

LEGISLATIVE ASSEMBLY OF THE NORTHERN TERRITORY 12th Assembly Committee on the Northern Territory's Energy Future Public Hearing Transcript

9.15 am – 9.45 am, Friday, 28 November 2014 Litchfield Room, Level 3, Parliament House

Mr Gary Higgins, MLA, Chair, Member for Daly

- Members: Mr Gerry Wood, MLA, Deputy Chair, Member for Nelson Mr Nathan Barrett, MLA, Member for Blain Mr Gerry McCarthy, MLA, Member for Barkly
- Apologies: Mr Francis Kurrupuwu, MLA, Member for Arafura

Territory Generation

Witnesses: Mr Tim Duignan: Chief Executive Officer Mr Steve Bartlett: Chief Financial Officer **Mr CHAIR:** On behalf of the committee I welcome everyone to the public hearing of electricity pricing. I welcome to the table to give evidence to the committee from Territory Generation Mr Tim Duignan, Chief Executive Officer, and Mr Steve Bartlett, Chief Financial Officer.

Thank you for coming today before the committee. We appreciate you taking the time to speak to us and look forward to hearing from you today. As you know, this is a formal proceeding of the committee and the protection of parliamentary privilege and the obligation not to mislead the committee apply.

This is a public hearing and is being webcast through the Assembly's website. A transcript will be made for use of the committee and may be put on the committee's website. If at any time during the hearing you are concerned that what you will say should not be made public, you may ask the committee to go into closed session and take your evidence in private. I will ask each witness to state their name for the record and the capacity in which they appear. I will then ask you to make a brief opening statement before proceeding with the committee's questions.

Could you please state your name and the capacity in which you appear.

Mr DUIGNAN: Thank you, Mr Chair. Mr Tim Duignan, Chief Executive Officer of Territory Generation.

Mr BARTLETT: Mr Steve Bartlett, Chief Financial Officer of Territory Generation. **Mr CHAIR:** Tim, would you like to make an opening statement?

Mr DUIGNAN: Yes, thank you for the opportunity to address the committee on electricity pricing. I apologise for our chairman not being available to attend. He is in Melbourne on business at the moment.

Territory Generation, as you know, is a business that came into existence on 1 July this year. We have been working hard recently on our wholesale pricing structures to try to become more cost-reflective and more transparent to the market, and to allow retail operations to do what retailers should be doing - innovating and competing at the retail level.

Member for Daly, that is all I have to say at this point in time.

Mr HIGGINS: With regard to the proposed transition of the wholesale electricity markets from 1 January next year, how will that improve generation efficiency?

Mr DUIGNAN: Member for Daly, currently the pricing mechanisms for generation are really a bundled product which have the cost for the generation of what I term the black energy, if you like - the electrons -plus the services that help to keep the lights on, or ancillary services as they are termed in the market. Currently those are all bundled together and there is no real transparency as to the cost of each of those components individually. The wholesale market will force unbundling of those two services to allow transparency on both and to reflect the actual costs of providing the ancillary services that help to maintain the supply into the network.

Mr HIGGINS: When we talk about the pricing structure can you briefly outline how the proposed energy- and demand-related pricing structures will work?

Mr DUIGNAN: For the new wholesale pricing mechanisms?

Mr HIGGINS: Yes.

Mr DUIGNAN: We are proposing from 1 January that we move to a pricing structure that will still have ancillary services bundled into the price. It is a transitional step we are taking at this point in time. We will be providing a peak and off-peak price for the various tranches of customers. Currently the mechanism we use for the contestable customers is that we individually price each of those customers based on their load and their demand profiles.

Going forward, we will be providing retailers with a peak and off-peak price for a customer group. It will be up to the retailer then to make decisions around how they price to their retail customers and the contestable market, and allow them to compete on more than just the retail margin. They will be able to segment the market, target customers, do all those things that good retail operations do to compete on more than just a small 1.5% to 2% retail margin.

Ms MANISON: In discussions before with Power and Water Corporation, we were discussing peak demand and the fact that we know at different times of the day the demand goes right up. How does that affect the operations for a generator?

Mr DUIGNAN: Member for Wanguri, thanks for that question. We need to maintain generation at a level greater than the peak that is seen in the market, so if we have an outage on a unit we can maintain sufficient supply in the market to meet that peak demand. We operate on an N-1 in some markets, N-2 and even an N-3 basis where, in that case, we have three additional units sitting in stand-by in case we lose some generation unit in that particular market.

If we can flatten out the demand so we do not have a peaky demand then we can actually reduce the amount of stand-by generation or total generation we need to have. We, as a generator, prefer a very flat load profile obviously, because then we can get the most efficiency out of our units and the capital invested.

Ms MANISON: That has just answered my question, thank you.

Mr HIGGINS: When you spoke before you mentioned peak/off-peak. Is there any variation in seasons?

Mr DUIGNAN: The variation in seasons is more on a magnitude. The shape of the load profile does not alter too greatly. It is just that it moves up in the Wet Season and it comes down to a lower lever in the Dry Season. For instance, the maximum demand at the moment is sitting around the 280 MW to 285 MW. It happens about 4 pm, and every afternoon is about the same - 3.30 pm to 4 pm, and the off-peak is around 160 MW to 170 MW. In the Dry Season that comes down to about 240 to 220 MW, and in the off-peak period it is down as low as 80 MW. The shape of the curve alters very little, but it all moves down in magnitude.

Mr CHAIR: When you are talking about a pricing structure for the peak and off-peak, will that alter from season to season or are you just looking at maintaining it flat all the way through the year?

Mr DUIGNAN: Flat through the year. Because the shape does not change too much, giving the price signals to shift load from the peak period to the off-peak period will have the same effect in either season.

Mr CHAIR: Okay, I think I understand.

Mr WOOD: You go to a school and they teach kids to turn off the power and that sort of thing, but the only way you could reduce carbon emissions would be to knock off one generator at the power station. Is there a point where enough electricity is saved to not have to turn on one generator? On the other hand, even if the kids reduce the number of lights on and open the windows instead of having air conditioning on, it does not make any difference. You have only knocked down the capacity of half a generator so does that make a difference to carbon emissions? Does that make any sense?

Mr DUIGNAN: Yes, it does. Our generator sizes in the Darwin/Katherine network are around the 30 MW to 38 MW 40 MW unit sizes. We get to the point where we have to reduce 30 MW blocks before we can switch a generator off. We run generation not at its optimal peak output most of the time to provide the services of spinning reserve and the like to make sure if we lose one of the units online, we do not go into load shedding under frequency load shed. To answer your question specifically, yes, there are 30 MW to 40 MW blocks generation size so to take a unit off you have to reduce the load by around that 30 MW to 40 MW.

Mr WOOD: If the load is reduced is there a similar reduction in the amount of gas used? If we tell people to reduce carbon emissions reduce electricity usage at home, which is fine; however, does it make a real difference at the coalface? Does it make a real difference in gas usage?

Mr DUIGNAN: It certainly does. The efficiency of the units is highest when they are running at their designed full load output generally, but they do run fairly flat on the efficiency curve from about 60% or 65% to 100% then they fall off fairly heavily below this level. When you are running them at very low loads the efficiency on the units is very poor, but we are still saving on gas.

Mr BARRETT: What was your peak low rate? If 280 in the Wet Season is a peak, what is the low rate?

Mr DUIGNAN: About 160.

Mr BARRETT: In regard to the differential between the top and the bottom, and looking at your costing structures, what is the component of your cost structure that is variable as a percentage term generally?

Mr DUIGNAN: Our avoidable costs, or variable costs, are about 30% of our total generated electricity cost. It is that 30% that we avoid.

Mr BARRETT: Have you done any modelling around what a peak and off-peak price could look like in the Northern Territory from a generation perspective?

Mr DUIGNAN: Yes, we have done lots of that modelling. We recently did one for the domestic market.

Mr BARRETT: What do they look like?

Mr DUIGNAN: There is about a 5c KW hour difference between the peak price and the off-peak price.

Mr BARRETT: What are those prices?

Mr CHAIR: You may not want to say.

Mr DUIGNAN: We cannot say.

Mr BARRETT: You do not want to say that here, given other people might be coming in. Okay, if we have a 5% differential, is that?

Mr DUIGNAN: Five cents a kilowatt hour.

Mr BARRETT: Yes, is that either side of the norm? Or is that 5c top to bottom?

Mr DUIGNAN: That is 5c top to bottom.

Mr BARRETT: Right. In peak and off-peak ...

Mr DUIGNAN: Sorry - which is about 30% to 40% of the average price.

Mr BARRETT: Right. If I think about peak and off-peak prices in other places - I do not know much about it because I am a Darwin boy - what do the differentials look like in off-peak prices for generators in other places - that they charge customers?

Mr DUIGNAN: Places like Brisbane are subject to a more peaky-type load than Darwin is. Darwin has a reasonable differential between the peak and the off-peak. But during the day it sits fairly flat across the day once it has come up. Whereas, in Queensland you tend to get a fairly heavy morning peak and a fairly heavy evening peak. In their prices there is a greater differential between the peak and off-peak pricing. Another example is pricing in the NEM. You look at price off \$20 a megawatt hour for off-peak, rising up to about \$40 or \$50 a megawatt hour for peak. There is a large differential between peak and off-peak in those markets in the generation side.

Mr BARRETT: Considering that networks in retail probably are more fixed cost in time constraint - they are not variable costs in hours of the day. They would be variable costs in cutbacks for this year, next year or employing a staff member.

Mr DUIGNAN: Yes.

Mr BARRETT: Looking at that variable cost input, I would think that any off-peak or peak rate has to effectively come from generation space, as opposed to the network or the retail space. Looking at that 5c differential, do other places - when they are looking at network pricing for peak and off-peak to try to change behaviour - undershoot the price and then overshoot the price on-peak in order to create the differential to shift behaviour?

Mr DUIGNAN: In the NEM that is probably correct. They are bidding on a short-term, five-minute basis and they try to encourage that movement of loads from the peak to the off-peak period by doing that.

Mr BARRETT: By doing exactly that. Is that something we could look at in the Northern Territory? Or is the market not deep enough?

Mr DUIGNAN: Certainly, yes. One of the issues we have in the Northern Territory is the ability for customers to move their loads from the peak to off-peak period. The domestic market is probably the one that needs to be targeted the most, but with the right technology so people can make decisions in real time, not in three months' time after the fact that they get their bill.

There is scope to do more with that pricing arrangement to make it a deeper off-peak price to encourage more transfer across there, which we will look at further if we do more analysis on that.

Mr BARRETT: Does that mean your analysis has to be quite - I think outside the square, and I imagine if you did that and you had that big differential, then people's behaviour started to change, generation could find itself in this situation where 'Oops, we did not make enough money because too many people changed behaviour'. It would have to be pretty reactive. The reaction time in peak and off-peak pricing has to be quite reactive. Do we have the structures in place, rather than an arbitrary government decision, 'This is your peak price, this is your off-peak price'? What structures would we need in place to make that peak/off-peak rate really reactive to the market?

Mr DUIGNAN: The regulatory regime for price setting at the domestic end of the market is a process. It does take time to change those peak and off-peak prices.

With the introduction of the wholesale market, we will be seeing prices change, potentially on a half-hourly basis, with bids from ourselves and other generators as they enter the market being done on that half-hourly basis in the future.

The extreme of that is real time pricing for end-use customers, which ends up with having the customer paying a price that is based on what is coming through the market on a half-hourly basis. It takes a fair bit of technology to do that and you need to give the customer signals, either in apps or whatever to look on their phone or some sort of device on the wall, which says, 'You are using \$X/MW hour right now'. They can make real time decisions then as to whether they put the washing machine, the dish washer on or whatever.

Mr BARRETT: That competition coming into that market - that pricing structure coming in on a half-hour to half-hour basis, would that be between competitors or just to the retailers at the end? I am thinking of competitive erosion of the peak price.

Mr DUIGNAN: The setting of the price would be done on a competitive basis in the market. We will be making half-hourly decisions on what price we despatch our generation against the competition in the market, but the people exposed to that will be the retailers in the first instance unless there are major customers who decide they want to play in the wholesale electricity market.

Mr CHAIR: We have five minutes left and there are other questions we would like to get to from your submission. You note the growth of rooftop solar is likely to impact on your operations and potential security. Can you explain that?

Mr DUIGNAN: Yes, we have the situation in Alice Springs where we have a rooftop solar of about 4 MW plus we have got Uterne solar farm at 1 MW. The solar farm is moving to 4 MW in total so we will have 8 MW of solar generation in a market at its low point in the seasons of about 18 MW during the day. We have a high concentration there. In fact, ESAA want to do a case study on Alice Springs because it is a window to what will happen on the east coast at some point with saturation of solar.

With that, we need to maintain spinning reserve in our generation to cover that solar capacity because we get clouds - because of the concentration in a small geographical area we get cloud cover come across and the nature of the technology with solar is they have - on rooftop ones in particular - a safety mechanism that will switch the solar system off from generating electricity when it sees certain parameters. One of those parameters is a drop in frequency. When we have an issue on the system you can have the solar - say we have lost a generation unit, the frequency drops off a bit in the system and all the solar generation at a time when we are really chasing megawatts all switches off so it does not participate or it does not give us any MW in the system. That heightens the issue we have with regard to the issue we might have.

As I say, when we get cloud cover across Alice Springs we see a massive drop in the solar output and, therefore, we need to have more spinning reserve sitting online chewing up gas without any productive output to make sure we have cover for situations where the clouds come over.

Mr CHAIR: What about the one-to-one ratio of payments to people generating it? They are being rebated exactly what they are paying. Do you have some views on that? I know you would like to get the same money.

Mr DUIGNAN: The rebate system has been an issue across the country - where it started and where it now is. The premise of rebates was to provide enough incentive for people to put solar on the roof. At the moment they are getting one-for-one, which is about \$280 MW/h or 28c KW/h. The cost of rooftop solar is probably now \$190 MW/h so it is far above what it costs to install and operate and it moves quite quickly. The reduction in the actual price of the systems moves quite quickly. We saw solar panels, for a number of years, halve in price each year. The feed-in tariffs stayed at a higher price and incentivised people extraordinarily high in some markets to put solar systems in - and big solar systems - on their roofs. It is something that is a correct thing to do to encourage

solar to be put on rooftops, but it is the level it is set. At the moment it is probably too high and needs to come down to reflect the true cost of putting in solar systems.

Mr HIGGINS: We have run out of time Tim. Before we finish, are there any issues or strategies you would like to mention before we wrap up?

Mr DUIGNAN: Only in the Alice Springs market we talked about as far as the concentration of solar - the technologies that are now coming out for generators. The weather from BOM feeds in and predicts cloud cover coming across before it actually happens. We are investigating those systems for Alice Springs so you get some predictability and you do not have to have as much spinning reserve on all the time. We can just ramp it up as we know cloud cover is coming in. It is hard for our guys sitting in a control room without windows to the outside world to see what cloud cover is coming. So, there are systems that are being developed because it is going to be an issue across the country. As I said, we are just seeing that concentration in a tight geographical areas now in Alice Springs.

Mr McCARTHY: I have a couple of quick questions, Mr Chair. With the innovation around storage now with alternative energy with the battery technologies that are coming online, that is going to create even more problems for your traditional generation industry - yes?

Mr DUIGNAN: Absolutely yes. It provides the ability for solar systems to be used 24 hours, base load.

Mr McCARTHY: Is fuel for generation a major lever that you have to control pricing the type of fuel, the price of fuel?

Mr DUIGNAN: Absolutely. Fuel makes up about 60% of our input costs, so it is the number one driver in our business.

Mr McCARTHY: Fuel oil, diesel, is the expensive end of the business. Gas - alternative gas?

Mr DUIGNAN: Gas is a lot cheaper than diesel, that is for sure. Your commodity price on gas is around about the \$5.50 a gigajoule, diesel is around about \$27 a gigajoule. There is a very big spread between those two.

Mr McCARTHY: Supply and demand - if the Territory then produces gas like we think we will - could be a major lever in influencing electricity pricing?

Mr DUIGNAN: Yes. If we can buy our fuel supply cheaper it makes a huge difference to our costs of generation.

Mr WOOD: Depending on whether we get attached to the world prices, which is the issue down south.

Mr DUIGNAN: That is an issue. When you hook into a national grid, then some players - as we saw on the east coast when the LNG plants in Gladstone came on, BHP and EXXON or ESSO in the Bass Strait quickly linked their pricing to world oil prices, even though they are a long way away from Gladstone.

Mr McCARTHY: This comes back to your point, Mr Wood. If government was in that space in the Northern Territory context, could we control our micro market, for instance?

Mr WOOD: We own gas.

Mr DUIGNAN: As I said, it is a big input cost - 60% of our input cost - and it drives the electricity price. If we can get our fuel cheaper, we put electrons out cheaper. It is as easy as that.

Mr WOOD: We might get Tenex Energy online soon.

Mr HIGGINS: Thanks for your time today - much appreciated. I am sure we will talk again.