

Committee on the Northern Territory's Energy Future  
Public Hearing - 20 March 2014

Power and Water Corporation

Responses for Tabling

Legislative Assembly of the Northern Territory

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# **POWER AND WATER CORPORATION**

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**Q1: Power generation supply and demand in Alyangula – GEMCO Mine and Angurugu.**

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GEMCO generates electricity for the township of Alyangula and nearby Indigenous Essential Services (IES) community Angurugu on Groote Eylandt.

Power and Water acts as a billing agent, billing customers in the nearby IES communities, and paying GEMCO for electricity consumed by these customers. These customers sign up through the normal application process and are charged the gazetted tariff.

Power and Water has entered into an agreement with the mine for the purchase of the electricity for resale. Power and Water pay GEMCO the full cost to generate, based on market rates for distillate. This is greater than the revenue received from customers based on the gazetted tariff; however, it is at a lower cost than what Power and Water could generate electricity for in Alyangula and Angurugu.

Power and Water understands that GEMCO currently operate a 44MW maximum demand diesel power station.

Current consumption in Alyangula and Angurugu is approximately 4 GWh.

**Q2: Power generation supply and demand in Gove – Rio Tinto Mine, Nhulunbuy, Yirrkala and Gunyangara.**

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Rio Tinto generates electricity for the township of Nhulunbuy and nearby Indigenous Essential Services (IES) communities Yirrkala and Gunyangara.

Power and Water acts as a billing agent, billing NT Government housing customers and the IES communities in Nhulunbuy, and paying Rio Tinto for electricity consumed by these customers. These customers sign up through normal application process and are charged the gazetted tariff.

Power and Water has entered into an agreement to purchase electricity for resale. Power and Water pay Rio Tinto the full cost to generate, based on market rates for distillate. This is greater than the revenue received from customers based on the gazetted tariff; however, it is at a lower cost than what Power and Water could generate electricity for in Gove.

Power and Water do not have access to the actual total production for the Rio Tinto power station.

It is estimated that the power station generates 180 GWh annually, of which PWC currently bills approximately 6 GWh. At this time it is not known of this 180 GWh how much the refinery accounts for, but it is estimated to be 90%.



**Q3: Power generation supply and demand in Jabiru – ERA Mine and Township.**

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ERA owns and operates the Ranger Power Station at the Ranger Mine from which it generates electricity and supplies electricity to the Jabiru Township. Power and Water understands that the generating capacity at the Ranger Power Station is 28-30 MW.

Power and Water bill the non-mining residential and commercial customers in Jabiru. These customers sign up through the normal application process and are charged the gazetted tariff. Power and Water is responsible for all billing and credit management actions for these customers.

All billing revenue is then returned to ERA on a quarterly basis. This agreement was formed with the NT Government and Power and Water early in the formation of the Jabiru township.

Current consumption in the Jabiru township is approximately 15 GWh.

Power and Water also bill ERA installations at a zero dollar tariff and provide this information annually to ERA as a courtesy. These installations include residential, commercial and some mine sites. Some internal use of electricity by the mine and associated work places are not metered.

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**Q4: Solar PV for Domestic customers.**

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A 4.5kW pre-approved limit was put in place in July 2012 in order to reduce red tape and streamline the application process for customers wishing to install PV systems. For the average residential customer this represents an offset of approximately 75% of their energy use.

An application process is currently available for all customers wishing to install systems larger than 4.5kW. The process involves the submission of a basic application form to allow Power Networks to conduct a review on the proposal. If approval is provided the connection process is the same as with smaller systems.

Since August 2012, Power Networks has reviewed approximately 215 applications for large residential PV systems in the Darwin Region. 139 approvals have been given for residential systems greater than 4.5kW. The remainder proceeded at the 4.5 kW size.

Currently, the buy-back rate for domestic customers is a Power and Water Retail policy and set at the standard domestic tariff (27.13 c/kWh). Power and Water is not required to offer a buy-back rate for customers who contract with other retailers.

There are about 3,000 domestic customers in the NT with solar PV on the roof.

<b>Number of Customers</b> (approx)	<b>Region</b>
10	Tennant Creek
100	Katherine
800	Alice Springs
2090	Darwin / Katherine



**Q5: Solar PV for Commercial customers.**

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An application process is currently available for commercial customers wishing to install systems larger than 4.5kW. The process involves the submission of a basic application form to allow Power Networks to conduct a review on the proposal. There is currently no firm size limitation on PV systems and each large PV system proposal is considered on a case-by-case basis taking into account load profiles, system integration matters and site characteristics.

In recent months a number of applications or enquires have been received for very large systems (above 300kW). These very large system proposals require careful consideration and may require additional information. As such, the processing of applications for very large PV systems is currently under review. The review will focus on providing a clearer pathway to approval and the revised process is expected to be in place from July 2014.

Since July 2012, Power Networks has reviewed approximately 123 applications for commercial or business PV systems larger than 4.5kW in the Darwin region. Of these, 119 have been approved for sizes greater than 4.5kW. The largest approval to date has been for 700 kW.

Purchase of any excess PV generated energy is negotiated on a commercial basis with the customers' retailer of choice. There is currently no overarching Northern Territory Government buy-back policy and it is at the discretion of the individual retailer. Power and Water is not required to offer a buy-back rate for customers who contract with other retailers.

There are about 200 solar PV installations owned by commercial customers in the NT.

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**Q6: Implications of proposed separation of PWC's generation and retail arms for the electricity market, such as on the capacity of the network to adapt to more distributed generation models and innovation and competition in electricity generation.**

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On 13 December 2013 the Northern Territory Government announced the structural separation of the Power and Water Corporation (PWC). From 1 July 2014 there will be two new Government Owned Corporations (GOCs) created, Power Generation GOC and Power Retail GOC. Residual functions are to remain with the Power and Water Corporation.

In February 2014, the Department of Treasury and Finance released the *Northern Territory Electricity Market Reform (NTEMR) – Information Paper* which provides additional information about Structural Separation and the proposed NT electricity market reforms. The proposed market reforms and establishment of a wholesale electricity market from 1 January 2015 is intended to improve competition in the generation and retail markets.

The technical capacity of the network is not directly affected by the Structural Separation of PWC and the creation of the Power Generation GOC and Power Retail GOC. The changes involved in Structural Separation are substantially back-office changes and will not impact the capacity of the transmission or distribution networks.

An increase in competition in electricity generation would involve new generators looking to connect to the electricity network to enable supply into the wholesale market.

Currently, the *Electricity Networks (Third Party Access) Act* provides the framework for gaining access to the power network. This is supported by the



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Network Technical Code which details the specific technical requirements that all users must comply with in connecting to and using the power network.

Costs to the power network associated with responding to changes, innovation and competition are managed through the normal regulatory processes, currently regulated by the Utilities Commission (UC).

Structural Separation has no direct implications on the capacity of the network to adapt to more distributed generation models and innovation and competition in electricity generation.

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**Q7: PWC's comments regarding the Utilities Commission draft report on the Review of Wholesale Electricity Generation Market.**

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PWC submitted a single submission to the Wholesale Electricity Generation Market Review incorporating input from each of the business units that will be impacted by changes in the wholesale electricity generation market. The Utilities Commission sought feedback on particular aspects of the Review, namely the Reliability Assurance Mechanism (RAM), Energy Trading Mechanism and the independent market operator. PWC commented on these features in addition to providing feedback on other aspects of the Review. In summary:

Reliability Assurance Mechanism (RAM) – The RAM is a mechanism specifically designed to ensure adequate generation investment and would be administered by a Reliability Manager. The Reliability Manager manages the tendering process by which owners of generating and demand side capacity, submit offers to contract in the market.

PWC is supportive of the RAM in principle but notes:

- This will require an expansion of the System Control function;
- There is a potential risk of stranded assets for PWC Generation; and
- The Reliability Manager's role in determining capital investments; needs careful consideration.

Energy Trading Mechanism (ETM) – The ETM is a mechanism that allows energy to be traded on a real time basis (ie at the time it is produced and consumed) or through forward trading (ie where generators and customers agree on a price for an agreed amount of electricity at a time in the future).

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PWC is supportive of this in principle but notes:

- Bid price restrictions mean PWC Generation may not receive sufficient revenue to cover its fixed costs. This has financial implications unless there is Government commitment to covering this shortfall; and
- There is a degree of inconsistency in the review regarding how the bid price should be set. PWC sought clarification and further consideration of the methodology to be adopted.

Independent Market Operator (IMO) – The role of the IMO is to manage registration of participants, prudential assessment, and market settlement. PWC supports the establishment of an independent market operator with close links to the System Controller.

PWC considers that this role (and also the Reliability Manager and the System Controller) should be independent of PWC Networks and is best placed within System Control. Related to this, PWC is supportive of an independent System Control.

National Electricity Rules (NER) – The NER are the rules that currently prevail in the National Electricity Market (ie the wholesale electricity market in the rest of Australia with the exception of Western Australia).

PWC considers that while the NER may be used to develop an overall template, the actual market rules should be tailored to the particular features and conditions of the NT market with input from its market participants. The Review does not provide a cost-benefit analysis of adopting the existing rules of either the NEM or WA's WEM; and the consequent adjustments to suit the NT Generation market.

Gas supply - The Review does not address how gas supply should be managed in the context of a wholesale electricity market with multiple generators, multiple gas suppliers and structural separation of PWC.



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Smaller power systems - The Review is contradictory on the suitability of proposed arrangements for smaller systems. It is unclear whether customers in Alice Springs and Tennant Creek will benefit from these arrangements.

Education and training for participants - Given the substantial changes to the market, PWC considers that it would be appropriate to provide market training seminars for all market participants.

Impacts on PWC Retail

- The Review is unclear on how existing customer contracts should be managed given the proposed changes to the wholesale electricity market i.e. the provision of grace periods, and those customers on commercial contracts receiving a CSO. These are Tranche 4 customers (ie customers using between 750 megawatt and 2 gigawatt hours per annum) which are still covered by the electricity pricing order;
- The Review is also unclear on PWC Retail's obligations in the event of a gen-tailer collapse;
- PWC seeks clarification on which parties should bear the costs of meter installation in the context of increased competition in the generation and retail markets; and
- PWC seeks direction on whether pricing orders will also apply to all retailers in the market.