVANS: I can see where it is.

The CHAIR: We will take that on notice. That is C5.

[Supplementary Information No C5.]

Hon Dr STEVE THOMAS: Let us have a little talk about wastewater. Obviously, it is of interest to us all. There are two separate issues. First, where are we in terms of the country infill sewerage program? Is that effectively waiting further investment? Second, I note with interest that the Economic Regulation Authority released a report that said that the Water Corporation is in fact undercharging on water distribution, so water supply, but significantly overcharging on wastewater. Does the corporation have a position or a public statement in that regard?

Ms MURPHY: No, we do not set our price; the government sets our price. The government of the day decides what our tariff structure is. We always respect the government of the day to set that price. We do have a model and the ERA has a model. We do not totally agree with the ERA model but the gist is correct.

Mrs EVANS: We are looking at what the ERA has come up with in terms of recommendations—what does that mean for our business? There are often times when different positions will be taken on things. You have seen that we have an awful lot of assets in here. We might have differences of

opinion about how some of those assets should be treated. There are a lot of angles that come out in the ERA's review.

Hon Dr STEVE THOMAS: You will formally respond through government.

Ms MURPHY: No, we will not respond; government will formally respond. We will respond to matters of fact in the ERA's model and matters of fact of the actual numbers and the assets et cetera, but the right to set price lies with government. The ERA recommends to government.

[3.10 pm]

Hon Dr STEVE THOMAS: Yes, that is right.

The CHAIR: That price setting procedure has been around for —

Ms MURPHY: Since we were corporatised in 1995, really. It is government's call if they want to charge more for something. Over our whole business, the ERA agree we are largely cost reflective across the whole business, if that makes sense.

Hon Dr STEVE THOMAS: Is the regional infill sewerage program —

Ms MURPHY: There is not much happening at the moment. The low-hanging fruit in infill sewerage has all been done. The projects that are left are very expensive per dwelling. Generally that infill sewerage is a government ministerial project.

Mr VINCENT: The infill program started in the late 1990s with a target of 100 000 properties, which was exceeded a number of years ago. The early part of the program was targeted towards health and environmental protection. Those properties that were identified were delivered in the early parts of the program. I guess going forward it would be up to a locality to demonstrate that there was a particular concern or need and that that was best served by an infill program.

Hon Dr STEVE THOMAS: Would it be fair to say that there were some areas identified originally—I know you may not go back that far—that have never been delivered?

The CHAIR: I do not know that you can really ask kind of retrospective questions around —

Hon Dr STEVE THOMAS: It is going back a fair bit, sorry.

The CHAIR: If you have the capacity to answer it, try —

Ms MURPHY: In general, we believe we have done the bulk of what was set out in the first place, but it has changed so many times since then it has a bit hard to —

Mr VINCENT: The high-priority projects identified in the nineties were delivered within the first decade. We have been going another decade beyond that. I am sure there would have been an individual property here or there that was identified, in Peel for example, that perhaps did not get a sewerage connection, but on the whole the program more than met its objectives.

Hon Dr STEVE THOMAS: The rest of it is quite historical, so we might bypass that, Madam Chair.

The CHAIR: Okay, I am sure the Water Corporation might be interested in providing you with some additional information if you are able to put the questions on notice—if they are able to—after the hearing. If they are able to and it does not require any —

Ms MURPHY: We get asked many questions about infill sewerage over the years.

Mr VINCENT: We have quite comprehensive records.

The CHAIR: Similarly, if there are properties that require that, I am sure the corporation will be open to your —

Hon Dr STEVE THOMAS: I could give you a fair bit of history, but it is not the place for it. I was around for that whole process and that billion-dollar budget was cut back significantly successively over the late 1990s and early 2000s.

The CHAIR: And I thanked Gough Whitlam for my flushing toilet when I was a young person as well—daily. When I was an adolescent.

Hon Dr STEVE THOMAS: I will leave that alone.

The CHAIR: Through DIRD, there was a country sewerage program; it changed people's lives. Thank you, Gough Whitlam.

Ms MURPHY: We are very comfortable talking about sewerage.

The CHAIR: Okay, I think that brings us to the close of this very informative hearing. Thank you very much.

On behalf of the committee, I thank you for your attendance today. The committee will forward the transcript of evidence which highlights the questions taken on notice together with any additional questions in writing after Monday, 26 February. Responses to these questions will be requested within 10 working days of receipt of the questions. Should you be unable to meet this due date, please advise the committee in writing as soon as possible beforehand. The advice is to include specific reasons as to why the due date cannot be met. If members have any unasked questions—particularly about sewerage infill—I ask them to submit these via the electronic lodgement system on the POWAnet site by five o'clock on Friday, 23 February. Once again, thank you for your attendance today.

Hearing concluded at 3.13 pm
