

Kris Funston
Executive General Manager
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

Email: AERresets2024-29@aer.gov.au

Dear Mr Funston

Regulatory Proposal for the 2024-29 regulatory period

Thank you for the opportunity to provide feedback on Power and Water Corporation's Regulatory Submission 2024-2029.

Territory Generation is supportive of the approach PWC has taken in identification and management of its four strategic priorities, and provides the following feedback:

OPEX

1. Essential System Services – The Territory's market reform program is working on the identification and allocation of responsibility for payment of Essential System Services. The below table was published as part of an earlier NT Government market reform consultation, indicating the likely separation of responsibility between PWC's Network Operator and System Controller.¹

Examples of Network Operator related services currently provided by Territory Generation, which are not currently compensated, include:

- provision of capacity / N-1 of the 132KV line to Katherine by the Katherine Power Station.
- provision of voltage management/network support from Katherine Power Station
- provision of Inertia and system strength to the system through the out of merit dispatch of generating units

It does not appear that additional OPEX cost for the payment of Essential System Services by the Network Operator has been included in PWCs Regulatory Proposal.

¹ https://industry.nt.gov.au/__data/assets/pdf_file/0010/966007/ntemprp-review-essential-system-services-draft-position-paper.pdf

Essential system service	Purpose	Procurement responsibility
Rate of Change of Frequency (RoCoF) Control	<ul style="list-style-type: none"> Control maximum RoCoF on power systems. Ensure system security for credible contingency events and 'protected events'. 	System Controller
Contingency frequency control (raise)	<ul style="list-style-type: none"> Stabilise frequency within 'emergency' defined operating band after a credible contingency resulting in the net disconnection of generation. Ensure system security without Under Frequency Load Shedding for all credible contingency events. 	System Controller
Contingency frequency control (lower)	<ul style="list-style-type: none"> Stabilise frequency within 'emergency' defined operating band after a credible contingency resulting in the net disconnection of load. Ensure system security without over frequency generator tripping for all credible contingency events. 	System Controller
Regulating frequency control	<ul style="list-style-type: none"> Regulate power system frequency within normal defined frequency operating band. 	System Controller
Voltage management / network support	<ul style="list-style-type: none"> Management of network voltage control issues where required. Management of network capacity shortfall issues where required. 	Network Operator
System restart	<ul style="list-style-type: none"> Enable the restart of the regulated power systems from a 'black system' event. 	System Controller
System strength	<ul style="list-style-type: none"> Sufficient system strength capability to ensure voltage stability and sufficient fault current. 	Network Operator
Additional services	<ul style="list-style-type: none"> Services necessary to address a system security issue that cannot be managed through the planning timescales, as approved by the Utilities Commission. 	System Controller

CAPEX

2. Protection Relay Replacement Program (\$12.1 million) – The support for increased inverter based renewable penetration on the system prompts an alternative contemplation for provision of protection based solutions for low system strength, as the systems increasingly reduce reliance on synchronous generation for system strength. There is an opportunity as PWC undertakes its replacement program to ensure that upgraded protection relays take consideration of these future requirements.

A particular initial contemplation should be made for Alice Springs where currently low system demands are being managed on occasion through costly dispatch of a load bank in order to maintain minimum synchronous generation online. This is not considered to be a sustainable solution long term, and Territory Generation would encourage PWC to consider the requirements for transition to a 'synchronous off' future operating state in all regulated power systems.

3. Uprating transmission lines in Darwin (\$5.4 million) – Territory Generation notes that current dispatch limitations are placed on the Weddell Power Station due to these capacity constraints on the Palmerston loop, and supports the proposed work to uplift these assets.
Can PWC confirm that the uplift of the Hudson Creek to Palmerston and Hudson Creek to Archer lines will enable unconstrained dispatch of Weddell Power Station?
The proposal also contemplates 'procuring additional generation from Weddell'. Territory Generation seeks further engagement with PWC on the requirements.

Demand Management

4. Territory Generation is supportive of PWCs proposed demand management initiatives, including the introduction of Dynamic Operating Envelopes (DOE), changes for time of use tariffs, optimisation of EVs and

distributed battery storage pilots. With the exception of the DOE project, limited detail on committed budgets for these initiatives is available within the proposal.

Contingent Projects

5. Territory Generation will seek further engagement on these strategic contingent projects as they develop, in particular where generation investment (in generation and battery assets) and network augmentation for the purpose of delivery of capacity and contingency support are likely to benefit from a combination of network and non-network solutions.

For further discussion on any of the raised items, please don't hesitate to contact myself or Rebecca McKenzie,

[Redacted]

Yours sincerely

[Redacted Signature]

Eddie Mallan
General Manager Commercial
23 May 2023

CC: [Redacted]