

The Government Owned Corporations Scrutiny Committee convened at 8.30 am.

Madam DEPUTY CHAIR: Good morning everyone. We will get started. Our Chair is on the way, but as Deputy Chair I can certainly open proceedings this morning.

I declare open this public hearing of the Government Owned Corporations Scrutiny Committee of the Legislative Assembly of the Northern Territory today. I extend a welcome to the Treasurer, the Minister for Essential Services, the Chairman and the Managing Director of the Power and Water Corporation, the Under Treasurer and to everyone else present.

The Order of the Assembly dated 4 May 2011 appointed this committee to examine and report on the activities, performance, practices and financial management of the Power and Water Corporation with reference to the Power and Water Corporation's Statement of Corporate Intent 2011-12. The public hearing will go from 8.30 am until 12.30 pm today, a total of four hours.

I would also like to report that I was elected Deputy Chair of the committee in accordance with paragraph 4 of the Order of the Assembly. I also advise that media can be present and are able to report and broadcast proceedings of this hearing.

A procedural issue I should bring to everyone's attention relates to section 19 of the Terms of Reference for this committee. Questions should be put directly to the portfolio minister, the shareholding minister or the Chairman of the Board of the Power and Water Corporation. The Managing Director and other officers may assist the ministers and Chairman in the provision of relevant information when requested. Although this is a public hearing, it should be noted that, under section 20 of the Order of the Assembly, the Chairman and other witness will advise when evidence is of a commercially sensitive or confidential nature and may request that such evidence be heard *in camera*. If this arises, I will invite the Chairman and witnesses to give the reasons for their request.

The procedures adopted by the recently completed Estimates Committee to address questions taken on notice will also be utilised through the public hearing of this Government Owned Corporations Scrutiny Committee.

In previous years, opportunity was available for members during the Estimates Committee public hearings to question the Treasurer as shareholder minister on the issue of Community Service Obligations made to the corporation by the government, as well as dividends paid to the Territory government by the corporation. As the ministers are appearing with Power and Water Corporation, that opportunity is before the committee today.

The committee will now proceed to consider the activities, performance, practice and financial management of the Power and Water Corporation.

Mr ELFERINK: I believe there will be an opening statement.

Madam DEPUTY CHAIR: I believe there will be.

Ms LAWRIE: Madam Deputy Chair, I will make an opening statement in relation to my presence here today and my responsibility as shareholding minister for the Power and Water Corporation. I will also explain the different roles of minister Knight, the portfolio minister, and Ms Judith King, Chair of the Power and Water Corporation Board.

I have with me today the Under-Treasurer of the Northern Territory, Ms Jennifer Prince, and other senior Treasury staff, including Mr David Braines-Mead, Assistant Under-Treasurer; and Mr Craig Graham, Senior Director, Economic.

This is the first year that ministers have appeared before the Government Owned Corporations Scrutiny Committee. It is therefore important that there is clarity between the responsibilities of the two ministers and the Power and Water Corporation Chair, Ms King, in responding to the committee's questions during this hearing.

As the committee is aware, the Power and Water Corporation is a government-owned corporation with a well qualified board responsible for the overall management of the corporation and the achievement of agreed outcomes. There are two ministers with responsibilities for the corporation. As Treasurer and shareholding minister, I am responsible for agreeing the high-level financial position and outcomes that the

corporation is seeking to achieve. These objectives are set out annually in the Statement of Corporate Intent, the SCI, which is tabled annually in the Assembly. The SCI sets out what the shareholder may expect in terms of the corporation's performance, its investment program, the expected revenues and expenditures, including approved assistance from the Northern Territory in terms of funding for Community Service Obligations, and Indigenous Essential Services, other assistance as agreed, and also the corporation's annual borrowing requirement.

Minister Knight is the portfolio minister, responsible for agreeing Community Service Obligations, industry-wide policy issues, and the high level investment in Power and Water's capital and maintenance program.

Ms Judith King is the Chair of the corporation's board and has been a member of the board since the corporation was established more than 10 years ago. Ms King, assisted by the Managing Director, Mr Macrides, and other senior Power and Water Corporation staff, will answer questions in relation to the operational activities of the corporation.

Turning to my particular responsibilities as shareholding minister, I am happy to answer any questions from the committee relating to the financial arrangements between Power and Water Corporation and the Territory, including Community Service Obligation payments, taxed equivalent payments, gazetted tariffs, and approved debt to equity swaps. Questions relating to the day-to-day financial operations of the corporation should be directed towards the Chair or the Managing Director of the corporation.

Minister Knight as the portfolio minister will deal with higher level questions related to Power and Water Corporation's capital investment and maintenance programs. Questions that relate to operational activities, including implementation of the infrastructure programs and other operational activities of the corporation should be directed towards the Chair or the Managing Director of the Power and Water Corporation.

It is important that I place on the record that the Power and Water Corporation is delivering on the largest-ever capital and maintenance investment program in the corporation's history. This program has been developed by the corporation and recommended to government by the Power and Water Corporation Board. This investment is critical to enhancing the reliability of supply and responding to growing demand across the Territory, and forms a key part of this government's strategy to grow the Territory.

A record \$1.8bn of capital investment and maintenance will be made between 2011-12 and 2015-16. The board and management of Power and Water Corporation have been working extremely hard to implement this very important program, and I acknowledge their efforts today. Minister Knight would also like to briefly address the committee, as would Ms King.

Mr CHAIRMAN: Thank you. Minister Knight.

Mr KNIGHT: Thank you, Mr Chairman. The Treasurer has outlined the roles of the shareholding minister and the portfolio minister, and their relationship with the Power and Water Board and the Managing Director.

As the portfolio minister, I am happy to answer high level questions from the committee in respect to Power and Water's investment in the capital and maintenance program. Questions of an operational nature should be directed to the Chair and the Managing Director of the Power and Water Corporation.

As the Treasurer has outlined, we have a record spend of \$1.8bn of capital, and repairs and maintenance. In the history of Power and Water, this is the largest ever investment. It is critical to the essential electricity, water, and sewerage services to Territorians across the Northern Territory. Key aspects of the program include the increased generation capacity with works already progressed on Channel Island, Weddell, Owen Springs power stations, with further works to happen in Katherine, Tennant Creek, and Yulara. Increased supply security and reliability of power networks to include works at Snell Street, Darwin City, Lee Point, Frances Bay, and Norris Bell substations, as well as the construction of a 132/66 kV terminal substation and transmission lines for the Darwin region.

Improved water and sewerage services with the raising of the Darwin River Dam and the upgrade of the Alice Springs Roe Creek Borefield are successfully completed, and works are continuing on the Ludmilla outfall and the waste water treatment plan, as well as the Darwin region sewerage strategy.

Ensuring safe drinking water is successful in remote communities: we have that under the Water for Healthy Communities initiative and the commitment to the environment through the reducing greenhouse

gas emissions with \$17.8m in this budget for the conversion of the Wadeye power station from diesel over to gas-fired. There is also the construction of solar power stations at Ti Tree, Kalkarindji, and Lake Nash.

I acknowledge the efforts of the board and the management of Power and Water and the staff of Power and Water for implementing these programs. I now refer to Ms King who would like to make a brief address to the community.

Ms KING: Good morning, Chairman, and members of the committee. I am pleased to be here on behalf of the Power and Water Board of Directors. By way of introduction, since appearing here last year, two of our directors, Mr Barry Chambers and Ms Margaret Gibson's four-year terms have ended, and Mr Robert Skinner and Mr Steve Margetic have joined the board. Mr Skinner comes as the recently retired CEO of Melbourne Water and adds considerable weight to the board's ability to understand issues around water.

Along with Mr Michael Hannon and Linda Mackenzie, Mr Margetic's appointment brings the number of Northern Territory directors to three, and I am very pleased that we have reached that point. I am also pleased to say that the past 12 months has seen extraordinary progress on major infrastructure projects within Power and Water, many of which will be commissioned over the coming year, and I will talk more about these shortly. There have also been major challenges. We have faced challenges arising from climatic and weather conditions with the Darwin, Palmerston, and rural areas, and many remote communities affected by storms, cyclones, and flooding events.

During Cyclone Carlos, staff worked long hours over many days to restore essential services to our Top End customers. The extended Wet Season, which brought record rainfall right across the Northern Territory, caused major interruptions to fuel deliveries to remote communities, which saw the innovative and expensive use of helicopters, barges, and four-wheel-drives to replace fuel trucks in order to get sufficient supplies through to keep power stations operational.

As reported at this forum in previous years, another challenge for the corporation has been our financial position; financial sustainability remains a significant challenge for the corporation and a major area of focus for the board. We are taking the necessary steps to achieve sustainability, which requires a combination of increased cost recovery from tariffs and community service obligation payments, effective revenue management, prudent and effective investments in capital works and maintenance programs, and effective management of operational expenditure.

The infrastructure investment program, which has been mentioned already; the corporation is investing substantially in maintaining, upgrading, and expanding electricity, water, and sewerage infrastructure in urban, rural, and remote areas of the Territory. In 2007, Power and Water began delivery of the largest investment program for essential services in the Northern Territory ever. What started as a five-year \$814m plan designed to cater for demand growth, asset refurbishment and renewal is now a \$1.458bn investment for the five year period from 2010-11 to 2013-14 consisting of \$1.136m in capital and a further \$321.2m in repairs and maintenance.

From 2010-11 to 2011-12, Power and Water's repair and maintenance costs are forecast to increase by 56% from \$55m to \$85m, which will improve service delivery and ensure a more rigorous approach to internal labour time recoveries for repairs and maintenance projects. Repairs and maintenance costs from 2012-13 to 2013-14 will then increase by 15% from \$85m to \$98m.

Capital expenditure: turning to a snapshot of the major projects and initiatives already well under way or have been completed during the past ...

Mr ELFERINK: I want to ensure I heard that correctly, that increase in repairs and maintenance, was that a repairs and maintenance cost?

Ms KING: Yes, it is.

Mr ELFERINK: Thank you. Sorry to disturb you, I just wanted to make sure I had it correct.

Ms KING: Turning to the capital expenditure program, just a snapshot of the major projects and initiatives that are already well under way or have been completed during the past financial year.

In generation, works are under way for the installation of a third set at the Weddell power station scheduled for completion in March 2012. The cost to install this set is \$50m. At Channel Island power

station, sets 8 and 9 have been installed and testing and commissioning is under way at a total project cost of \$120m. As well, planning is under way to extend the lives of sets 1 to 6 at Channel Island at a projected cost of \$99m. The Owen Springs Power Station and associated power networks infrastructure have been commissioned and system testing and final connections will take place in August this year at a total project cost of \$153m. Feasibility studies are also under way for augmentation of both the Tennant Creek and Yulara power stations with installation and commissioning set for 2015.

Power networks: investment in our networks has been, and continues to be, substantial. The performance of the electricity supply system in the Northern Territory has shown significant improvement on previous years. It is now over two years since the Mervyn Davies report was finalised, and Power and Water has worked systematically to implement the recommendations and improve network reliability. The RAMP, or remedial asset management program, which was instituted to deal with the recommendations arising from the Davies report has now been remerged into power networks and is referred to as substation maintenance. That position has been normalised. Civil and electrical works on the Archer Zone substation are complete, and new 11 kV feeder cables are being installed. Commissioning is scheduled for June this year, with a total cost of \$26.3m. Civil works commenced in May of this year to replace the Snell Street Zone substation, with full project completion scheduled for September 2012 at a project cost of \$27m.

On electricity supply and system performance, I am pleased to report that Power and Water continues to improve the reliability of its power supply. Measured on national indices, and despite environmental challenges not experienced elsewhere, we have recorded fewer power outages of shorter duration than the national average. We have also exceeded our targets for restoring power in each of the major urban areas.

Water and sewerage: the project to raise the Darwin River Dam wall and increase capacity by 20% was successfully completed and some minor works continue. The total cost for that is \$13.6m. The upgrade of the Alice Springs Roe Creek Borefield was completed in June last year with the installation of new bores at a cost of \$13.9m. The project to return Manton Dam to service by 2016 continues with studies still under way to determine yield assessment and resource reliability. To bring this water source online will cost in the order of \$137m. Upgrades to the Darwin CBD ring main continue at a cost of \$10.8m.

The Darwin Region Sewerage Strategy, which will see the closure of the Ludmilla outfall and flows from the CBD diverted to Ludmilla Waste Water Treatment Plant is well under way at a total cost \$67m. The upgrade of the Ludmilla Waste Water Treatment Plant is scheduled to be complete in mid-2012.

The construction to replace the East Point rising main and extend the outfall further out to sea to take better advantage of strong currents and tidal conditions is subject to a public environment report. This is scheduled to be released for public comment later this year.

Turning to remote operations, Power and Water's not-for-profit subsidiary company, Indigenous Essential Services, delivers essential services to 72 remote communities and 66 outstations across the Northern Territory, 20 of which are considered growth towns. Working in partnership with the Strategic Indigenous Housing and Infrastructure Program, IES is facilitating the associated land servicing and essential services program to support the housing being delivered with capital works under way in six of the growth towns. The Water for Healthy Communities initiative incorporates the strategy for safe water, sustainable water management strategy, and waste water management strategy, as well as addressing current water and sewerage delivery risks.

Working in line with the Northern Territory government's climate change policy, Power and Water continues to expand its use of renewable energy to produce electricity in remote communities, as well as decommissioning less efficient diesel power stations where possible. To this end, a 37 km power line will be built to connect the remote community of Ampilatwatja to the nearby community of Alparra, which will enable the closure of the local diesel power station. As well, solar power stations will be built and commissioned this year in Ti Tree, Kalkarindji and Lake Nash. \$17m has been allocated in the 2011-12 Budget to construct a new 5 mW natural gas-fired power station in Wadeye to replace the existing power station, and this will reduce annual diesel fuel usage by over two million litres.

The corporation has maintained triple certification in quality, environment, and safety. Safety remains a major area of concern for the corporation. It is committed to pursuing a goal of zero harm for staff, contractors, and customers with substantial funding invested into the safety systems.

The corporation faces the challenge now of retail competition. Full retail contestability for electricity was introduced in the Northern Territory on 1 April 2010 and that, effectively, removed the legislative barrier to

competition. Since then, one competitor has been issued an electricity retail licence and is active in the Northern Territory market.

In staffing and training, a challenge for the corporation, as well as all Territory businesses, is attracting skilled and experienced staff to the Territory. This is a critical issue for Power and Water. To ensure the right people are in place for the future, we have developed our base of skilled staff in 2011 with 21 new apprentices joining Power and Water, bringing the total number to 79. In addition, we also have seven undergraduate placements.

Several works are under way to develop a training facility at the Power and Water 19 Mile Rural Depot near Coolalinga, which will be used initially to train line worker apprentices. That will negate the need to send them to Melbourne for training. I also add that, as usual during the year, we have lost a couple of senior executive staff, but we have been fortunate in recruiting a couple of very good people to our executive team.

In conclusion, Power and Water, its senior management team, and more than 1000 staff have worked extremely hard over the past 12 months to meet our obligations under our Statement of Corporate Intent, to ensure we meet regulatory requirements and to build relationships with our customers and the communities we work in, to improve delivery of essential services across the Territory. The enormous infrastructure expansion and repairs and maintenance program that is under way at the moment seems, to me, to have energised the corporation and I have been absolutely delighted with the level of dedication and commitment. I record the board's appreciation of that work. Thank you, Chairman.

Mr CHAIRMAN: Are there any questions to the opening statement?

Mr WOOD: May I get a clarification, please? Are we allowed to discuss matters in relation to subsidiary companies, including Indigenous Essential Services? It was mentioned in the opening statement.

Mr ELFERINK: You would have to be able to, if it is a subsidiary, it is partly owned.

Mr CHAIRMAN: The minister has also appeared separately, minister McCarthy. Like last time, there are definitely aspects of Indigenous Essential Services that you can ask here.

Mr ELFERINK: Thank you very much, ministers and Ms King, I appreciate your opening statements.

I want to turn to a couple of the comments you made in your opening statement, Ms King. I noted there is an intention to extend the lives of generator sets 1 to 6 at the Channel Island Power Station. Why is it necessary to extend the lives? What are you extending the life from? Was there a program of replacement which has now been pushed back? Or, what part of that requires extension of the lives?

Ms KING: I believe if we go straight to our General Manager for generation, they can explain the technical detail of that. It is not about pushing back, it is about a regular part of the assessment and the repairs and maintenance program.

Mr KNIGHT: It is a mid-life refurbishment.

Mr MACRIDES: Andrew Macrides, Managing Director, Power and Water. Member for Port Darwin, the Channel Island Power Station was constructed 25 years ago. There are six original sets which were put in at the time the station was constructed, referred to as sets 1 to 6, because it is easier to do that. The seventh set was put in, in the early 1990s. Typically, a generation plant has a life span of 25 years or thereabouts, and obviously you can do significant maintenance work to a generator which, in fact, is major overhauls of generators to extend the life of these generators. The combined output of these six generators is 180 MW, which is a substantial portion of Power and Water's Darwin/Katherine output. We have done a fair degree of analysis of the sets out there in terms of the economics of replacing the sets versus the economics of undertaking refurbishments of the sets and gaining additional life out of the sets. The economics come up in favour of refurbishing the sets.

So, in effect, what we actually do is, we replace almost everything inside the engines themselves, as well as all the peripheral gear surrounding the engines, and that gives us at least another 15 years worth of life out the engines. To do that will cost in the order of approximately \$120m versus replacing all the engines at a cost in the order of probably \$200m-plus.

Mr ELFERINK: When you say extend the life, it is basically an expression, if you like, to say that we are going to take these sets and do with them what we would normally do with them anyhow; if we did not do the work the engines would fail sooner, hence extend the life.

Mr MACRIDES: Yes. There was always a program of mid-life refurbishment for these engines. The question was whether it was economic to do that or whether it was economic to replace the engines with new engines. As I said, the economic analysis stacks up in place of refurbishing the engines.

Ms KING: Mr Elferink, I could just add to that by saying that the board has a number of committees. One of them is the Capital Investment Committee. The proposals which come up from management with the options for either replacement or renewal are rigorously considered and the business case analysed in great detail, and often referred back to management for further work. I just want to give you that assurance that the options are all examined in detail.

Mr ELFERINK: My ears pricked up at the expression 'extend the life'. You are, as you say in your opening statement, engaged in a substantial amount of capital investment into your organisation, and when I hear in that context, 'extend the life', I just want to ensure it is a natural part of the process rather than trying to stretch money necessarily. That is the thrust of those questions.

I note also in your opening statement that you referred to a competitor entering the market. Who is that competitor? More to the point, what part of the market are they targeting?

Mr MACRIDES: As the Chair indicated, the market opened up to competition on 1 April last year; that is the retail side of the business. The competitor is a company out of Queensland called QEnergy. As to what area of the marketplace they are targeting, obviously we are not privy to their business. I assume they are targeting - logic would dictate they are targeting the big end of town.

Mr ELFERINK: That would be tranche one ...

Mr MACRIDES: Tranche one to three, I would imagine, but as I said I am not sure what their operating model is.

Mr ELFERINK: Where are they generating from; do you know that?

Mr MACRIDES: They are a retail outlet, which means they have to buy generation from Power and Water and they have to toll through Power and Water's poles and wires which are a regulated monopoly.

Mr ELFERINK: Oh, I see.

Mr MACRIDES: So, it is competition at the retail end only, not the generation end or the network side.

Mr ELFERINK: In relation to the supply of electricity, and Power and Water's sewerage services to the growth towns, clearly there is a commitment to developing the infrastructure in these growth towns as part of the policy. I picked up from your comments that through your subsidiary, you are providing those services. Who is paying the bills for that? Or, how does your subsidiary get paid for delivering those services, and are you making any profit out of that process? It is a not-for-profit, I suppose.

Ms KING: Yes, it is a not-for-profit, and the funds for those activities come from a range of sources. Some of them are federal government programs, some of them are Territory government, and some of them are community service obligations. There is a range of them, but no, we do not make a profit.

Mr ELFERINK: So, I will rephrase the question. Is Power and Water the parent in any way being drawn down upon to supply these services, or is this purely done through as a contractual obligation, if you like, by your subsidiary?

Mr MACRIDES: It is a straight pass through of costs. Power and Water's commercial operations do not subsidise its not-for-profit entity.

Mr ELFERINK: That was my question. I note also that you said in your opening statement, or made reference to, an \$80m a year R&M program growing to \$95m a year. Minister Knight, about a year-and-a-half or two years ago in parliament, you said the R&M maintenance was going to be \$50m, extended from \$48m to \$50m and then tick along at \$50m for the next few years. What has brought about the change since you announced \$50m a year to now?

Mr KNIGHT: Asset assessment was a big part of the RAMP process, so we take advice on the needs for repairs and maintenance. I will get Andy Macrides to answer that one.

Mr ELFERINK: Sure.

Ms KING: If I could just answer briefly and then pass onto Andy. As the generation and other projects are commissioned and come on stream, then the ongoing maintenance, it transfers some of those costs across into repairs and maintenance. Andy, over to you.

Mr MACRIDES: There are a number of reasons for the uplift in the repairs and maintenance program. As Judith just indicated, we have new generation plants coming online at Channel Island, Weddell, and Owen Springs, and associated with that plant coming online, are the long-term service agreements that we enter into with the manufacturers are also part of the increase in the maintenance cost. Another significant part of the increase in the maintenance cost is the fact - you will have been aware - that we are introducing new computer systems across the organisation, and we refer to an asset management capability project, which is replacing some fairly antiquated asset systems that we have within Power and Water with state-of-the-art asset systems. Those systems allow us a greater transparency over the allocation of costs to repairs and maintenance and capital jobs on the part of our workforce. So a part of this additional increase is a more accurate assessment of the time our workforce works on maintenance jobs and capital jobs.

Mr ELFERINK: How has that worked in the past, if the creation of a new system suddenly reveals that your R&M expenditure is actually been more than your budget has allowed for in the past? What happened in the past to mask that effect?

Mr MACRIDES: It was not so much a masking effect; it is just better information or better data. Remember we have an extra 400 staff now compared to three or four years ago so we have a larger workforce working on our maintenance projects and our capital projects. That cost is attributed back to the jobs they work on. A significant part of this increase is the increase in the size of the workforce and the allocation of their time to maintenance and capital jobs. Any under-reporting in the past would have simply been against personnel costs. We would have had a higher personnel cost and a lower maintenance and capital cost. We are not talking about huge swings in numbers here; the large driver of this is the increase in the size of the workforce.

Mr ELFERINK: I get that and understand the reasons for it. I suspect you inherited from your predecessor some difficulties, Mr Macrides, in relation to measuring and dealing with these issues. I am not unsympathetic to your position.

Moving to different issues, how are we going to do this, Mr Chairman? We can either give Gerry an hour at the end, or do you want to do it the way we have been doing it?

Mr CHAIRMAN: With the goodwill of the committee, member for Nelson, if you can indicate when you want to come in.

Mr ELFERINK: Your 25% is the nod and the wink rule.

Mr WOOD: I do not mind doing that, but am I allowed to ask questions on the opening statement? I am then happy to leave it until the end.

Mr ELFERINK: That is fine by me.

Mr WOOD: Just a point of clarification, wherever the question goes someone will put up their hand and answer it. My question is in relation to the statement that you are removing a power station at Ampilatwatja - I have just been out there recently - and I know Ali Curung has a power line that goes 100 km from Tennant Creek, and the Newcastle Waters community is fed from Elliott. If you take a power generating plant off the system does that immediately relate to a reduction in carbon emissions?

Mr MACRIDES: Yes, it does in the sense that what you are doing is decommissioning an old diesel-fired power station and, in the case of Ampilatwatja, we are connecting that up to another power station using a transmission line. Instead of it having its own generation capacity, it is now being serviced from another area using a transmission line.

Mr WOOD: Is there a relationship between the closing down of a power station and heavier use on an existing power station, therefore increasing the carbon emissions at one point, and only being balanced by the loss of carbon emissions where you have closed down a power station?

Mr MACRIDES: That can certainly occur if you have to upgrade an existing power station that is diesel fired to service another community you now are connecting up via a grid. Most of the time it is not necessary because the power stations have surplus capacity, which means there would be a slight reduction in CO₂ emissions. Not significantly though.

Mr WOOD: I will stay in that area of the Territory, I visited Ampilatwatja, I also visited Atitjere, and they were telling me there is a proposal to connect them to Alparra? Is that true?

Mr MACRIDES: I might call upon Darryl Day, the General Manager of Remote Operations. I am not aware if we are looking at that, but it may well be a possibility, member for Nelson.

Mr DAY: Member for Nelson, could you please repeat the community?

Mr WOOD: Atitjere, which is on the Plenty Highway – it is Harts Range. I was told when I was there that there was a proposal to do what you are doing at Ampilatwatja - to take the power line through to Alparra and close their generating set down. Is that true?

Mr DAY: Not at this time. We have looked at a range of opportunities to decommission less efficient smaller power stations and establish what we call regional grids and generate from a higher efficiency station overall. Harts Range does not have that economic opportunity. At this stage, we will be maintaining the existing power station and looking at ways to continue to improve efficiency with new technology generation plant.

Mr WOODS: My other question relates to an area which gets difficult. We are trying to reduce the amount of carbon emissions. Next door to Atitjere is a cattle station called Mt Riddock. My understanding is they asked whether they could be connected by a single line. I am not asking you what you think about single electricity lines; I gather they are a controversial matter amongst technical people. By getting them off their generating plant, you are also reducing carbon emissions, but they do not come under Indigenous Essential Services. The problem I have is that, generally speaking, communities' infrastructure is, basically, paid for by the government. There is very little industry in those communities and many of those communities rely on welfare. Yet, the industry that is actually making a difference to the economy of that area is being asked to fund a power line of around \$1m.

Do you see any way around some of these issues? On one hand, you are saying through your corporate statements that we need to reduce carbon emissions. On the other hand, there is a whole pile of generating plants out there which are on private cattle stations but, because of the cost they cannot be connected to your grid. Are there any discussions about how we could do that?

Mr MACRIDES: Regrettably, Power and Water needs to operate in a commercial manner when it comes to its activities. The Indigenous Essential Services side of our business is a not-for-profit function that is funded entirely by government. The rest of our operations operate on a commercial basis in accordance with a set of guidelines that are established by a regulator for the connection processes for businesses to our power networks.

Our requirement is to reduce carbon emissions from our own emission sources. If you look at the Territory's total carbon emissions, the Territory emits something in the order of about 17 million tonnes of carbon a year. The stationary energy sector is responsible only for about 3 million tonnes of that. Of those 3 million tonnes, Power and Water is responsible for about one million tonnes a year. When you are talking about carbon reduction across the board, the stationary energy sector is a very small component of the total emissions into the atmosphere in the Territory. The vast majority of those emissions are caused through savannah burning.

Mr WOOD: I was just reminded, by my good friend, the member for Arafura, Aboriginal people do pay for their power ...

Mr MACRIDES: They absolutely do.

Mr WOOD: ... I am not saying they do not, but the infrastructure you put in such as the power line from Ampilatwatja to Alparra will be paid by the government or Power and Water. I understand that and I will take that back to the owners at Mt Riddock. I believe there is an area there that needs to be looked at.

The other matter relates to the renewable energy and carbon emissions. In your statement of intent, you basically say that for you to have the Office of Renewable Energy regulator impose a scheme which says you have to come up with a certain target is going to cost you a lot of money. What is the point of having a renewable energy electricity scheme that is going to cost you money? In the end, we are all going to pay more money for our electricity to have solar come online. Is that the bottom line?

Mr MACRIDES: The federal scheme is known as the Mandated Renewable Energy Target, and the scheme is designed so that all liable entities - and they are predominantly retailers and large energy users - are required, by 2020, to purchase up to 20% of their output from renewable energy sources. The whole basis of the scheme is to drive investment in renewable energy sources because, basically, all of us have an obligation to surrender RECs based on our CO₂ emissions. Those RECs are used and have to be purchased from renewable energy sources. It is a driver for the renewable energy industry to develop renewable energy options for us, so we can purchase these RECs.

Mr WOOD: In your opening statement, you mentioned a number of solar power stations. You are going to develop one in Alpurrurulam and that. So, is the bottom line, if you put those solar power stations in those communities, then according to this, this will significantly impact the corporation by increasing costs, thus further reducing the capability for financial sustainability. What I am saying is, while it is fine to have renewable energy sources, is it going to cost the average taxpayer in the Territory more money in electricity to fund these renewable sources?

Mr MACRIDES: The reality is that it is actually costing the corporation money now. The corporation has an obligation to purchase Renewable Energy Certificates. At the moment, we have now reached the point of saturation with renewable energy sources locally, so we have to buy RECs on the open market, which means we are buying them from interstate. What these investments enable us to do is to buy RECs locally, and the money that is used to develop these solar options and renewable energy sources basically is coming from the purchase of these RECs. So, we already have an obligation now through the requirements to purchase RECs and surrender RECs that it is costing us, if I give you some figures, in the case of the 2010-11 year, the cost is going to be in the order of about \$8.3m to purchase RECs. In the 2011-12 financial year, it actually jumps to \$14.9m and, in the two subsequent years, it is in the order of about \$17m a year. That is a cost we are already bearing in buying these RECs, the vast majority of which we are buying on the open market.

Mr WOOD: I will have a think about that. It seems funny that we are trying to get down the path of renewable and it actually costs more.

Mr MACRIDES: We have a federal obligation ...

Mr WOOD: I know, I know. We are the ones that pay ...

Ms LAWRIE: Mr Wood, the Productivity Commission report released recently into carbon pricing pointed out exactly what you are pointing out.

Mr WOOD: I shall think on it.

Mr ELFERINK: I was not going to start on carbon, but now that we are on the subject, we might as well stay on this subject. Minister Lawrie, I realise that the carbon price has yet to be settled and other details have yet to be settled in relation to a carbon tax, should we get one. Do you have sufficient details at your fingertips to have done some modelling as to the impact on Power and Water Corporation's financial situation should a carbon tax be introduced at the suggested \$26 a tonne?

Ms LAWRIE: As we debated when I appeared before the Estimates Committee as Treasurer, I am not going to speculate on the effects of any scheme until we see the details.

Mr ELFERINK: Ms King, has the board or the organisation in any way looked at the prospective cost impact of a carbon tax on the Power and Water Corporation, with the limited information you have at your fingertips?

Ms KING: Let me make a couple of points on that. First of all, this is an area that the board is concerned about and we are looking for regular briefs from the management team. At this stage, we have not done any modelling or calculations simply because the input data is not available. What we do have is an understanding of our own carbon footprint, and we are looking at ways that we might contain that.

On this question of renewable energy, that is a matter that we have fairly rigorous debates about at the board, because there are differing views. It is a question of getting that fine point at which an investment in renewables can be sustained because of the projected longer-term benefits back to the corporation.

Mr ELFERINK: Good luck with that. Mr Macrides, you were about to say something?

Mr MACRIDES: No.

Mr ELFERINK: No, okay. One would presume that if a carbon tax was introduced, Ms King, that there would be a negative cost impact on Power and Water, or is that incorrect?

Ms LAWRIE: I will go to that, because it certainly is a subject of national debate and at the recent energy ministerial council all generators are finely tuned to where a carbon price scheme and its details may sit. There was rigorous debate about that. There was also debate about the degree of compensation that will arise out of any total package. So, until you have those details, it is pure speculation as to what impacts will occur.

Mr ELFERINK: Thank you. Ms King, I will try again with a different question. One would presume, that no matter what the model is, a carbon tax is designed to change consumer behaviour – that is the logic.

I am aware of discussions around a compensation package but, nevertheless, that may go to the consumer directly, as I understand it, rather than to the corporation, which means the corporation stands to incur a taxation bill as a result of this. Would that be correct?

Ms KING: I am happy for the Managing Director to answer that. Again, I believe we have kept away from speculating on what it might be until we see some detail.

Mr ELFERINK: I am not particularly after the figure. What I am after is an acknowledgement that a carbon tax will increase costs to the Power and Water Corporation.

Mr MACRIDES: If I could go back to one of the comments you just made, and that is that the whole basis of carbon pricing is designed to change consumer behaviour. The logic of that would be that the end-use consumer would pay; which would simply mean there would be a pass through of some, or all, of the tax to the end-use consumer, and the end-use consumer's financial disadvantage would be compensated by way of whatever the compensation package is.

Mr ELFERINK: I appreciate that, but you have taken me to where I want to go – that ultimately such a tax, should it have a negative impact, will either partially or wholly be passed on to the consumer in the Northern Territory.

Mr MACRIDES: Again, speculation.

M ELFERINK: Yes, I understand that, but ...

Ms LAWRIE: And that certainly ignores the outcomes, which is reducing consumption and reducing cost to the consumer. In that scenario you just put, you are ignoring the ultimate reduction in consumption and, therefore, the reduction in costs.

Mr ELFERINK: If I understand your argument correctly, minister, it is that people, because of the extra cost, will lower their consumption.

Ms LAWRIE: No. What I am saying is there are many elements to this and you are cherry picking the elements that you choose to cherry pick.

Mr ELFERINK: No. What I am endeavouring to find out - according to everything I have heard, the consumer is not going to be particularly affected, particularly at the lower income end, because there will be a compensation package.

What I am trying to establish is by what mechanism these extra costs will be passed on to the consumers, once they are determined. At the moment, CPI is the vehicle by which we now increase power and water bills; after this year, I believe, the 20% is the last one this year ...

Mr MACRIDES: Correct.

Mr ELFERINK: ... for the water bills. We geared it to CPI so every financial year, or calendar year, it clicks over to the CPI for ...

Mr MACRIDES: The financial year.

Mr ELFERINK: Now we have power increases set by the Productivity Commission, by what mechanism will extra costs, as a result of the carbon tax, be passed on to the consumer, should they occur?

Ms LAWRIE: Member for Port Darwin, we need to see the detail of the scheme. There may or may not be the pass on; there may or may not be extra costs, depending on compensation. It is purely speculative at this stage until we see the detail of the scheme.

Mr ELFERINK: We have already heard that Power and Water anticipates extra costs; we have already heard from the Managing Director that those costs will either wholly or partially be passed on. By what mechanism, if they occur, do you intend to pass those costs on?

Ms LAWRIE: We have also heard from Ross Garnaut, when he was here. He pointed out that our clean gas means that Territory families stand to benefit from a price on carbon. So, really it is different views on the subject. Ross Garnaut is quite close to it, but what I am saying, as Treasurer and shareholding minister for the Power and Water Corporation, and what you have heard from the Chairman of the Board as well, is until we see the detail, it is all speculation.

Mr ELFERINK: It is an important thing to speculate on, or plan for. If there is a cost impost which is, ultimately, passed on by Power and Water Corporation to the consumer, how are we going to collect that?

Ms LAWRIE: For example, are RECs going to remain in the system or not? You heard the Managing Director, Mr Macrides, saying we are paying \$14m-plus this financial year for RECs. With the introduction of a carbon price scheme is there the need - will RECs be taken out. There is a \$14m saving straight up in current costs within the system. Until we see all of that, it is meaningless speculation.

Mr ELFERINK: Well, no. I would be very surprised if you are not planning for the potential to increase power and water prices to the consumers in the Northern Territory. I am asking what vehicle you will use to achieve that. You have already locked in power and water price growth to CPI, but this is an additional cost. This will be something extra. By what mechanism will you achieve the pass on of that cost if it occurs?

Ms LAWRIE: I am saying there may not be a cost.

Mr ELFERINK: I find it hard to imagine that you have not done any preparatory work in relation to this, Treasurer, because you are asking us to believe you have not looked at this issue. I cannot imagine that would be the case because you are better than that.

Ms LAWRIE: You have also heard from the Chairman of the board. They cannot do modelling until they get the details as well. That is the reality, member for Port Darwin.

Mr ELFERINK: I am not interest in the modelling. I am interested in should there be an extra cost, you need a mechanism. You need to pass a law or some sort of vehicle on which to pass that extra cost on. What will that mechanism be?

Ms LAWRIE: As I say, it is pure speculation that there will be an extra cost.

Mr ELFERINK: It is almost certain there will be an extra cost. The question is: does that get passed on? The Managing Director has just said wholly, or in part, it would be if it occurred. By what mechanism? I find it hard to imagine that you do not have a mechanism in mind. You have known about the proposed carbon tax for some time now. Surely, you have looked at how you can deal with this issue. It is a part of planning.

Ms LAWRIE: And are renewal energy certificates still going to be paid or not? There are significant factors in here where you need the detail to be able to understand whether or not there is going to be a cost.

Mr ELFERINK: All I can take from these answers is that you have not turned your mind to how these extra costs will be passed on should they occur. I find that, frankly, surprising.

Ms LAWRIE: You are saying - you are leading there are extra costs, and on the other hand you have Ross Garnaut, closer to this than what you are, saying he thinks Territory families are going to benefit.

Mr ELFERINK: Right.

Ms LAWRIE: There you go. You have very contrary views there.

Mr ELFERINK: However, it is not the question I am asking and I wish you would answer the question. Moving on, debt to equity issues: there is a debt to equity swap arrangement in place pushing out for the next few years. Treasurer, can you explain to us exactly how the debt to equity swap works?

Ms LAWRIE: Under Treasurer.

Ms PRINCE: Mr Elferink, you would be aware that a year ago the Territory government agreed with the Power and Water Board, through the Statement of Corporate Intent, that the Territory would enter into a debt for equity swap over a three year period. The purpose of this was to provide, in effect, some financial assistance to Power and Water as it was undertaking the record investment program that has already been talked about today. The way it works is when certain parts of Power and Water's existing debt come to maturity the obligations for that debt transfer to the Territory and the general government sector takes on that debt load relieving Power and Water from that existing debt, but they are entering into additional borrowings for new capital investment.

Mr ELFERINK: That is fine.

Ms PRINCE: It is a system used in all other jurisdictions when establishing or altering debt to equity structures for government businesses.

Mr ELFERINK: The value of that swap over the three years is \$147m, from memory.

Ms PRINCE: Over the three year period it is likely to be in the order of \$300m.

Mr ELFERINK: I was obviously thinking of one year – \$300m-ish.

Ms PRINCE: Sorry, it is \$300m over four years.

Mr ELFERINK: Oh, okay.

Ms PRINCE: \$200m over three years.

Mr ELFERINK: Right, that is where my confusion is.

Ms PRINCE: We review that annually to determine whether that amount is required and appropriate, but that is the estimate in our forward estimates and in the SCI.

Mr ELFERINK: Okay, so it is \$300m over four years? Okay, no problems, thank you for that. Other than the \$300m over four years, of this \$1.8bn infrastructure program, how much of that is simply just cash injection?

Ms PRINCE: Mr Elferink, I am not sure if cash injection is the correct term. There is a series of forms of assistance that is provided to Power and Water, and have been, some of them for many years, some of them more recently. The Territory pays a community service obligation in order to achieve uniform tariffs across the commercial business. There are also a separate IES community service obligations because, as Ms Scrymgour pointed out, Aboriginal people in remote communities pay the same rate for electricity as people in urban areas. However, the community service obligation associated with that is higher per customer because of the cost of providing services in remote communities. That is separate from the

commercial uniform tariff CSO. Since 2007-08, the government had also agreed with the corporation that there would be a dividend holiday ...

Mr ELFERINK: Yes, which is worth how much so far? And is it continuing?

Ms LAWRIE: It is continuing.

Ms PRINCE: It is continuing; there has been no decision to alter it. I will just find the amount for you. It is difficult for us to give you a estimate for the dividend holiday, but suffice to say in the 2006-07 year the dividend of that was paid by Power and Water, which is based on the long-standing policy that has been in place in the Northern Territory since about 1995, when government business divisions were introduced, which is 50% of nett profit after tax. It is also worth saying that that policy is less stringent than exists in other places. I think the Victorians have a dividend policy of 80% of nett profit after tax.

Mr ELFERINK: We would be able to calculate backwards what the dividend holiday has been since 2007 with that formula?

Ms PRINCE: It obviously requires some consideration of the nett profit after tax over that period, which we can do but the dividend estimate would have been lower than what was paid in 2006-07 because the nett profit after tax has been lower in those years.

Mr ELFERINK: The original one was about \$50m, if memory serves me. Is that correct?

Ms PRINCE: No, about \$10m for the dividend. You are possibly thinking of the community service obligation, which ...

Mr ELFERINK: Possibly. I just do not have the paperwork in front of me.

Ms PRINCE: ... in the 2010-11 year was almost \$67m but, in the 2007-08 year - which might be what you are remembering - was about \$55m.

Question on Notice No 10.1

Mr ELFERINK: Put it down to my shoddy memory. Can I leave a question on notice, Mr Chairman, to find out if we can get a calculation as to what the value of the dividend holiday has been since its introduction?

Mr CHAIRMAN: No problem, are you happy to take that on notice?

Ms PRINCE: Yes.

Mr CHAIRMAN: Can you say it one more time?

Mr ELFERINK: I just seek advice as to what the value of the dividend holiday has been since its introduction.

Mr CHAIRMAN: That is question 10.1.

Mr ELFERINK: In terms of raising capital or raising borrowings, Ms King, does the board make that determination itself, or does it have to be cleared through Treasury before you make any borrowings?

Ms KING: The board works with Treasury in agreeing what the level of borrowings will be, and that is after extensive consideration of what the capital program requirements are and what we are committed to.

Mr ELFERINK: Just so I understand the system - that is what I am trying to find here - who gets the final say-so on a borrowing? For argument's sake, does Treasury have to sign off on a borrowing by Power and Water Corporation, or is it the case that Treasury merely gives advice and that the board itself could determine to make a borrowing?

Ms KING: I will have the Under Treasurer respond to this question.

Ms PRINCE: Mr Elferink, in the Statement of Corporate Intent there is the infrastructure program as well as a summary of the operations, the financial aspects of the operations of the corporation. The corporation puts forward, through the Statement of Corporate Intent to the shareholding minister, the infrastructure program and any associated borrowings. When the Statement of Corporate Intent is finally agreed between the shareholding minister and the corporation, then that is the borrowing number that is agreed within the Statement of Corporate Intent. The Northern Territory Treasury Corporation undertakes all of the borrowings for Northern Territory authorities and so, once the total borrowing is determined, and the timing of the particular tranches of that borrowing, the Treasury Corporation includes, in their overall borrowing program, Power and Water's requirements, and then we review the timing of those requirements regularly through the year.

Mr ELFERINK: So, a couple of things out of that. The Treasurer, as the shareholding minister, is the one that finally signs off on the borrowings?

Ms PRINCE: Signs off on the Statement of Corporate Intent, which includes the borrowings, amongst other things.

Mr ELFERINK: So, for all practical purposes. The second component is that if debt is owed by the Power and Water Corporation, essentially it is owed to Treasury Corporation, which then source it in the open marketplace. Okay, thank you.

Ms LAWRIE: And just on this subject, it is important to understand the cycle in which Power and Water is in, in terms of its borrowings. It is a significant capital program that it is undertaking, and it is important at this point to put it in context. We are not in an unusual phase in what is occurring for generators right around the nation. There was a recent industry reference group report that had a look at electricity generation needs nationally among the generators, excluding the Territory, because we are not part of that national network. What that found is that, by the end of 2012, there would be something like \$4.5bn to \$6.5bn in debt refinancing required by the electricity generators around the nation. They are all having to undergo significant capital investment. We are all in that cycle of having to improve reliability and expand generation capacity. That is exactly the cycle that the Territory, of course, is in, which we are funding. If you actually extrapolate the figures out to 2030, there something like \$240bn-worth of investment in infrastructure required amongst the nation's electricity generators. It is important to understand that where Power and Water sits is absolutely within the norms of what is occurring in electricity generation around our nation.

Mr ELFERINK: I do not believe I have uttered a critical syllable so far in relation to what is happening. I would like just to understand the mechanics of how this thing works.

Ms LAWRIE: No, no, I am just explaining that it is important to get a context to this.

Ms KING: I wonder, Mr Chairman, through you, just on that issue of mechanics, if I could explain that the Statement of Corporate Intent is developed over quite an extensive period of time, which starts each year with a full planning day in October. Part of that is having management justify their bids on capital for the forthcoming period, and then that is worked through over an extensive period so that by the time the Statement of Corporate Intent comes to the shareholding minister, it has been worked up rigorously.

Mr ELFERINK: I would imagine, and I would expect that at some point, even before it reaches the minister, Treasury gets to cast an eye over it as part of the normal planning process.

Ms KING: Yes, it is part of the negotiation process.

Mr ELFERINK: I am just trying to get in my head the exact construct and position that you are in relative to government, which is ultimately your owner. Thank you for that.

Ms King, are there any other forms of government revenue that you receive beyond what has been described here today?

Ms KING: I will pass that to Andy Macrides, but I cannot think of anything immediately.

Mr MACRIDES: Not that I am aware of.

Ms PRINCE: Mr Elferink, there is one other form and that is a community service obligation that is paid by the Department of Health to the Power and Water Corporation to enable pensioner concessions for utility bills.

Mr ELFERINK: What is the value on that one?

Mr MACRIDES: It is about \$9.5m. Sorry, I just treat it as a normal CSO like any other CSO.

Mr ELFERINK: That is fine. I just want to make sure I am aware of all the revenue services.

Unknown Member: \$5m or \$6m, I think.

Mr ELFERINK: Okay, we have nine-and-a-half, five, or six? Take a bid, any bid.

Mr MACRIDES: If you give us five minutes, we will get an exact figure for you.

Ms LAWRIE: It increases every year as the number of people in the scheme increase and CPI. It is Budget Paper No 3 on page 276, community service obligations; it shows that the 2010-11 estimate was \$8.3m and 2011-12, \$9.6m.

Mr ELFERINK: Sold. Thank you for that. Going on then, Ms King, how are we going with the undergrounding of power? Could you describe briefly what has been done and what is going to be done.

Ms LAWRIE: That is appropriate for Mr Macrides to answer; that level of detailed program.

Mr MACRIDES: I am more than happy to answer the question. As you know, the program has focused on Nightcliff, Rapid Creek, and Millner. To date, all of Nightcliff has been completed, all of Rapid Creek has been completed, and I think all but about 20 commercial properties in Millner have been swapped over and the work has now commenced on removing the poles from Millner. Most of that work will be completed by July or August, I would imagine. The last 20 customers to be completed in Millner are some difficult commercial customers where they have multiple points of service coming into their blocks that require a bit more work to be done.

Mr ELFERINK: Yes. The cost of the program to date has been?

Mr MACRIDES: In the order of \$50m.

Mr ELFERINK: That is all right, I do not need an exact number. That is about what I thought. What about the future of the program: where is it going next; is it going anywhere?

Ms LAWRIE: In terms of the undergrounding program, what we wanted to do was complete the suburbs we have currently been working on and, as you have heard, that is not far off in terms of some of the more complex customers. We want to upgrade zone substations which is work that is occurring at the moment, which means we then can do an assessment of which are the next suburbs to underground. We needed to get in and do some improvements to existing zone substations to have a better assessment ability of which of the tranche of older suburbs across Darwin would be the next to roll out in terms of undergrounding. That advice will come to Cabinet from Power and Water in the normal course of the preparation for the next budget cycle.

Mr ELFERINK: What is the time frame for the assessment?

Ms LAWRIE: As I said, the upgrades are being undertaken at the moment of the zone substations. We will have advice come to government around about October of this year of their assessment about the options of the next phase of undergrounding, and we will make our considerations in the normal budget cycle.

Mr ELFERINK: So what is the time frame for the next suburb, whichever that suburb may be? Or haven't you got one?

Ms LAWRIE: As I said, the advice will come forward from Power and Water in terms of the degree of preparedness they have for the upgrades. That will then inform us on the time frame. We need that level of detail to come back, in an operational sense, to make our resource commitment. You do not want to make a resource commitment of any significant amount until you have the detail of the operational information

before you. I am expecting that to come forward through Power and Water to Cabinet. As I have said, we will start to gather the information around October of this year and will make a series of assessments on their advice. That tends to be a bit of a to-and-fro scenario between government and Power and Water to look at the options, and a thorough analysis of each option will occur.

Mr ELFERINK: So no certain time frame at this point?

Ms LAWRIE: We are committed to continuing the undergrounding program. We know you are opposed to it, but we do see it as a very ...

Mr ELFERINK: No, I am just asking what the time frame is. You cannot answer that question.

Ms LAWRIE: ... we see it as a very worthy program. There are quite a number of suburbs yet to underground so we need to carefully assess zone substation capabilities and align where to go next. That is operational information that will come forward later this year.

Mr ELFERINK: Fine.

Mr MACRIDES: Mr Elferink, on the cost, 1649 properties have been transferred over at a cost of a little over \$56m.

Mr ELFERINK: To other matters where Power and Water may or may not be involved, but I have to ask some questions about it. The raised levels of *E coli* in the harbour have been attributed to any number of things including storm water. One of the suggested smoking guns has been the sewage outfalls. Has Power and Water done any testing, independent to the government testing, to demonstrate its culpability or otherwise in relation to this?

Ms KING: The answer is yes. I will pass it to Mr Macrides, or the other general manager, to answer in detail.

Mr MACRIDES: Thank you. Member for Port Darwin, this is a subject that is quite disappointing to Power and Water in the context of the finger continually being pointed at Power and Water as being the source of the *E coli* outbreaks. The reason it is disappointing is because it basically ignores the science surrounding the whole issue of *E coli*. I have a very dedicated group of scientists working for me who continually take a beating in public perception about the sewage outfall and that being the cause of the *E coli* outbreaks.

Power and Water has an extensive waste discharge licensed monitoring regime. It costs us in the order of about \$1m a year to undertake the monitoring we do. We monitor on a monthly basis at 50 Darwin harbour sites. We monitor for indicated bacteria, nutrients, metals, physical chemicals, and algal count, and every six months we also do a test for endocrine disruption chemicals. We have a sampling program that is basically designed to target the worst case scenario. That means when we sample at these sites on a monthly basis we do so when the tide is at the lowest, which would mean that the mix of sewage in the harbour would be at its worst. It is, as I have said, designed so we target the worst case scenario in our sampling. The sites we target are the physical outlets themselves. In the case of each of the waste water treatment plants, we sample on a monthly basis the actual outfalls, as well as a range of sites surrounding the waste water treatment plants.

If I go through each of those locations: Berrimah, we sample at that the outfall itself and we sample at six sites along Bleasers Creek. Ludmilla, we sample at the outfall itself, obviously at East Point. We take four samples at Ludmilla Creek sites, and we take another 11 samples off East Point. Larrakeyah, we sample at the outfall site, and we also sample at six Darwin Harbour sites. Palmerston, we sample at the outfall site as well as eight sites along Myrmidon Creek; and at Leanyer we sample at the outfall site, nine sites along Buffalo Creek, and two sites along Shoal Bay.

The thing about *E. coli* is the national guidelines for beach closure, and the World Health Organisation guidelines for beach closure, indicate the preferred pathogens test for is actually *enterococci* and not *E.coli*. The basis for that is that *E.coli* actually rapidly breaks down in saltwater. In the 50 sites we sample on a monthly basis, I can guarantee, hand on heart, that over the last year every one of those sites has recorded less than the trigger point requirements for the closure of beaches.

Remember that the sampling regime for beach closures tends to be knee-deep sampling at the shoreline, as well as 200 m off the shoreline itself. The regulator has consistently said that all the samples

that are taken 200 m offshore have low levels of *E.coli* - in fact, below the trigger point for beach closures. The samples that are recording high levels for trigger point closures are actually the knee-deep samples along the shoreline.

It is impossible for the outfalls to be the cause of the *E.coli* outbreak when samples taken at the outfalls, within a very short space away from the outfalls, are showing levels below the trigger point for beach closures. Samples taken 200 m offshore are showing levels below beach closure levels. The samples that are taken actually at knee-deep off the shoreline are the ones that are showing elevated levels. Clearly, the cause of the outbreak is something coming from land-based sources that are in close proximity to the shoreline itself.

Mr ELFERINK: Out of curiosity, on the Buffalo Creek regime, what have been your results from Buffalo Creek in relation to the same testing?

Mr MACRIDES: The issue at Buffalo Creek of *E.coli*, the testing has shown at the outfall level that the levels are below trigger point closures for beach closures. *E.coli* as the indicator, as I said, is a poor indicator for saltwater because it dies down rapidly ...

Mr ELFERINK: They are *enterococci* issues.

Mr MACRIDES: Yes. In the case of Buffalo Creek, the *E.coli* levels are below the closure levels. The problem with Buffalo Creek, though, is not the bacterial load. It is the nutrient load and the fact that Buffalo Creek does not have a tidal surge that cleans the creek out. If you look at our outfalls, Buffalo Creek is by far the worst performing outfall because you do not have the tidal movements taking the nutrient load back out to sea.

Mr ELFERINK: In the results you are getting out of Buffalo Creek, do they remain above or below the acceptable standards?

Mr MACRIDES: They are below the acceptable standard and, in fact, are below the beach closure trigger point level at both the plant level, which is Leanyer, as well as the outfall level at Buffalo Creek.

Mr ELFERINK: Where exactly is the outfall at Buffalo Creek? Do you have a map or something?

Mr MACRIDES: I do. If you just bear with us, we will get the map out for you. Do you want to ask some other questions while you are at it?

Mr ELFERINK: Whilst the map is being produced ...

Mr WOOD: John, could I just ask about another outfall that was not mentioned?

Mr ELFERINK: Yes, throw it in.

Mr WOOD: Humpty Doo. Are there any measurements taken on the Humpty Doo sewerage system?

Mr MACRIDES: I will defer to one of my experts here, John Pudney, Acting General Manager Water Services. Do we sample at Humpty Doo?

Mr PUDNEY: Member for Nelson, we sample monthly at Humpty Doo within pond, but we do not release to the environment, so we do not have a licence that requires particular outfall monitoring.

Mr ELFERINK: A check for Humpty Doo doo.

Mr WOOD: To make sure Humpty Doo was not to blame.

Mr MACRIDES: It is easier if we just pass the map around. The map actually shows the location of all our sewerage treatment plants, as well as the outfalls at each of the locations.

Mr PUDNEY: The Leanyer/Sanderson treatment plant discharges in close proximity to Buffalo Creek. It is a short hike, about 50 m. You can see it is several kilometres inland.

Mr ELFERINK: Okay, thank you. For the record, the map shows that there is a small outfall just past the ponds into the Buffalo Creek catchment, and that is as far as it goes.

Mr WOOD: Are you tabling that document?

Ms LAWRIE: We will get you a copy, Gerry.

Mr MACRIDES: We will do a special one for you, Gerry, with Humpty Doo on it.

Mr ELFERINK: The next question I have is in relation to the solids from the Ludmilla Waste Water Treatment Plant. Having visited there – and thank you for the various tours I have had – the solids are drawn out, if you like, from the material and deposited into a truck through a rather surprising process, but nevertheless, they then fall into a truck and they are taken away. Where are those solids taken away to?

Mr PUDNEY: There are two types of solids. There is the initial screening at the start of the plant. That is the sand and grit and the coarse material that might come through. That is taken generally to landfill, the Leanyer Waste Disposal Site. The other finer sludge in the main part of the plant where we use polymers and coagulants and we settle out the sludge ...

Mr ELFERINK: This is the one that you collect on the big drum?

Mr PUDNEY: That is correct. It is then de-watered, put into containers, dried out and then sent to a couple of sites. It is either sent, in the past, to Leanyer/Sanderson sludge collection area on our Leanyer/Sanderson Treatment Plant, and that is the same area that we desludge from Leanyer/Sanderson plant, or we take it to our East Arm Treatment Plant site. Also, it has a special area for drying and managing the sludge. It is transported by truck.

Mr ELFERINK: The part I am interested in is the management of the sludge. Okay, the sand and stuff goes to landfill; I presume that is biologically fairly inactive?

Mr PUDNEY: Yes.

Mr ELFERINK: The sludge itself, what sort of testing is done on that, and how is it treated when it is disposed of?

Mr PUDNEY: It is stored. We do not have any reuse of the sludge at the moment. We are investigating that. We have a team within our group that is doing a whole-of-Territory sludge management program, but at the moment we do not have economies of scale for economic reuse, so generally the sludge is kept within the sites of our plants. It is tested. We test it for a variety of different chemicals and ...

Mr ELFERINK: Pathogens and that sort of thing.

Mr PUDNEY: ... pathogens and the like, and we manage it on site.

Mr ELFERINK: When you say it is stored, how is it physically stored? Are we talking about plastic drums, is it poured on a heap on the ground somewhere, is it put out on a screen to dry out in the sun? How does that occur?

Mr PUDNEY: It is generally stored in a bunded area in the open so, if rain falls or if it is still moist, that moisture goes back into the treatment plant, as I said at Leanyer/Sanderson, or at East Arm, any moisture or any contaminants, if you like, although we have not measured anything of significance, but we do not release anything to the environment.

Mr ELFERINK: Okay. Is there any testing outside the bund in the proximity of these storage areas?

Mr PUDNEY: Yes, occasional testing around all our plants is carried out for material that might have come through the earth.

Mr ELFERINK: Has that testing thrown up anything significant?

Mr PUDNEY: No, not at this stage.

Mr ELFERINK: Okay, no worries. We used to treat that material by incineration, as I understand it.

Mr PUDNEY: Yes, at Ludmilla.

Mr ELFERINK: Yes. Why did we step away from that process?

Mr PUDNEY: During the recent development of upgrading works at Ludmilla, our consultants looked at the existing furnace. It is an old furnace; it has been around 20 years or so. To upgrade it to current standards was a very difficult and very expensive operation because of the new discharge regulations to the environment. The burning process and the contaminants that would go into the air - to ensure that we had good air quality, we would have had to completely refurbish a furnace. Around the world, it is not necessarily the best technology; it is expensive to manage and ensure good, high air quality, so we have changed that process and, as the Managing Director said, the solids are still produced from that product.

Mr ELFERINK: So, you still have a product to dispose of in some fashion. Once you have this material inside the bund walls, is it on a tray or is it on the ground?

Mr PUDNEY: It is generally on the ground.

Mr ELFERINK: What happens then? This stuff dries out, you have a product; what do you do with that product?

Mr PUDNEY: We use it around the plant at the moment for fill or the like, but we do not have large volumes of that product at the moment in all of our plants. Ultimately, that could become an issue and that is why we are currently looking at the long-term storage of the dried sludge. Each of our sites at the moment has an area of dried sludge that is managed. It is not a big volume, but some of those areas are fairly old; the material could be up to 20 years old. We test it. The material at Leanyer/Sanderson is an inert material now and could be used for a number of fuel applications. In terms of Leanyer/Sanderson, we are looking at our own site, making sure that there are no mosquito breeding areas and we may use that material for that. Engineering studies show that it is suitable for that.

Mr ELFERINK: I can imagine that after a year it is pretty much biologically inert.

Mr PUDNEY: We have not measured any dangerous pathogens or the like.

Mr ELFERINK: What is the practice for dealing with this material in other jurisdictions? Are they still incinerating in other jurisdictions, or have they chosen to go a similar way that Power and Water Corporation is going?

Mr PUDNEY: In Australia, there are not many incinerators. I am not aware of similar processes. They are generally drying the sludge. Some in Victoria and New South Wales look to re-use, look to mixing it with mulch and other products, but you do need large economies of scale and other processes to help with that.

Mr ELFERINK: I can imagine a truck load of poo, even old poo, is probably not what you would call economically advantageous unless you have a lot of it.

Mr PUDNEY: That is correct.

Mr ELFERINK: Okay, no worries. Thank you.

Before we move on, has Power and Water Corporation - I will put this directly to you, Mr Macrides - you explained before that the levels of *enterococci* near the beaches is inconsistent with what is testing around your outfalls, therefore you have been saying it is land-based of some sort. It is probably a bit difficult, but I will ask the question anyhow. Is there any speculation on the part of Power and Water Corporation what the source of that might be? You certainly would have turned your mind to that question.

Mr MACRIDES: From our perspective, we look at the science and try not to speculate. I know that if you do a Google search, you will find lots of evidence on sites surrounding the reason why animals, for example, are not allowed on beaches in many locations around the world because they are a significant contributor to faecal contamination in fresh water and saltwater locations. Our concern is in relation to our output into the harbour; the rest we leave up to others to worry about.

Mr ELFERINK: I understand that and, of course, everyone is looking for the smoking gun. On to other things. Thank you, sir, I appreciate your - I am sorry, I missed your name. John was it?

Mr PUDNEY: John Pudney.

Mr ELFERINK: Mr Pudney, thank you for your time. On to other matters ...

Mr MACRIDES: You probably just got a lesson in sewage treatment you probably never wanted to hear.

Mr ELFERINK: No, I was quite intrigued by how this material is managed and organised.

Ms LAWRIE: We have just received an answer to the question on notice for foregone dividend; we have done some calculations. I will hand over to Jennifer Prince.

Answer to Question on Notice No 10.1

Ms PRINCE: Mr Elferink, the value of the dividends foregone for the period 2007 to the period 2009-10 is approximately \$34.7m. We will not be able to calculate the 2009-10 figure until the end of the financial year.

Mr ELFERINK: Thank you.

Mr ELFERINK: Ms King, a couple of questions in relation to your Statement of Corporate Intent, both for the current financial year and the next financial year. I am particularly curious about your SAIFI measures, and I believe the other one is referred to as SADI measures, unfortunately, and I have to ensure I have my bits of paper in the right order. The SADI measure ...

Ms LAWRIE: Mr Elferink, could you indicate in the scheme what page you are on?

Mr ELFERINK: In the 2010-11 Statement of Corporate Intent, page 19, with your targets for SAIFI and SADI. In your 2011-12 Statement of Corporate Intent, we are on page 18, at the top of the page.

These questions are for you, Ms King. In relation to your duration interruptions, which are your SADI measures, in the 2010-11 financial year the figure of 195 appears, which is minutes I am almost certain. In this upcoming financial year you have pushed that out to 220 minutes of duration expected into the future. Your targets in the older Statement of Corporate Intent see a decrease from 195 minutes to 190, and the following year from 185 to 180. In your Statement of Corporate Intent for the next financial year, that figure is consistently 220 or substantially higher.

Why have you changed your expected durations of interruptions in Darwin, Katherine, Tennant Creek and Alice Springs, particularly those last three centres, where the benchmarks have shifted from 195 in Katherine to 401 minutes; from 95 in Tennant Creek to 411 minutes; and from 95 in Alice Springs to 108 minutes? In Katherine and Tennant Creek, they are substantial increases of expected durations. Could you explain why that has changed?

Ms KING: Mr Elferink, I believe we should pass that over to Bertram Birk, General Manager, Power Networks, for a more detailed response to that question.

Mr MACRIDES: I might just start the answer off, Mr Elferink.

The 2010-11 SCI you are referring to which, has the lower figures, those figures were aspirational targets that the corporation itself determined. You may be aware that the regulator here, the Utilities Commission, determines the standards of service that this business is required to comply with in relation to the electricity side of our business. What we have done for the 2011-12 SCI moving forward is adopt the regulator's targets. Those targets were different from the aspirational targets we had in our previous SCI. The figures in the 2011-12 SCI are the regulator's standard of service figures imposed on us by the regulator we have to report to.

The reason for the change was the difficulty we had in having our own aspirational targets in here was there was then a mix of data which was being reported on to the regulator in relation to the actual outcomes. We are reporting against targets we ourselves had set as aspirational targets internally which, somehow, made their way into the SCI rather than the regulator's targets we actually have to report on to the regulator. They are the targets which are the basis for the regulator's determination of the revenue caps that are allowed on our network business.

Mr ELFERINK: I quite like your aspirational targets, to be honest.

Mr MACRIDES: We liked our aspirational targets as well, but they were, obviously, significant stretch targets for the business.

Mr ELFERINK: The point is you have not done too badly. If you look at page 16 of your 2010 annual report, for Darwin, no greater than 195 is your aspirational target, and you have come in at 196. That is not too sloppy. Katherine 195, 201 - you are still within the ballpark. Tennant Creek, a bit of an oops there ,but you are 157 minutes, three hours - not even three hours - in the year, when your target was 95 minutes. For Tennant Creek, a smaller operation, you can understand it has more variables attached to it. Alice Springs, well, that is probably not so good, but 210 minutes with an aspirational target of 95.

Clearly, from the new set of targets, you are well under the benchmark set by the regulator. Why suddenly use the regulator's targets when you are not that far off, all things considered, from your own aspirational targets? From my perspective, and I imagine the average punter's perspective with our nose pressed up the glass, it seems as though you have done okay and now you are lowering the targets much lower for yourself - positively de-motivational.

Mr MACRIDES: We did agonise over whether we would or would not change the targets, and there were some lengthy discussions surrounding this. The reality is, though, we actually do report to a regulator, on the regulator's targets, and it made sense for us to have in our Statement of Corporate Intent the regulator's targets rather than the internal aspirational targets. That is not to say we are not going to continue internally with the aspirational targets. From a reporting perspective it is just better to have one set of data in the public domain than confusing it with several data sets. There is one set of data the regulator reports on, and there is one set of data we report to the regulator on, which are the regulator's targets.

Mr ELFERINK: One of the ...

Ms LAWRIE: It might be helpful to add at this point regarding the regulator, they set it based on historical data. I am advised the regulator is currently reviewing the data sets of the targets.

Mr ELFERINK: I get that, but these are the numbers we have to rely on now ...

Ms LAWRIE: Yes, but I am pointing out we are in the midst of ...

Mr ELFERINK: ... and these things are always under review; that is what governance is about.

Ms LAWRIE: We are in the midst of the regulator reviewing those targets.

Mr ELFERINK: I presume then that is the explanation for the frequency numbers as well? Your targets, let us say in your 2010-11 SCI were 3.8, 4.8, 4.8, and 4.2. Those targets have now changed to 4.2 for Darwin, which is more frequent - 9.6 power cuts where you were opting for 4.8; for Tennant Creek, 9.8 power cuts where you were measuring for 4.8; and for Alice Springs it is not so bad, it is now 2.9 where you were endeavouring to achieve 2.4. If you look at your last annual report, you are actually not that far off your aspirational targets. Has consideration been given to returning to your aspirational targets? Frankly, I find this disappointing. Whilst I understand it is the regulator's benchmark, from a public's provision point of view, it looks like you are lowering the benchmarks. I am not entirely sure I understand the rationale for going for the regulator's benchmark when you have actually been getting reasonably close to your own targets.

Mr CHAIRMAN: Mr Macrides, at the conclusion of your answer we will take a quick break.

Mr MACRIDES: No problems. As the shareholding minister indicated, clearly the actual delivery is much closer to our aspirational targets than the regulator's benchmark targets. As the shareholding minister has just indicated, the regulator is currently reviewing those targets, and I would suspect that the regulators will be changing those targets in the not too distant future and those targets will come down. So, the answer to the question is, as I said earlier on, from our perspective, it is better to have one set of data in the public domain and one set of data we are reporting against. Clearly, you would expect that our actual performance would be better based on historic actuals than the regulator's targets, but that varies from time to time. We would expect the regulatory targets to change in the not too distant future.

Mr ELFERINK: I understand that. I am sure it will all make for a glowing annual report, but I would hate to see a glowing annual report just as a product that was lowering or changing benchmarks. We are having a break.

Mr CHAIRMAN: We will return at 10.15 am.

The committee suspended.

Mr CHAIRMAN: If witnesses are ready, we will start again, and we are with the member for Port Darwin.

Mr ELFERINK: Thank you. Ms King, I presume this will get flicked straight at Mr Macrides anyhow. I just want to quickly return to sewerage. How often do you test the integrity of the sewerage system? Is it lined? How do we know what the integrity of the system is?

Mr MACRIDES: I am going to hand over to the expert again, John Pudney.

Mr PUDNEY: We do a number of online monitoring of all our systems. We have a SCADA system which sends messages back to our monitoring staff so we can see what volumes are coming into the system at different pump stations and at the plants. They are monitored daily and it gives us an indication of what changes in flow are happening, for example, between the Wet Season and the Dry Season, or during major storm events. If we are getting major infiltration in our system we have leaky pipes and we see spikes in our systems. There is a vast set of high-tech equipment looking at all our infrastructure and it is monitored on a daily basis.

Mr ELFERINK: How does it work? Do you have sensors along the pipe, or does someone crawl along the pipe having a look at it?

Mr PUDNEY: There are inbuilt level gauges, flow gauges ...

Mr ELFERINK: So, for a major leak you would expect to see a fall between one sensor and the next?

Mr PUDNEY: Yes.

Mr ELFERINK: If there was not a major leak those sensors would be saying X number of litres is coming in and X number of litres is going out the other end?

Mr PUDNEY: That is correct.

Mr ELFERINK: Is there any other way of checking the integrity of the system for small leaks, those sorts of things?

Mr PUDNEY: Absolutely. We have an ongoing cleaning program. We degrease our sewers, and in that program we have a camera system and we run cameras all through the pipes. We have a very sophisticated van that looks at the pictures as the camera is moving. We have a manned piece of apparatus, and we look at all the pipes and the junctions. We can see if there are major cracks or tree roots and the like. That is a continuous program. It helps inform us of a relining program. We spend several million dollars a year relining our system, particularly old parts of Darwin and other centres. That camera work, crawling up the pipes, informs the program and we submit our program each year to the board.

Mr ELFERINK: Have you had any evidence of any major leaks or loss of sewerage integrity in the last three years?

Mr PUDNEY: I do not have all the information in front of me at the moment. I can say we are not aware of any major leaks of effluent escaping our systems. We have a number of infiltration issues – leaking - which is indicated through major storm events. We have picked up some very major infiltration areas. Fortunately, we have been able to attend to those with our relining program.

Mr ELFERINK: What is an example of a major infiltration event?

Mr PUDNEY: An example is where one of the pump stations was receiving much more flow than it should have been. For example, in the Ludmilla upstream in the Bagot area we appeared to be getting more flow into the Bagot pump station. We did some site analysis and blocked off a few old junctions and the like.

Mr ELFERINK: Was the cause of that stormwater?

Mr PUDNEY: Stormwater infiltration.

Mr ELFERINK: It is people running their stormwater straight off their roof into their sewerage system.

Mr PUDNEY: It is a combination, yes. It could be an old underground pipe that has cracked or been covered up, or someone has driven over an inspection opening and broken it and then the stormwater has got in.

Mr ELFERINK: I see.

Mr PUDNEY: As I said, we do regular testing ...

Mr ELFERINK: How often do you get the sewerage pipes cracked that creates this infiltration effect? Does the reverse then occur? If you have a cracked sewerage pipe, one of the old ones, on a non-stormwater event, can it actually be leaking into the environment? How often does that happen?

Mr PUDNEY: Certainly, it has the potential. Fortunately, our sewers are not under high pressure, so it is more the other way round. Cracked pipes are not common in our trunk mains, our major flow areas. Tree roots cause a big problem to us in our local reticulation area. As I said before, we are not aware of any major incidents where we are getting effluent flowing the other way, but it is possible.

Mr ELFERINK: Are you able to put a figure on how much effluent you lose in a 12-month period, for example?

Mr PUDNEY: Probably not. We do not have that accurate figures to – the accuracy of the flow measurements and the camera work, we cannot really estimate the difference in flow going out of the system.

Mr MACRIDES: Mr Elferink, if I could also add to that. The main cause of effluent discharge is wet weather events where systems become absolutely overflowing because of rain. Obviously, in an event like Cyclone Carlos, for example, no system can withstand the amount of water that was flowing through the system at that time. The difficulty with measuring lost effluent is it predominantly occurs during the storm season and significant rainfall, basically. In the case of its overflow into the environment, it is so diluted because of the amount of water that it is mixing with it is not an environmental issue for us. We are licensed to discharge in wet weather events.

Mr ELFERINK: I understand that. At the front of my driveway there is a lid over one of your systems. During Cyclone Carlos and other wet weather events, it is boggy.

Mr MACRIDES: Popped up, yes.

Mr ELFERINK: Yes, and it is 3 m from the lid to the bottom of the hole, so it is a substantial amount of water that has to be coming through it. I understand all of that.

What I am trying to understand is the integrity of the system. Mr Pudney has just described tree roots are a problem in the smaller systems, those sorts of things. I am trying to establish how much effluent you may lose during non-wet weather events because tree roots and those sorts of things have disrupted the smaller pipes in the suburbs, etcetera. What I am trying to get a guesstimate from - and I know it is hard - is how much do you lose, how do you test for that, is there soil testing, etcetera, done, and how much of that then finds its way into the stormwater system? You get where my head is going on this?

Mr MACRIDES: Yes, look ...

Mr ELFERINK: I am just trying to figure that out.

Mr MACRIDES: It is not significant. When it occurs it is fairly obvious because you have sewage bubbling up to the surface. You then get phone calls from members of the public about odour and discharge. It is a fairly rare set of circumstances that occurs so significantly that you would have that level discharge. We, as a business, are like any other business, required to report significant environmental incidences to NRETAS and the EPA. I do not recall, in the last 12 months at least, there being any reportable incidents. John, is that ...

Mr PUDNEY: That is correct.

Mr ELFERINK: Okay, thanks. All right, moving on. I want to talk briefly about spaghetti and the appropriate mains. I know it is a problem; it is an ongoing problem. It is not really Power and Water's problem. Has any research, homework, or answers been found for spaghetti?

Mr WOOD: I am the minister for private water lines.

Mr ELFERINK: Clearly, it is an issue. Have we gotten anywhere further down the track than the last time I spoke to you about spaghetti?

Mr MACRIDES: I guess the answer is still the same, in that Power and Water has no plans to replace banjo lines. There is no economic reason, from a business perspective, for us to get into the game of replacing banjo lines. The costs are significant. You are talking in the order of \$30m to \$50m to replace those lines. We get not one additional dollar worth of revenue associated with it, because obviously we are already selling water via the banjo lines.

Mr ELFERINK: And it is not your infrastructure anyway.

Mr MACRIDES: And it is not our infrastructure. We do not maintain it, etcetera.

Mr ELFERINK: Which then turns my head about 10 degrees to my right. Mr Knight, has government turned its attention to matters of banjo lines – that is the new spaghetti lines?

Mr KNIGHT: Under the agreement we have with Mr Wood, one of those exercises was actually costing that out. It has not got much further than that.

Mr ELFERINK: I should be asking my next question of Mr Wood, shouldn't I? Where are you going to go with it in terms of your agreement with the Independent member for Nelson?

Mr KNIGHT: It is a discussion between the Chief Minister and the member for Nelson.

Mr WOOD: In relation to the spaghetti lines, can I just ...

Mr ELFERINK: I will ask you the questions.

Mr WOOD: The agreement was the investigation, by the way.

Ms LAWRIE: Yes, exactly, and that investigation has occurred. The analysis has occurred, and the information has been passed on.

Mr WOOD: Still working on it.

Mr ELFERINK: I will be delighted with those results, they have an investigation. Okay, let us talk about Ron Goodin. Now that the Taurus and the Triton have moved on – Triton - Taurus and the Triton?

Members: Titan.

Mr ELFERINK: Titan is it? One has gone to Katherine and the other one to Tennant Creek or something?

Mr MACRIDES: One will ultimately go to Katherine. One is out at Owen Springs and has been producing energy from Owen Springs for some time now.

Mr ELFERINK: All right. So, what is left at Ron Goodin?

Mr MACRIDES: Ron Goodin will remain as a significant part of the generation mix in Alice Springs, and will do so probably for the next decade-plus.

Mr ELFERINK: There is no intention to remove the staff from Ron Goodin?

Mr MACRIDES: No. As I said, the Ron Goodin will remain a key component of our generation supply system in Alice Springs. As we augment supply at Ron Goodin and new sets are put into Owen Springs that then allows us to decommission sets at Ron Goodin. So, over time, Ron Goodin will be decommissioned, but it still has another 10, 15, 20-plus years worth of life in it yet.

Mr ELFERINK: So, the Ron Goodin subdivision is a long way off?

Mr MACRIDES: It may well be.

Mr ELFERINK: Okay. Manton Dam was mentioned, Ms King, during your initial statement. You put a figure on it, was it 120-something?

Ms KING: Yes, that is correct.

Mr ELFERINK: Yes, to bring it back online. Where are we at with that?

Ms LAWRIE: Mr Macrides.

Mr MACRIDES: Member for Port Darwin, there has been a fair degree of analysis over the last couple of years over Manton Dam's capacity to supply back into the system. Much of the work is centred around actually drawing down. We have a licence for Manton Dam to actually draw water from Manton Dam, and a much of the work has been around issues such as if we draw down to the licence level, what does it do to the dam itself in terms of water levels in the dam and the quality of the water, etcetera. There has been a fair degree of work surrounding that. Much work has also gone into the need to upgrade pipes and pump stations associated with bringing the dam back online. We are in the final stages of the engineering work associated with that now.

A third component then is Manton Dam will continue to be used for recreational purposes. As long as it is used for recreational purposes, it means we will have to build a treatment plant to treat water from Manton Dam. Part of the consideration has been, if we are going to build a treatment plant for Manton Dam, why not build a treatment plant so that it can also treat water out of Darwin River Dam in the event of cataclysmic failure of the supply out of Darwin River Dam. So, for example, if you get an algae bloom in Darwin River Dam, and if you go down that road, where would you site this treatment plant - the physical location of it and the connection points. Much work is going on in terms of the engineering associated with that. So, the cost associated with bringing Manton Dam back online is not just simply flicking a switch and the dam coming back online. The costs are mainly associated with the treatment plant, the pipes, and the pump stations.

Mr ELFERINK: Has any consideration been given to future development of dams? I know there are three proposed, the most likely is the one at the upper Adelaide River, Warrai?

Mr MACRIDES: Warrai, yes.

Mr ELFERINK: You also have the Marrakai and the other one on the Finnis - what was that, the Bennett?

Mr MACRIDES: Yes.

Mr ELFERINK: Has any consideration been given, or any further planning been done, in relation to the Warrai Dam?

Mr MACRIDES: There is an enormous amount of work going on in relation to augmentation of Darwin's water supply. There is a fair degree of work surrounding the preferred location for a new dam and, as you rightly pointed out, that location is Warrai. There has been a lot of work associated with talking to traditional owners, looking at the issue of sacred sites, etcetera, and engineering works surrounding the construction of the dam. On top of that, we have also looked at a range of other options for meeting Darwin's water supply ranging from when you bring Manton Dam back online, is it possible to increase the height of the dam wall at Manton Dam to give you greater capacity into Manton Dam. Are there intermediate steps in

terms of water harvesting from storm water drains and storage of that water? Are there interconnect arrangements between dams so you have greater storage capacity in dams. There is a whole lot of engineering work going on associated with the actual water picture up here and alternates to bringing greater capacity into the system itself. All of that depends on the engineering associated with it, and that leads to the economics of each of those options.

Mr ELFERINK: It is early days even yet.

Mr MACRIDES: It is not early days in respect of the next dam. There has been an enormous amount of work done on that and the desire is that we are in a position whenever we need to push the button on starting construction - and we hope that would be decades and decades away - and what we want to do is have everything in place so that we can actually then proceed with that option if we need to go down that road. The reason I say we would like it to be decades away is for a number of reasons. One is simply the cost associated with it. You are talking about \$500m-plus to bring a new dam online. You have all the issues associated with a new dam coming online in terms of environmental and other clearances associated with it. The simple fact of the matter is that we have to something about demand management. The Top End's water use is voracious, and three times more than the average user anywhere else in Australia. If we do something about demand management, you can delay the need for augmentation and significant augmentation.

Mr ELFERINK: Now that we have had essentially - if you are factoring and compounding - a 70% increase in our water costs over the last three years, have you seen a corresponding reduction in consumption?

Mr MACRIDES: We have. The difficulty is attributing that simply to tariff increases and the incredibly wet Wet Season we have had. The problem we have is that we are a very weather-dependent business and if it is cool, people do not use as much electricity; if it is hot, people use more electricity and they use more water. We have just come off the wettest Wet Season in history. We know our revenue is down significantly in terms of both water and electricity. You would think electricity is a factor of the Wet Season and the cooler weather associated with that, and certainly the last couple of months as well. The reduction in water, which is actually 10% year to date, we do not know how much of that is driven by tariff increases and how much of it is driven by the Wet Season.

Mr ELFERINK: You just mentioned the loss of revenue - how serious has that revenue loss been?

Mr MACRIDES: As I said, we are a weather-dependent business and our revenue bounces around based on the weather and this year we will take a significant hit on our bottom line associated with revenue because of the weather. It is probably in the order at this stage of about \$25m reduction in our revenue. Bear in mind that our revenue base is in the order of about \$500m to \$600m, so you are talking about \$25m in a revenue base of \$500m to \$600m.

Mr ELFERINK: 5% to 6%, something like that.

Ms KING: Mr Elferink, it might be worth making a point to the committee that long-term water supply is probably the No 1 strategic issue the corporation is concerned with at the moment. That is why all that detailed work Andy talked about is being undertaken. The decision to proceed with a new dam is one that would be taken very carefully and deferring it as long as possible. That is why the water demand management issues are attracting attention across the corporation and we are doing much detailed work on that so all those other options can be implemented, considered and worked through before proceeding with arrangements for another dam would occur.

Mr ELFERINK: To reassure you, Ms King, I am delighted to hear all this work is being done because it is an important component of planning and is the answer I hoped I would get. I know full well the start date for the Warrai Dam is not yet posted; however, it is nice to know much of the background work is being done. There is nothing in the forward projections I can see over the next five years that suggests the government is planning to press the start button on that project. That is why I was asking the question about how ready are you should you need too.

Has much attention has been given by Power and Water Corporation - because hopefully the settlement of the Kenbi Land Claim will be sorted out sometime this year - Larrakia Development Corporation has already indicated it wants a third of that claim to be settled in favor of normal Territory freehold for development purposes. That places the Warrai Dam a long way from that area of development, but you

would have to cast an eye over the proposed Bennett dam at that stage. Has consideration been given to that or is that too far into the future?

Mr MACRIDES: That is too far into the future. We have had discussions with the Larrakia Development Corporation over their aspirations for land turn off Cox Peninsula. Those discussions have centred around potable water supply and how we might provide a potable water supply to the site, particularly given available water supply over there is fairly limited. Obviously, the easiest way of getting water over there would be a pipeline and we have capacity within our existing water system to meet that demand. The pipeline costs are significant, however, and would need to be considered as part of the development.

Mr ELFERINK: Yes, I understand that.

McMinn Street: I listened to the minister for Infrastructure make comment yesterday in relation to one of the problems at the McMinn Street redevelopment being 'unknown' infrastructure. Mr Pudney, aren't you glad you came today?

Mr MACRIDES: I did not hear that media interview and am surprised in relation to comments about 'unknown' infrastructure. Part of the issue was that, over time, there were some issues associated with the location of electricity cables there that were lower than was anticipated simply because the terrain topography has changed over time. These cables have been there for 20-plus years. I believe they date back to Stokes Hill days. I am not aware that Power and Water has been a contributor, necessarily, to the delays in the McMinn project. There have been issues associated with some of Power and Water's infrastructure being in the area of the development, but all those issues were resolved relatively quickly. I will hand over to Bertram Birk, General Manager, Power Networks.

Mr BIRK: Mr Elferink, there were some electricity cables - apart from being shallower because the grade of the land had changed, we needed to get those rectified, but one of the developments of prime concern was at the waterfront. To enable parts of the project to proceed we would have ended up with the whole waterfront area being supplied by one cable, which would be untenable for us because in the event of an incident on that cable that whole waterfront area would be without supply. We had to install some temporary supplies to enable parts of the works to proceed at McMinn Street. From our point of view, we worked cooperatively with the other agencies and they understood the dilemma we were faced with. We expedited the works as best as we could.

Mr ELFERINK: My curiosity is in the planning process for the McMinn Street works. One would have assumed the contractor or the developer would have considered things like these sorts of issues in the planning process. Was Power and Water Corporation, during the planning of the McMinn Street development, spoken to by the developer? What happened that led to this problem being discovered only after the works had started?

Mr BIRK: My understanding is there were a series of issues which arose, but Power and Water was part of the planning process. We participated in the early discussions and provided some time frames on what we could do and when we could do it. It is difficult to know which particular aspect you are most interested in, but we had to work around time frames of supplying or ensuring we had that second supply down to the waterfront functional before we could cut the cables to allow the road works project to proceed.

Mr ELFERINK: Did Power and Water Corporation advise the developer of all of the locations of their cables and infrastructure prior to the project proceeding?

Mr BIRK: We would have provided advice as best as we could, knowing that some of those cables dated back to very early days and, considering the amount of work that has been done, that the grades and the slopes of the road had changed. I know some of the cables we thought we would not have to disturb, we actually had to because it became apparent they were very shallow under the surface - far too shallow to allow the works to proceed over the top of them.

Mr ELFERINK: When you say far too shallow, physically how far?

Mr BIRK: Generally, with those types of cables, we look at 500 ml and 750 ml, depending on what sort of voltage they are. When works, over time, proceed over those grounds and it gets graded away or landscaped or whatever and, inadvertently, people do not realise there are cables underneath until someone actually does a physical check in a larger project such as this, and determines where they are, so the planning process changes ...

Mr ELFERINK: How shallow were they?

Mr BIRK: I would have to check and get back to you on that one.

Mr ELFERINK: Can I have a question on notice on that?

Mr CHAIRMAN: Okay.

Question on Notice No 10.2

Mr CHAIRMAN: Please repeat the question.

Mr ELFERINK: How shallow was the Power and Water infrastructure; namely, the electrical cables discovered to be under the ground at the McMinn Street redevelopment?

Mr CHAIRMAN: Are you happy to have that question on notice?

Mr MACRIDES: Yes.

Mr CHAIRMAN: That is question on notice No 10.2.

Mr ELFERINK: There is another service corridor, if you like, an easement, that runs between Stella Maris and the other set of units which had Telstra cables going through it - I presume it is fibre optic - and also Power and Water infrastructure going through it. That was all exposed during the construction work on the driveway of the old Stella Maris. Was any of that infrastructure incorporated in the original plan for the redevelopment of the McMinn Street works?

Mr BIRK: I could only comment on the Power and Water infrastructure and what was provided to the developers of that project ...

Mr ELFERINK: There is sewerage and water ...

Mr BIRK: Yes. We would have provided them with the advice of what we were aware of as far as the works go.

Mr ELFERINK: The orange piping - is that indicative of an electrical cable?

Mr BIRK: Generally, an electrical conduit or an electrical cable, yes.

Mr ELFERINK: I was somewhat surprised to see two of those orange pipes going through that corridor had been exposed and were quite close to the surface. Was the project developer on that project advised of the location? Was that part of the planned works, to have that stuff exposed, moved, and shifted, or was that something that happened after the original works were released?

Mr BIRK: It is difficult to comment definitively. There may have been low-voltage cable - which does not present a problem to expose them. I would have to check if, in fact, it was our infrastructure and what the arrangements were there.

Mr ELFERINK: By way of comment, what looked like water pipes - water pipes are blue as a general rule?

Mr PUDNEY: Blue or white and, possibly, grey.

Mr ELFERINK: Okay. It looked like water pipes had been broken in that work. I presume they were Power and Water infrastructure - I could stand corrected on that. Certainly, Telstra infrastructure had been upset to the point where it was broken on that site. From a Power and Water perspective, can I put a question on notice to determine as to whether or not that easement running next to the old Stella Maris Hostel was incorporated and involved in the original planning?

Mr CHAIRMAN: Would you repeat the question one more time?

Mr ELFERINK: I hope so. Okay, oh, sorry, Mr Pudney.

Mr PUDNEY: Member for Port Darwin, we did do some work with the designers early in the piece. They did have to do work on a sewerage access chamber and potentially had to work around some water mains in that easement you talk about. It was always envisaged that work needed to be done. In fact, they commissioned our people to do work on the access chamber, and Power and Water has also taken the opportunity to upgrade some services in that area.

Mr ELFERINK: So the replacement work I have seen is more likely to be upgrade than accidental breakage?

Mr PUDNEY: Yes, potentially. We do have a contract with our own contractor at the moment to upgrade some services in that very area.

Mr ELFERINK: Can we get that confirmed? I am concerned that what I saw of what happened to the Telstra infrastructure, I would have been surprised if that was planned. So, can we get confirmation that the work that was done in that corridor was fully scoped out in the planning processes before work was commenced in the McMinn Street work? Can we have that as a question on notice?

Question on Notice No 10.3

Mr CHAIRMAN: Please repeat the question one more time?

Mr ELFERINK: Can Power and Water confirm that the work done on the easement next to the Stella Maris was fully scoped out with the developer prior to the works commencing, or was there some unintended and additional consequence flowing from the ongoing work that was being done?

Mr CHAIRMAN: Are you happy to take that question on notice?

Mr MACRIDES: Yes. Is that still the same question, 10.2?

Mr CHAIRMAN: No, this is 10.3.

Ms LAWRIE: I thought it was 10.2, actually. It is just a rephrasing of 10.2. It is the same question.

Mr ELFERINK: I will accept it as a ...

Mr CHAIRMAN: No 10.2 was how shallow were the cables ...

Mr MACRIDES: Oh, my apologies.

Mr CHAIRMAN: ... and this has moved on. So, this is question No 10.3.

Mr ELFERINK: Another inquiry that has come my way deals with the redirection of the Larrakeyah outfall, back to the Ludmilla Waste Water Treatment Plant. It is very hard not to notice the work being done. You will be tunnelling shortly, as I understand it, is that correct?

Mr MACRIDES: We are tunnelling and have been for some time.

Mr ELFERINK: There you go. You are one step ahead of me.

Mr WOOD: It has been going for a while, even I know out bush.

Mr ELFERINK: There is an old political maxim - once you are in a hole, stop digging.

The tunnelling has commenced. Is that tunnelling going 24 hours a day, or is it going for less of a period? And, if so, what are the tunnelling periods?

Mr MACRIDES: There is an extensive amount of tunnelling going on. The contractor doing the tunnelling on our behalf is negotiating with affected parties along the route to determine the actual timing for the work to occur. Typically, the work has been going on from around 7 am through until around 5 pm.

They are doing work behind Dashwood Place at the moment, and there are some unit developments along there that have come out and expressed some concern about the noise levels associated with that. As a result of that, there has been negotiation with the tenants of the buildings there to actually change the operating hours for the work that is going on. I believe they are starting later now and finishing earlier as a result of those negotiations.

Mr ELFERINK: What time frames are involved?

Mr MACRIDES: I will hand over to John Pudney again.

Mr PUDNEY: As Mr Macrides said, generally between 7 am and 5 pm. They have been looking at double shifts, and have done some double shifts earlier in the tunnelling process, away from the current area. The initial area under McMinn Street bridge - there were some double shifts in that area and, fortunately, no residential properties next door. Now that we are getting into the more dense areas, the timing is changed, and the seven until seven, or seven until five, will vary depending on where we are in the tunnel works.

Mr ELFERINK: All right, so basically daylight hours.

Mr PUDNEY: Daylight hours.

Mr ELFERINK: All right. No worries. That will settle the beating hearts of a few constituents.

Ms King, my next question, I suspect, will go straight back to Mr Macrides anyhow, but for the sake of form. There was some time ago a generator set damaged as a result of – well, as a result of what, I suppose, will be my first question? It was about the same time that fluids were detected coming down the pipeline from Blacktip, etcetera. It has been under investigation; the metallurgists have had a look and everyone has their little piece of the action in terms of everyone getting their piece of the turbine. What caused the damage and can you brief me as to what is happening with that situation?

Ms KING: Mr Elferink, I will pass this to Mr Macrides for the detail. I can assure you that none of the events that happen at Power and Water go under-investigated and this is one that has not, but he can report on the outcomes of those investigations.

Mr MACRIDES: Thank you, Mr Elferink. The investigation has been going on for some considerable period of time and it has obviously been a complex investigation involving a number of parties from our perspective that are experts in various fields. Much of the work has been done by a company called Quest, and they are based in New Zealand, and they have done a lot of the analysis work for us, which is the metallurgical analysis work.

Mr ELFERINK: Not Christchurch, I hope.

Mr MACRIDES: Not Christchurch, I do not think. We got the final report from our consulting engineers in, I think, April and you will be aware, obviously, that this has been the subject of a Council of Territory Cooperation review ...

Mr ELFERINK: I was vaguely aware of it.

Mr MACRIDES: And we have, in fact, now written to the Council of Territory Cooperation and advised them of the outcome of the review and the failure mechanisms for this particular generator. I can say that the failure mechanism was not associated with the issue of gas supply. It was not the hydrocarbon slug that has caused the damage to the generator. I have to my right, Mike Knowles, General Manager Strategy and Corporate Affairs. Mike is an engineer who is better able to explain the detail of the failure mechanism than I would ever be able to do.

Mr ELFERINK: Mr Knowles, in crayon if you please.

Mr KNOWLES: Mike Knowles, General Manager Strategy and Corporate Affairs. I will try to simplify it as much as I can. After the failure was detected in December 2009, the engine was sent back to the GE factory in the United States and it was stripped down; parts were removed and sent away for independent analysis. We undertook the analysis, not General Electric. Since that time, we have had a lot of toing and froing with the engineers trying to get to understand what the root cause of the problem was.

What was discovered was there were a number of degradation mechanisms or degradation within the engine and in all cases they were seen as long-term effects. So, while the diesel slug may have caused a momentary spike in temperature, all of the degradation modes were long-term. It suggested it had nothing to do with the off-spec gas or the gas effects. That, I think, was the first conclusion.

Mr ELFERINK: So, what was that? Just a ghastly coincidence and nothing more?

Mr KNOWLES: I think, effectively, yes.

Mr ELFERINK: Okay.

Mr KNOWLES: The next conclusion that they came to, if you understand a gas turbine engine has a compressor, a combustion section, and a turbine at the back, and what we found was the blades on the first turbine segment had been damaged. Some had effectively been melted away, and there was subsequent damage because of that flowing back through the turbine. The investigation showed that some time before December and some time after - there was an inspection done in August - so sometime between August and December, there had been what we call pre-ignition in the combustors. What was happening, in effect, was that the flame in the combustor section was occurring too soon and was effectively impinging on a nozzle within the combustor. As it impinged on the combustor, which it is not supposed to do, it started to eat away at this nozzle. As it did that, the flame propagated and impinged on the turbine blade. That was, effectively, the cause of the damage. It was pre-ignition within the combustion chambers.

The next question we started to ask the technical experts was what was causing the pre-ignition. That, again, took some time to work through. The most likely cause is there were some iron particulates, or small particles of iron, in the gas supply. What had been found were some deposits of iron in a couple of holes in the combustors. From the analysis of these deposits it was clear they had been built up over a number of cycles. Again, it was not that it was an instantaneous thing.

Mr ELFERINK: Like when you drop an iron filing onto a flame, you get a little flare.

Mr KNOWLES: That is right, yes. Those iron particles were causing the pre-ignition which in turn damaged the nozzles.

The next question was where did the iron particulates come from? They are in the gas so the most logical source would have been the gas pipeline. The gas pipeline has been there for 25 years; it does have rust; however, the problem we have is when we have inspected the filters in NT Gas facilities and our own ...

Mr ELFERINK: That was my next question.

Mr KNOWLES: ... we could find no evidence that they were bypassing. We presumed they must have been but when we changed our filters shortly before the incident the inspection showed there was rust effectively, or iron particulates, on the outside of the filter but nothing on the inside. We have come to a point where we understand this is probably the likely cause of the effect, no problem, but have not been able to get to understand precisely how the iron particulates got into the gas supply within the engine.

Mr ELFERINK: Was it particularly rust, or was it the new pipeline. Could the new pipeline have been a source of those particulates?

Mr KNOWLES: It is pretty unlikely. The BTP is 300 km away from Darwin, so the most likely source of the contaminant would have been coming up from the AGP pipeline.

Mr ELFERINK: You say there was a build-up of these particulates over time; it was not a single event. Can you guesstimate how long those particulates had been present to give you that effect?

Mr KNOWLES: That was a key question we were asking our engineers and they could only say that it occurred for a period of time.

Mr ELFERINK: Between August and December?

Mr KNOWLES: Between August and December.

Mr ELFERINK: When did the new pipeline come online? Was it during that period?

Mr KNOWLES: No, it was before then.

Mr ELFERINK: That is the next question in that case. Does the maintenance record show any work being done on either of the two pipelines?

Mr KNOWLES: We do not have access to that. It would have been regularly pigged by NT Gas, which is the operator.

Mr ELFERINK: Much pigging was being done at that time.

Mr KNOWLES: They would have been doing routine pigging. There was some specific pigging associated with the off-spec gas regime.

Mr ELFERINK: Yes, because when that new pipe went in, it was pretty much pigged out.

Mr KNOWLES: They would have done that as part of the construction process.

Mr ELFERINK: Would the pigging have produced filing of that size?

Mr KNOWLES: Unlikely. We think we understand the cause was pre-ignition and was caused by iron particulates. We have not had any further incident with those engines as a result. We have not detected any further problems with iron particulates or other contaminants.

Mr ELFERINK: I am sure the engine had been gone over with a fine-toothed comb. You would have been looking at the space also between the filter and your nozzle. Was there any evidence along that filter or that line?

Mr KNOWLES: No.

Mr ELFERINK: No deposits or anything else like that?

Mr KNOWLES: No. From what I understand, as part of a construction process they do a test to see if there is any residue left in the pipeline as it is constructed, and that showed nothing.

Mr ELFERINK: That was one of the new gen sets, wasn't it?

Mr KNOWLES: That is right.

Mr ELFERINK: When was it brought online?

Mr PRATT: Ian Pratt, General Manger Generation. Approximately a year ago, a year before the failure.

Mr ELFERINK: About a year ago. It had been operating for a year and, then, between that August and December, you got a sudden appearance of the iron particulates. Have the filters shown any ongoing existence or presence of iron particulates since that time? You might as well come up, Mr Pratt.

Mr PRATT: Something that should be said is iron particulates are common, or are naturally occurring, in a pipeline. The filters always find deposits and collect the iron particulates. Even in this case, the filter loadings we saw were not unreasonable. They were probably half of what could be expected in a normal pipeline.

Mr ELFERINK: What you are basically saying is that there was nothing unusual about the presence of iron particulates, and there was no obvious spike of iron particulates at that point?

Mr PRATT: That is correct. The filters have been in for a full year. The manufacturer states they can be replaced every six months in a normal loading, so it is reasonable to assume ...

Mr ELFERINK: This is just a downright mystery.

Mr PRATT: At the end of the day, the only logical conclusion, as improbable as it might be, is the filters had some ...

Mr ELFERINK: Apply Occam's razor for me and see how we go. What is the only logical conclusion?

Mr PRATT: The only logical conclusion is the filters let through some iron particulates.

Mr ELFERINK: Were the filters part of the machine? When you put the filters in, it would have been to manufacturer's recommendations. The question I have is: are they the manufacturer's filters or do you source the filters from somewhere else other than General Electric?

Mr PRATT: They were supplied by General Electric, but General Electric source from a filter manufacturer.

Mr ELFERINK: Yes, but it is theirs. Basically, they say ...

Mr PRATT: It was part of the supply.

Mr ELFERINK: ... this is the filter you stick in the machine and this is all part of the package.

Mr PRATT: Yes.

Mr ELFERINK: Right. How big is the filter in the size of the material?

Mr PRATT: These are 2.5 micron.

Mr ELFERINK: Obviously General Electric would have some concerns about this. What has their response been?

Mr PRATT: General Electric, at the moment, is not aware of the results from the investigation. They are certainly very interested.

Mr ELFERINK: I am sure they would be, because they keep producing these things for power producers all over the world. My concern is, if the filter is failing - I have an interest from a taxpayers' perspective. This is a \$10m failure, as I understand it. Would that be about right, Mr Macrides?

Mr MACRIDES: There are two elements to this. One is that it cost \$10m to buy a replacement engine. The actual repairs were in the order are about \$3m or thereabouts - \$2.5m.

Mr ELFERINK: \$2.5m. So, we have a spare generator as a result?

Mr MACRIDES: We do, in fact, have a spare engine.

Mr ELFERINK: That is fine. It is a \$2.5m issue then. Of course, the question that is percolating underneath the surface through all of this is the question of liability - which is why I am asking who provides the filter and does not meet their design specifications. Has any other reason been postulated other than the fact that the filter failed?

Mr KNOWLES: No. It is not even clear whether the filter failed.

Mr ELFERINK: That is the problem you have. Is there any work ongoing to determine if the filter failed?

Mr KNOWLES: No, not at this point.

Mr ELFERINK: Where is the filter now? Has it been sent back to General Electric, or do you have it?

Mr PRATT: We still have the filter, or the filters, there are 12 of them. There is no evidence on them of seals failing or any damage, any failures at all, no splits.

Mr ELFERINK: So the thing is a mystery.

Mr MACRIDES: Like the Bermuda triangle, Mr Elferink, there are just some things that cannot be explained. As I said, we have poured a lot of resources into doing the analysis associated with this. The perplexing part is that the filters themselves show no evidence that there has been particulate matter escaping through the filters. As the two gentlemen have explained, one side of the filter shows the capture of the flaking material, the other side of the filter shows nothing has passed through it, it is still pristine.

Mr ELFERINK: Jog my memory, I have to get the timings right. The hydrocarbon slug, did that appear between that August and the December period?

Mr MACRIDES: The hydrocarbon slug occurred on 23 November.

Mr ELFERINK: Yes, so it is in that period?

Mr MACRIDES: It is in that period.

Mr ELFERINK: Did the slug hit the filter?

Mr MACRIDES: The slug did hit the filter. The filters we are referring to here are coalescers - is that correct?

A member: Yes.

Mr MACRIDES: Yes. The slug actually passes through a series of coalescers. The issue for us, if we just get the sequence right here, the fact is that this occurred on 23 November, so we had the hydrocarbon slug occurring. NT Gas took the approach of closing the gas supply system down when they realised that there was this hydrocarbon slug in the system itself. That then caused the load shedding that took place. The examination of Weddell 2 was just simply a routine examination process. We do borescope examinations of our engines on a regular basis, so it is part of our cyclical maintenance regime for these engines. The borescope showed this degradation in the blades, which then led to the decision being made to take this engine off-line.

Mr ELFERINK: In terms of the slug hitting the filter, with what force? I mean, can the filter be compromised by a hydrocarbon slug hitting it?

Mr PRATT: By the time the slug actually came through we changed out the original filter, so it was on the second filter. The filter that was hit by the slug is not the original filter, if it was a filter that let through the particles.

Mr ELFERINK: Did the second filter get affected by the hydrocarbon slug?

Mr PRATT: There were two filters, and we swapped across to the second filter. It is the second filter that was affected by the hydrocarbon. The original filter that had to have let, or most probably, allowed any particulates through, was not affected by the hydrocarbon, so it was still in its pristine condition.

Mr ELFERINK: Could any of that material have gone through the second filter, in terms of the slug?

Mr MACRIDES: Let us just get back again to the science here, and that is that this has been pored over by a team of experts that have said the hydrocarbon was not the cause of this degradation of the engine itself. The cause is most probably the particulate matter which has led to this problem. The source of the particulate matter, no one can give us any definitive answer as to where it has come from.

Mr ELFERINK: Yes, and it has been a build-up over time rather than the one event.

Mr MACRIDES: Correct.

Mr ELFERINK: I just have this mental picture of something hitting the filter.

Mr MACRIDES: No, it does not quite occur like that, which is why, obviously, the experts have ruled it out.

Mr ELFERINK: At the risk of asking a layman's question here, your filter is what, 2½ microns? Can an iron particulate be smaller than that?

Mr PRATT: I would assume that it can, but it does not affect the engine.

Mr ELFERINK: Okay, so it just goes through the system unnoticed?

Mr PRATT: Through the system, yes, and it will not form the deposits that we saw.

Mr ELFERINK: All right, no worries. Curiouser and curiouser. Just a last couple of questions. One of the major costs to the Power and Water Corporation is the supply of vehicles, as I understand it. How many vehicles do you have in your fleet?

Mr MACRIDES: If you give me two minutes, I will find the answer for you.

Mr ELFERINK: Oh, a ballpark figure on that.

Mr MACRIDES: We have two classes of vehicles in our fleet. We have commercial vehicles, and we have all our heavy equipment/industrial vehicles. In total we have about 500 vehicles. About half would be commercial vehicles, so cars; and half would be trucks, vans, etcetera.

Mr ELFERINK: Where do you source your vehicles from; how do you source your vehicles?

Mr MACRIDES: We use NT Fleet as the government fleet provider.

Mr ELFERINK: For all vehicles?

Mr MACRIDES: For all vehicles.

Mr ELFERINK: Does that present you with any challenges in organisation, Ms King?

Ms KING: There are different ways of dealing with fleets in different jurisdictions and so on. Some people have opted to outsource completely and deal with commercial providers. In the Territory, we deal with NT Fleet and endeavour to get the best deal we can. Andy might tell how that is working out.

Mr MACRIDES: The answer to the question is NT Fleet is very good at providing commercial motor vehicles. Their core business is not in the heavy vehicle area that we require, so we do a lot of work with NT Fleet to try to ensure the vehicles that are provided, bucket trucks, etcetera, are fit for purpose. It is true to say that NT Fleet struggles with the provision of those types of vehicles for us because it is a very small part of their business and, as I said, we work closely with NT Fleet to try to make sure those vehicles are provided in accordance with our standards.

There is a difficulty with servicing arrangements for these vehicles. We have bucket trucks in every single location that we work out of, so we have bucket trucks in Tennant Creek, Alice Springs and Katherine. Servicing arrangements for these trucks become problematic over time. Part of our discussions with NT Fleet are how can we ensure these vehicles get serviced on the ground. If we have to bring a vehicle from Katherine to Darwin to get it serviced in Darwin it means that I have a vehicle off the road and that means I have a crew that I cannot deploy.

Mr ELFERINK: Okay. Is it ideal? You have now said the word 'difficulties' on three occasions, or two at least, during that period. Is that ideal for you?

Mr MACRIDES: I do not think it is ideal for us and I am sure that NT Fleet, in our discussions with NT Fleet, are along the lines of: do you want to still be in the provision of heavy vehicles to us or would you prefer us to look at alternates? That is where we are at the moment - having a look at alternates to see if it is cost-effective for us to provide the heavy vehicle fleet from another source.

Mr ELFERINK: Is there currently any obligation on you to source through NT Fleet, or is it simply what you have done up until this ...

Mr MACRIDES: If you look at the government-owned corporations legislation there is a number of things as a GOC we are still bound by, unless we choose and are approved to opt out of them. So the whole-of-government procurement process, we are still under the *Public Sector Employment and Management Act*, and we still use NT Fleet. There is no ongoing obligation for us to use NT Fleet, but we want to do an economic analysis of the alternates to using NT Fleet.

Mr ELFERINK: So, there is a legislative imperative unless you are released from that imperative.

Mr MACRIDES: It is not an onerous imperative though to move from it.

Mr ELFERINK: Who releases you from it?

Mr MACRIDES: It is the portfolio and shareholding ministers.

Mr ELFERINK: If the question came up at any point, would the shareholding minister release the Power and Water Corporation from that obligation?

Ms LAWRIE: What we do is we have a constructive working relationship; any analysis done by the Power and Water would come before us and we would make a decision based on the best operating interests of Power and Water.

Mr ELFERINK: I am aware of the time. I understand that the member for Katherine has some other questions he would like to ask and, Gerry, we are going over to you in 10 minutes. Whilst I could happily sit here and keep going, Mr Chairman, in the interest of time and fairness, I think I should relinquish my ...

Mr CHAIRMAN: I call the member for Katherine.

Mr WESTRA van HOLTHE: Thank you, Mr Chairman. Minister, there was recently some upgrade work done to the Katherine Power Station. Was that a public tender process? The reason I ask is that I just want to get the dollar figure out there.

Mr KNIGHT: Mr Macrides.

Mr MACRIDES: There has been a fairly significant amount of work done to the Katherine Power Station, both from the network side and also from the generation side. We use a combination of methods for the work we do. We have many period contractors. We go to these period contractors that are on a panel with Power and Water and seek quotes directly from those period contractors depending on the procurement thresholds. Other times, depending again on the threshold, we go out to full public tender on the works that get carried out. I cannot give you the dollar value of the works that have been done offhand, but we can provide that information to you.

Mr WESTRA van HOLTHE: If I could put that on notice, please, Mr Chairman.

Question on Notice No 10.4

Mr CHAIRMAN: Do you want to repeat it one more time?

Mr WESTRA van HOLTHE: That is to provide a breakdown of expenditure on work done at the Katherine Power Station in this current financial year.

Mr CHAIRMAN: That is question No 10.4.

Mr WESTRA van HOLTHE: I am going to refer specifically to some work done in preparation for a new generator that is going into Katherine. I want to find out whether that work has now been completed, and whether it was done on time and within budget?

Mr MACRIDES: We have done a couple of things at the Katherine Power Station in relation to generation capacity. We have put some temporary sets into Katherine and have done work on moving the - I always get this wrong, the Titan or the Taurus, I never remember which - the Titan from Alice Springs into Katherine.

Have the works been on time and on budget? I suspect the answer will be no to both those questions because when you do work in a major power station environment like that, quite often things occur that you do not envisage because you are working in the vicinity of high voltage equipment. So you will have a very good idea about the location of some of the cables, but when you start exposing the cables you get a better idea about the quality of those cables and whether they need to be replaced. Quite often what happens is you have a starting point for a budget, you start doing the work and then you issue variations to the contract as you uncover things as you start the work.

Again, I do not know offhand what the length of any delays were and the nature of those delays, and the increasing costs or whether they were scope related or not, but I can provide that information to you.

Mr WESTRA van HOLTHE: If we could put that on notice, please, Mr Chairman?

Question on Notice No 10.5

Mr CHAIRMAN: One more time, member for Katherine.

Mr WESTRA van HOLTHE: Please provide information that relates to any delays in the completion date of that recent project, details of any cost overruns, and the cause of those cost overruns.

Mr CHAIRMAN: And name the project in the question.

Mr WESTRA van HOLTHE: That is at the Katherine Power Station.

Mr CHAIRMAN: That is question No 10.5.

Mr WESTRA van HOLTHE: Mr Macrides, I am not going to refer to the company particularly, but it was a contract of around \$1.1m to do this particular job I am talking about. I do not want to name the company. Was the work it did up to standard so that it could be immediately used for its intended purpose, or has remediation work had to be done on the original scope of works, and was that done at any extra cost?

Mr MACRIDES: I am reluctant to provide an answer at this stage in the sense that I do not know where the works are at. If you hang on two seconds I will find out. I say that because we are talking about an individual contractor and I do not want to say anything derogatory about the contractor if the works are still under way. Bear with me a minute. Member for Katherine, I have been advised the work is still ongoing. The contractor you refer to is still undertaking this work on our behalf and it looks like we might have another four to eight weeks worth of work to complete the project.

Mr WESTRA van HOLTHE: Okay.

Mr MACRIDES: I am happy to have a discussion with you offline about the matter, if you wish?

Mr WESTRA van HOLTHE: Can I put a question on notice, please, Mr Chairman? Could Mr Macrides please advise me once that work has been completed to then facilitate a meeting to discuss how that work has progressed?

Mr MACRIDES: More than happy to.

Mr CHAIRMAN: That is not really a question.

Mr MACRIDES: I believe it is a commitment rather than a question, and I am happy to provide that undertaking.

Mr CHAIRMAN: It is an agreement on the public record, so I believe we can move on.

Mr WESTRA van HOLTHE: I have no further questions.

Mr CHAIRMAN: In that case, it is the member for Nelson's turn. We will take a quick five-minute break and return at 11.30 am with the member for Nelson.

The committee suspended.

Mr CHAIRMAN: We will start, member for Nelson, you have the call.

Mr WOOD: Thank you. I thought I would make a comment on the spaghetti lines myself, just so the member for Port Darwin knows where it is at. There have been many negotiations on this issue. There is also the issue of the possibility of extending the town water supply into the rural area. That makes it a little bit more complicated, because then we have to deal with what size water pipes will be allowed, and there are still some ongoing negotiations about the size of pipe that could be allowed in the rural area. On top of that is the cost and who would pay and, if someone wanted to get connected to that pipe, how much that would cost as well. So, besides the issue of who would pay, there are technical details that require much

more discussion. I have not given up that there should be some general change over the years to the system, but it is not as simple as it sounds.

Mr CHAIRMAN: Is there a question?

Mr WOOD: My question: I will ask the broader question first, and it relates to the annual report. On page 97 under Market Risk it says that in accordance with the GOC Act, the corporation's objectives are to operate at least as efficiently as a comparable business and to maximise the sustainable return to the Northern Territory on its investment in the corporation. Could someone say whether those objectives have been achieved in light of some of the other concerns in the statement of intent?

Ms LAWRIE: I will start, member for Nelson. Under the work done by the board they have paid close attention to how Power and Water Corporation operates as a business, and how they are drilling down on their efficiencies as a business. That goes through analysis and expert opinion at board level and the board structure has enhanced the ability to make those assessments. Bearing in mind that we now have two significant local Territory businessmen in Michael Hannon and Steve Margetic, and we have introduced into the board Rob Skinner who was Managing Director of Melbourne Water Corporation. I have a great deal of confidence in the chairmanship of Judith King and the new additions to the board. We have gone through a phase of renewal at board level with Merv Davies who undertook the analysis of Power and Water's system following the catastrophic failure at Casuarina Zone substation, and the financial background of Linda Mackenzie. We have a well-rounded and highly skilled board. I know they are constantly questioning at board level any advice or information that comes forward from the management of Power and Water, and have undertaken a series of tasks through their various board subcommittees.

Separate to that, we have the Utilities Commission structure, which were given various tasks by me to have a look at the operations of Power and Water. I know they come forward with recommendations to Power and Water in terms of their operations as well.

I am pretty confident that the intentions of the SCI in that regard are well and truly being met. Judith, if you want to add anything to that?

Ms KING: Member for Nelson, I would follow up saying that the focus for the board at the moment is to deliver the extensive capital infrastructure program that we have in place for the next foreseeable five-year period in the SCI, and to do that while working rigorously to achieve the financial sustainability that we are endeavouring to do. The legislation refers to operating commercially - you asked about the achievement of these things - we have not achieved our financial sustainability yet. We are working towards that. Commercial sustainability is not an aspirational goal - it is a goal. It will be determined in discussion with the shareholder at a period in time when we are confident that our financial sustainability targets have been met and our capital program has been delivered. That is where we are at the moment. I can assure you that the question of our financial sustainability and financial performance is a top order issue in our monitoring and reporting, and questioning management, and the risk profile that the audit and compliance committee works through regularly.

Mr WOOD: If I was to look at it as a lay person, if it was a normal company it would not be relying on government subsidies, it would be paying out dividends. The time to say Power and Water is operating sustainably is when those government subsidies drop off and when it is starting to pay a dividend. Would that be fair enough to say?

Ms LAWRIE: There is a difference between commercial sustainability and financial sustainability. The Reeves report went to that. You have to understand, fundamentally, the role of the utility and the geographic nature of the Territory. It is vast distances delivering a reasonably priced product across the Territory. The expectation of commercial sustainability is not reflective of the nature of the Territory and is why we look at financial sustainability rather than commercial sustainability. You have to understand where you are in your cycle. Where we are is building into the system redundancy in relation to improving reliability as well as accommodating for growth. That goes to additional generation and additions into the networks.

You heard, in the opening statement from Ms King, Archer Zone substation is almost finalised. We have the Lee Point Zone substation to construct, and we are also undertaking significant work in the water augmentation - almost finalised with the raising of the dam wall, as well as the importance of the work we are doing in sewerage infrastructure. You have to do all those things yet you are in a jurisdiction with large geographic distances and a range of obligations to both improve your renewable picture, which we have contributed to, and also recognising we had to upgrade across generation system and the network system.

Mr WOOD: Would it be fair to say if you did not have Indigenous Essential Services what was left would be sustainable? Or does the Indigenous Essential Service component mean it is very difficult for the corporation to be commercial? The differential the Treasurer is talking about is it can be financially viable as long as we take into account those issues of supplying power into those communities will come at a cost.

Ms KING: I could make a further comment rounding up some of the things the Treasurer said. Leaving aside remote operations, there is a number of responsibilities that the corporation has which do not make - a fully commercial board would not undertake them whether you include or leave aside remote communities because of the nature of the geography, the distances and so on. The remote community finances, although it is a not-for-profit part of the business, it is still managed on a very rigorously financial basis. Decisions are made and priorities are set about particular projects on the basis of the funding being available for them.

Andrew is keen to say something.

Mr MACRIDES: Mr Wood, the easy answer is no. It makes no difference whether IES is in or out. IES is separately funded. It is a straight pass through of costs. It is separate from the commercial operations of the corporation by virtue of a wholly owned subsidiary of the corporation. So there is no cross subsidisation between the services we provide through our wholly owned subsidiary, IES, and the commercial operations of Power and Water. IES, and the service delivery to IES, is fully funded via government.

Ms LAWRIE: You still have your large regional centres of Alice Springs, Tennant Creek, Katherine, etcetera, in the system, in the network, in both your generation requirements and network requirements.

Mr WOOD: I have some broader questions; I am just watching the time. I lead on to the issue of communities and what role Power and Water plays. Recently I visited some communities on the Sandover Highway. That is a map of the outstations; it is not much good. There are about 23 outstations in Utopia or in that region. I am trying to get an understanding. At each of these outstations, I think most of them have power, they have water, and they have septic or sewer. What is Power and Water's role in each one of those communities? Is its function to maintain the essential services in each one of those communities, or someone else's?

Mr MACRIDES: I will start by answering the question, and then I will hand over to my colleague, Darryl Day, General Manager of Remote Operations.

Indigenous Essential Services, as a wholly owned subsidiary of the corporation, is funded to provide services to 72 remote communities at 66 outstations. The 66 outstations are defined under a service level agreement that we have in place with our funding provider, which is the department of Housing and Local Government. In each of those communities we service, we provide a mix of electricity supply, water supply, and sewerage services. I think there are 500-plus outstations – we only provide services to 66 of these outstations.

Mr WOOD: Whose job is it to supply services to the other 434?

Mr MACRIDES: This is where I will hand over to Darryl.

Mr DAY: The funding agreement we have defines, in the case of Utopia, we only provide electricity services to those communities, not water supply, and we do not look after septic tanks - for example, at Ampilatwatja we mentioned before. Each of the communities and outstations has a definition of what services we provide. Government has an alternate program of outstations and homelands that we are not involved in, although we are asked, from time to time, to provide some assistance on a cost-recovery basis, to do some of those outstations.

Mr WOOD: From the point of view of efficiencies - and I will just take this example - you look after your responsibilities for 66 outstations. If I took the Utopia area, do you look after all the power, water and sewerage or septic issues on all the outstations within that community?

Mr DAY: We look after the electricity supply for those that are grid connected. That has picked up most of the Utopia outstations, but we do not look after the water supply and we do not look after the septic tanks. We provide electricity supply on the same basis as other communities – pay for use basis – and we have recently extended a couple of years ago, power lines in the area to Irrilyere and picked up a couple of the outstations associated with that. Where there is a grid supply running past an outstation we provide electricity, and there is some subsidy associated with that, that government pays through the IES program.

Mr WOOD: For more information on that in regard to those services you do not look after it would be department of Housing and Local Government.

On the issue of water then, it was mentioned in the opening statement about Water for Healthy Communities, whose responsibility is it to provide water for those communities? Do you only provide the water for the 66, and someone else has to provide the water for the other communities?

Mr DAY: I mentioned that each of the outstations is defined whether we provide electricity; electricity and water; or other services. In the Utopia outstations, we do not provide the water services; we only provide the electricity service. The water is funded through the outstations and homelands program. We provide water, generally, to the growth towns and the larger communities that make up the 72 communities.

Mr WOOD: Okay. That raises an issue with me. I could ask the bigger picture of why you do not take over all those sorts of essential services. I gather that you have a monopoly on the supply of water. It is in the statement of intent that you have the monopoly on the provision of water. How does someone else have the right then to deliver water to communities? It says here somewhere, I have to find it now but, basically, water and sewage services are provided under monopoly licences. So how does someone else provide those services?

Mr DAY: Under the *Water Supply and Sewerage Services Act*, there is provision for water supply areas. They are declared for the major and minor urban centres, which is where the monopoly provisions come in. They do not extend, or they have not been established, outside of the major and minor urban centres.

Mr WOOD: That explains why a certain developer in the rural area who wanted to supply water to a development was told he could not because that was Power and Water's responsibility, it is only because it is within a certain area. Okay. That probably closes off some of my other questions about sewerage, and I know septic tanks have been a problem in that area, but obviously it is not your, well I am not saying concern, but it is not your area of responsibility.

Just staying on the sewerage side of things, in relation to the Humpty Doo sewerage facility, I gather it has doubled in size. Is there any way that someone can work out from a planning perspective how many houses - or when you build a sewerage system, can you say that that sewerage system will be sufficient for X number of people. Is there a population basis?

Mr PUDNEY: Member for Nelson, in any new subdivision, the infrastructure that goes in is in accordance with the proposed zoning. For example, if there are 50 houses, we estimate the load of what 50 houses could be, and the system is designed for that. It is proportional to the area and the likely future long-term density for the zoning at the time. It is only when a site is rezoned that, potentially, the system is not up to scratch at that point of rezoning.

Mr WOOD: You have basically doubled the size of the Humpty Doo sewage ponds. Am I correct there?

Mr PUDNEY: That is correct. We probably doubled the capacity of the Humpty Doo sewage ponds. They were already stretched, if you like. There is now some spare capacity, but that will not necessarily account for the full long-term plans of the whole district.

Mr WOOD: Are you able to give us an indication of what the capacity, that is population-wise, would be of the expanded sewerage system? I say that because of the discussion around rural villages. I just need to have some indication of what the existing infrastructure could support.

Mr PUDNEY: It is a few hundred EP. That is the terminology used - equivalent population.

Mr WOOD: I was a bit worried there, because you have *E. coli* and then you have EP, and I was just wondering whether that was a relationship! Okay, so it is equivalent population.

Mr PUDNEY: We would have in the order of a few hundred, perhaps, up to 500 EP, so that would enable, say, 250 houses.

Mr WOOD: That is interesting to hear, because we were hoping that maybe a retirement village could go in that area, and we want to make sure that before we ask that, that there is the capacity for that to be built.

In relation to power houses in remote communities, and I know one method of reducing the power or the carbon emissions is to reduce the number of power houses operating. Are you also looking at the alternative of extending the gas pipelines out to regions to bring those particular power stations on to gas rather than, I call it less dirty gas, rather than something else, diesel?

Mr MACRIDES: I will start answering the question, Mr Wood, and then hand over to Darryl Day again.

The answer is yes. Our strategy is to look at a range of ways of reducing the greenhouse gas emissions in remote community power stations. Some of those will be connections to gas pipelines, some might be conversion of power stations to LNG, some might be grid connections – so closing down an inefficient power station and connecting it to a grid from a power station which is more efficient. All of those are part of the mix as is renewable energy options, as well.

As the Chairman indicated earlier, we are in the process of putting renewable energy options into three new sites. We already have renewable energy options in five communities and, over the next 10 years I believe it might be, we are looking at converting about 10 MW of supply in diesel-fired power stations to renewable energy options.

Darryl, do you want to add anything to that?

Mr DAY: Member for Nelson, we have looked at economic models for each of the locations with all the options on the table and, as technology changes, we will see some of those options become more attractive. We are working through a portfolio approach where we are looking at, as Andrew Macrides mentioned, liquified petroleum gas, liquified natural gas, that can be transported, rather than extending a gas pipeline infrastructure.

The capital works program for 2011-12 includes a new regional gas-fired power station at Wadeye, at \$17.8m. That is being designed to also provide power to Palumpa and Peppimenarti under subsequent stages; two relatively close communities with diesel power stations that would receive generation from a gas-fired power station to displace approximately two ML of diesel a year.

What we are conscious of doing is not locking ourselves into high-cost technologies at this point, and making the right choices as cost of technologies change. We have been seeing a reduction in the cost of renewable energy technology, which is still a little way away from being a clear cut technology to replace some of our diesel generation capacity. But, we are working through community by community, and I believe we have some really good projects under way at the moment.

Mr WOOD: From another angle on renewable energies, have you had any discussions with the proposed tidal power company which has been looking at the Clarence Strait? Or has that fallen off the perch?

Mr MACRIDES: I am going to bring another person up - he is very well-known; Trevor Horman heads up our Sustainable Development area. The answer is, yes, we have had some discussions with the tidal power proponents. I will hand over to Trevor to explain the nature of those discussions to date.

Mr HORMAN: Member for Nelson, Alan Major from Tenax is in regular contact. He is working through his environmental impact statement at the moment, and there are trial turbines under test in Canada.

Mr WOOD: So, there is still the possibility this may happen?

Mr HORMAN: We do not see it happening tomorrow. Testing turbines in cold water in Canada is different to running them in tropical warm waters. We have had a great deal of experience through the Apsley Strait trials we did there. It is still alive and he is still working on it.

Mr WOOD: He could supply power if he wanted to but it is your grid, so he would have to supply it through your grid. Is that how it would work in a ...

Mr HORMAN: Yes. The location he has chosen is about 80 km from the grid so there would be that connection component to be engaged in. We would see if Power and Water could have a power purchase agreement with Tenax if the project got up.

Mr WOOD: It will be an ongoing matter to keep an eye on, I imagine?

Mr MACRIDES: Yes, very much so. Like anything, it will be a commercial transaction based on whether or not the costs they are able to offer us are within the ballpark of what our voided costs would be.

Mr WOOD: If the company could get up and running and supply you with power, does that reduce your responsibility as written in the Statement of Corporate Intent? Can you count that as part of your requirement to use renewable energy?

Mr MACRIDES: It would generate renewable energy certificates which we would purchase as part of the contractual arrangements if we entered into a contract with them. The answer is yes.

Mr WOOD: This is more a simplified question for me; there is talk about the cost of power going up and up. Why is it going up and up? Gas prices have been fixed over a period of time. What are the main reasons, if the gas price is fixed, the cost of power is going up? Is it because of high loan repayments? Is it because employment costs are higher? Is it because there is a large repairs and maintenance requirement that has not been looked at in years go by?

Mr MACRIDES: The two main drivers of cost increases Australia-wide are the investment utilities have to make in upgrading infrastructure, whether it is their maintenance programs or augmentation of supply. Clearly, if business is expending large amounts of money on maintenance it has to recover those costs from the end user. If they are expending large amounts of capital to build new assets they have to recover the capital costs, over time, from end users.

In the case of Power and Water, you have heard the size of our capital program. Every other jurisdiction has capital programs two, three, four, five, six times greater than Power and Water has, so every utility Australia-wide is investing significantly in its maintenance programs and its capital programs to meet the growing demand. Largely, that is what drives the cost of power - tariff increases over time in regulated regimes.

Mr WOOD: I will show my economic ignorance here, when you have assets they are depreciated. Is any money put away – you always see depreciation in the financial statements - to cover that depreciation so when you get to the stage of having to replace assets you have some money set aside, or do you have to go back to the government and say you want a loan? Has there been a lack of forward planning in years gone by that all of a sudden we are hit with big repairs and maintenance budgets? I always see depreciation and think it cannot be just a paper figure; there must be something there to say that is how much money you need to maintain these assets.

Mr MACRIDES: Depreciation is, in fact, a return of capital. It is the depreciation over time of the asset as it is used. It is a non-cash item. Depreciation, in a business sense, reduces your tax liability because it reduces your profitability. That is where you get the depreciation benefit from. Do you set that money aside to reinvest in assets? In a physical sense, the answer is no, but your financial sustainability calculations are based on being able to cover your costs of delivering services, servicing your debt, as well as covering asset replacement via depreciation.

Mr WOOD: Thank you for that. In relation to future water sources in the Top End, I understand you mentioned the figure of \$500m for the possibility of building a new dam, where do you get to the point where recycling of water becomes a feasible option if you are looking at such a large amount of money to build a new dam? Is the recycling of water an option?

Mr MACRIDES: I do not think we would ever rule anything in or out; it is all driven by the economics of each of the various options. Recycling is one option, harvesting stormwater and storage of stormwater is another option, and desalination is another option. You have to have all these options on the table, and balance each of these options in an economic sense against each option that is available to you.

At the moment, recycling is very expensive by comparison to other forms of water supply. It may, over time, become cheaper. That is why we constantly look at the various mixes that exist out there, in the same way we do with renewable energy, and make economic decisions based on each of those options, and which is the least cost option.

Mr WOOD: I say that because of some of the discussions over Weddell. In the design of Weddell they are looking at having grey water infrastructure. That leads me to whether Weddell would be able to be supplied with enough water from the existing infrastructure?

Mr MACRIDES: I know we have done some work on that. John?

Mr PUDNEY: Member for Nelson, we have been working closely with Department of Lands and Planning over the infrastructure requirements for Weddell. The initial stages require some minor upgrading of water mains from the Stuart Highway but, in the longer term, some fairly major works are required. We are talking five, 10 to 30 years out. They will need some new storage facilities and new major mains into the suburb itself.

Mr WOOD: The existing quantity of water we store at the present time, including Manton Dam, should be enough to provide sufficient water?

Mr PUDNEY: For the first stages of Weddell. We are planning for an overall organic growth of around 2%, and that varies. We work with Treasury on long-term growth plans. Regarding dams and the like, it does not really matter where that growth happens. We are planning for the total demand.

Mr WOOD: Just on the dam issue. Manton Dam has come into consideration. Yesterday, we were talking to the people who have dealt with the crocodiles with NRETAS - somewhere there, I cannot remember which day it was. There has been concern about crocodiles in Manton Dam. When I asked the question of where the crocodiles come from, they said the catchments; that is, the Darwin River catchment and the Manton River catchment join up. I am not so sure that is exactly right, in the sense I cannot imagine the two touching. Otherwise, I was going to ask the question: if they are touching do you have contamination from Manton Dam into Darwin River Dam? Was that statement not quite right?

Mr MACRIDES: I tell you that statement is absolutely incorrect. The distance between the full levels of supply between Manton Dam and Darwin River Dam - before we upgraded the wall, it was 3½ km, after the upgrade of the wall it is 3 km. There is actually a clear 3 km distance between the two dam sites. In fact - it is a bit hard to do this - for the record I have here an aerial photograph taken of Darwin River Dam and Manton Dam after Cyclone Carlos. I will explain before I hand it over, Mr Wood. Where the helicopter is, is actually at the end of the Darwin River Dam catchment. It is right at the rim of the Darwin River catchment. This is after Cyclone Carlos when we had the water spilling over the new spillway height. That there is Manton Dam. So you can see the distance between the two. There is no physical joining of the two dams. In the upper catchment areas there may well be, but certainly not in the dams themselves.

Mr CHAIRMAN: If you want, we can have that tabled.

Mr MACRIDES: Would you like to? More than happy to have both documents tabled. The other document shows the distances.

Mr WOOD: I cannot really ask you a wildlife question, but the rumour is that crocodiles go from Darwin River Dam to Manton Dam. I do not know whether you have had any discussions over that at all?

Mr MACRIDES: They do not go from the two dams. They may well up in the rivers that join up way back in the catchment areas. They may well be able to cross over, but that is not associated with the two dams themselves.

Mr WOOD: The two bodies of water do not meet.

Mr MACRIDES: Yes. The two bodies of water never meet.

Mr WOOD: That is good. My concern was that one dam requires chlorination and the other one does not, and then you have just contaminated the one that does not. And that is one reason why you cannot pump the water from Manton into Darwin River Dam?

Mr MACRIDES: That is right, and that is why one of the options we are looking at is a treatment facility, and upgrading the size of that treatment facility to cope with using multiple water sources.

Mr WOOD: If you treated Manton Dam and then pumped the water into Darwin River Dam, is that feasible, or are there still issues about the water quality being not as good?

Mr MACRIDES: There is a whole range of things that we are looking at, and that might be one. Other barriers might well be another, the segregation of the dams as well by putting additional walls in. At the moment there is a whole range of options being looked at by the Water Services team.

I just have some answers to a couple of the questions on notice. Would you like to do that now or at the end, Mr Wood? Up to you.

Mr WOOD: That is fine, while I just get the next question ready.

Answer to Question on Notice No 10.2

Mr MACRIDES: In relation to question No 10.2, which was the depth of the cables along McMinn Street, the cables were between 300 mm and 400 mm.

Answer to Question on Notice No 10.3

Mr MACRIDES: In relation to the Stella Maris issue, water and sewerage works are under way in this area, as Mr Pudney indicated earlier on. These works were actually initiated as part of the original planning scope and are associated with increasing the capacity in that area, as Mr Pudney indicated. The contractor has some temporary work in place with exposed pipes, and these will be replaced and modified with permanent works in the near future. There are also exposed stormwater pipes in the area, which is a matter for Darwin City Council, not for Power and Water.

That was the answer to 10.3.

Answer to Question on Notice No 10.4

Mr MACRIDES: The answer to Question 10.4, member for Katherine: the original project budget was in the order of \$2m, and the year to date costs are \$2.6m.

Mr CHAIRMAN: Thank you, Mr Macrides.

Mr WOOD: Just a question, it goes back to the outstations and the 72 and 66: ESOs, are they employed by you or are some ESOs employed by councils?

Mr MACRIDES: The service delivery mechanisms that we have in each of these communities varies. We have arrangements in place with seven shires, which cover about 60% of the overall service delivery area; 12 private contractors; four pastoralists; three Aboriginal corporations; one community government council; and one Aboriginal association. All in all, there are 131 Essential Service Operators and relief operators and, as I said, they vary between the shire councils and the Aboriginal corporations and Aboriginal associations.

Mr WOOD: That number has gone up. In your annual report it was 115. So it is up to ...

Mr MACRIDES: It is 131.

Mr WOOD: And you pay all those people; these are the people I see here?

Mr MACRIDES: We do. In fact, we pay the councils and the other service providers to employ those people. So we are not the direct employer, but we pay for them to be employed. We also provide all the infrastructure surrounding the day-to-day work that they do. That includes that we have daily telephone conversations with each of them; we direct the work they carry out on our behalf; they abide by our safety systems; we provide them with training and development, etcetera.

Mr WOOD: Okay. Just so I understand it. You said that on those 66 outstations they only look after power, is that right, but is it in actual fact, if they work for the council, do they also do other work on water and septic, or sewerage that is not covered by you?

Mr MACRIDES: I will hand over to Darryl.

Mr DAY: Member for Nelson, it is a choice of the councils how they then use them. They are not all full-time roles in some of the councils and they are available to support other functions. Where there are economies of scale, and there might be in the likes of Barkly Shire that looks after Utopia homelands, they have a parallel program that they can use the same resources. What we are looking at doing is building the skills available in the local communities, and they are valuable skills to use in other areas too.

Mr WOOD: So, you basically pay them for the electricity part of the ESO, and it is up to the council to pay them for maintaining water and sewerage.

Mr DAY: That is correct.

Mr WOOD: That is all right. I have been out there and I am not sure who I am talking in some ways or who is their boss, but I have a better understanding now. On a more specific issue - this is going back - well, I think it is water. You had a note in one of your books about asbestos cement water main replacement. Where is that and how did that happen to be? Is it an old historical water main?

Mr MACRIDES: No. Water pipes historically were asbestos water pipes, and they break down over time given the climatic conditions up here. We have a rolling program to replace those pipes. I will hand over to John. He can explain a bit more about the technical nature of it.

Mr PUDNEY: A large majority of that program is in Alice Springs. Due to the large temperature differentiations and ground conditions, we have noticed over the years an accelerated number of pipe breakages. It is also part of our water efficiency program that we are replacing these pipes. There are asbestos pipes throughout the Territory though. There are some in Darwin, and we will replace some of those as well.

Mr WOOD: The other thing with water pipes, what is the expected life of the two World War II steel pipes that provide a lot of water for rural people – I think we sometimes forget - and is it still supplying water to the urban areas as well?

Mr PUDNEY: The two steel pipes that were originally from Manton Dam and feeding Darwin are in service today. They are actually used to back feed water from our McMinns storage area into the rural area. They are 70-odd years old. They are in reasonable condition. We would expect that they are good for another 20-odd years, but they are limited in capacity for the future growth of the area. So, in the longer term, and, for example, in looking at bringing Manton Dam back online, we would need to put a new water main down from there to McMinns.

Mr WOOD: Not up to the standard that would be required?

Mr PUDNEY: They do not have enough capacity left in them. We will continue to keep them in service as long as possible. They are a good asset. The steel is in good condition and serviceable. We would expect, in general, at least another 20 years out of them. Notwithstanding that, generally, we are replacing components of that line, particularly in Palmerston, around Palmerston East, we are replacing the main so it is not in the way of new suburbs and it has additional capacity. There are some sections that are being taken out and replaced with larger water mains.

Mr WOOD: My friend, Maurie, who is the welder of that line, will be very happy to hear he still has plenty of work to do.

Mr PUDNEY: Absolutely, we look forward to him doing a lot more work.

Mr WOOD: He is the expert. Just one last question: you have an agreement with the NT government about providing Indigenous Essential Services which expires in 2013. That agreement has to be done on a continual basis. Do you see any changes that might be occurring? Do you see that you might be taking over more of the communities in relation to those essential services that I spoke about that you do not take over at the present time? Do you see you having a bigger role in providing services out bush?

Mr DAY: Member for Nelson, it has been extended for three years and that provides an opportunity to look at where there is changing situations and that what we do can be better utilised or services provided in a different way.

Mr WOOD: So, the provision for those outstations will stay the same until 2013, and, if there needs to be an expansion, that would be something that would be negotiated with the government.

Mr DAY: It can be varied. There is a schedule within the agreement so there is opportunity, like any contractual arrangement, to vary it from time to time.

Mr WOOD: I will leave it at that, thank you, Mr Chair.

Mr CHAIRMAN: No more questions? Member for Port Darwin.

Mr ELFERINK: Minister Knight, this one is at you. We heard earlier about the undergrounding program. In the electorate of Port Darwin there are numerous overhead wires, particularly in the Larrakeyah area, Mitchell Street, Smith Street and those areas. Has any thought been given to undergrounding the power in the Darwin CBD? If not, why not?

Ms LAWRIE: I will take that question. We will do an assessment of where the next undergrounding goes based on operational advice and information we receive from Power and Water. We will be having a look at some of that information later this year.

Mr MACRIDES: Can I add to that, Darwin CBD is already undergrounded. The CBD is undergrounded.

Mr ELFERINK: I am aware of that. When I say 'CBD' I am talking all the way out to the old hospital site. Let us be clear about that.

Mr MACRIDES: Sure.

Mr ELFERINK: There are overhead lines, particularly along Mitchell Street and the Larrakeyah areas.

Mr MACRIDES: I wanted to be clear about the fact the CBD itself is undergrounded.

Mr ELFERINK: Perhaps I should be more accurate and say in the Smith Street and Mitchell Street West area, has the Power and Water Corporation included that area in its considerations for future undergrounding?

Ms LAWRIE: As I responded already, we will look at all areas that have above ground power lines and take assessment advice from Power and Water. We do not exclude any area in that assessment; we look at all the areas.

Mr ELFERINK: In relation to the advice you will give the minister, Ms King, has any consideration been given to those areas I have mentioned?

Ms LAWRIE: In relation to that information, as I have repeated, we will be seeking that information about October of this year.

Mr ELFERINK: In relation to the areas I have just described, Ms King, can you tell me whether or not that area is under consideration for future advice to the minister?

Ms KING: Mr Elferink, I am not aware of any specific areas having come to the board for consideration at this point.

Mr ELFERINK: Mr Macrides?

Mr MACRIDES: The answer is we will look at all the data from every area that is still on the above ground system in relation to outage data, SADI and SAIFI figures, and make judgments about the advice we provide the government based on worst performing areas.

Mr ELFERINK: My concern, particularly with the increasing number of tallish buildings in that area - we are going from residential to high density four and five storeys, some of those buildings will, in the future, require lifts which puts an imperative on that area. Would that type of need form part of the considerations for future undergrounding?

Mr MACRIDES: Not per se. The issues for us are reliability of supply and the capacity of that area. In relation to infill development, the developers are responsible for upgrading the supply points into their development to meet the needs of their development. We do not underground for aesthetic purposes, although that is obviously one of the benefits of undergrounding at the end of the day. The main reason for undergrounding is reliability of supply and, in the advice we provide to government, what we look at is the statistics associated with reliability of supply.

Mr ELFERINK: Is there in existence a chart or map which has a reliability history attached to it? For argument's sake, a map which has marked in certain areas: reliability has been this over the last 10 years

or whatever, and in that area reliability has been that. If you are doing this work you must be tracking that sort of information.

Mr MACRIDES: Internally we have that information and information is provided to the regulator, the Utilities Commission, in a number of ways. One of the areas the UC requires us to provide information on is poor performing feeders, so that information ultimately gets published by the regulator.

Ms LAWRIE: Adding to that, it is not the only information we have to rely on in what we seek from Power and Water. Beyond the poor performing chart, we also have to understand the degree and preparedness of the zone substations in their upgrades. It is a mix of information that comes to us.

Mr ELFERINK: Can you supply that material you rely on to this committee?

Mr MACRIDES: Not before I provide it to government.

Mr ELFERINK: That is a shame. One other really small thing, Jack Haritos, God rest his soul, spent a great deal of time looking after that lawn on Larrakeyah Terrace. It was the love of his life in the late years of life. Clearly, the sewerage remediation works have upset that lawn substantially. Is there any consideration being given to replacing or fixing up that lawn so it can be returned to its former glory?

Mr MACRIDES: Part of the plan for remediating that entire area is actually significant landscaping. We are also looking at putting some form of remembrance in front of Uncle Jack's house – sorry, Jack Haritos' house - associated with his long-term residency in that area and, also, the fact that out the front of his house was a tree that was fairly significant to Mr Haritos in that his brother's ashes were scattered around that tree.

Mr ELFERINK: Part of my thinking in what you are doing there - I am glad you are on to the case. I commend the Power and Water Corporation for looking after Uncle Jack. That is me done.

Mr CHAIRMAN: Thank you. That concludes ...

Mr WOOD: Can I just say something? I thank Andrew for all the stuff he has given us, including the calculator. I do not know whether that was a sign that the accounts were very difficult to understand. I say one thing from an old gardener's point of view, these are good books.

Mr MACRIDES: Thank you.

Mr WOOD: The only thing is, when it comes to vegetables, you need to water them by dripper all day. They will die. Tomatoes will not last without water. There is good information in there, but ...

Mr MACRIDES: The information is actually developed in conjunction with the Horticultural Society, so we rely upon their technical advice.

Mr WOOD: I will be speaking to them. Thank you. All these things are great, and thank you for those as well.

Mr ELFERINK: Thank you to everyone, particularly Mr Pudney, who has probably made more appearances than he expected today.

Ms LAWRIE: I thank the Chair of Board, Judith King, and Andrew Macrides for another good GOC estimates.

Ms KING: Thank you, minister.

Mr CHAIRMAN: That now concludes the Government Owned Corporations Scrutiny Committee public hearing process. I take this opportunity, like other members, to thank all the members of the committee for the work they have done, and the overall manner in which the public hearing has been conducted. I place on the record a vote of appreciation from the committee to all other members who participated in the public hearing process.

We concluded the Estimates Committee last night - 56 hours, five days. Most people probably would have heard us at 11 pm last night thanking all the public servants and everyone who participated for their

hard work. We know you do a lot of work leading up to the estimates hearings in preparation, and not always is your work asked about. We thank you for the work you have done.

On behalf of the committee, I extend my thanks to the Treasurer for appearing twice, to the Minister for Essential Services for appearing twice, to Ms Judith King and Mr Andrew Macrides, and Ms Jennifer Prince for attending today, and the team of people they had working with them. I extend thanks to all the others who have been helping with this hearing.

I now formally close the public hearing of the Government Owned Corporations Scrutiny Committee for 2011. The Estimates Committee and Government Owned Corporations Scrutiny Committee will be reconvening in the other room to pass our reports. Thank you.
