

22 November 2018

Mr. Wayne Tucker  
General Manager, Strategic Asset Management  
TasNetworks  
1 – 7 Maria Street,  
Lenah Valley 7008  
Tasmania

Level 22  
530 Collins Street  
Melbourne VIC 3000

**Postal Address:**  
GPO Box 2008  
Melbourne VIC 3001

T 1300 858724  
F 03 9609 8080

Dear Wayne,

**AEMO review of TasNetworks' Network Capability Incentive Parameter Action Plan (NCIPAP) for 1 July 2019 to 30 June 2024**

I am writing to you regarding AEMO's review of TasNetworks' proposed NCIPAP projects for the regulatory period of 1 July 2019 to 30 June 2024. This review was required under clause 5.2 of AER's Service Target Performance Incentive Scheme (STPIS) Version 5.

TasNetworks has submitted a revised NCIPAP following the AER's draft decision on their regulatory proposal. AEMO's review of TasNetwork's NCIPAP proposal is summarised in Attachment 1.

In reviewing TasNetworks' proposed NCIPAP projects, AEMO agrees with the assessment of project need, improvement targets, likely material benefits, and ranking of proposed projects. AEMO's assessment on how each of the projects results in material benefit is also included in Attachment 1 for your consideration.

If you have any questions or would like to seek any clarification, please contact Nadesan Pushparaj on (03) 9609 8384.

Yours sincerely



**Elijah Pack**  
Manager National Planning

cc: Mr Chris Pattas, General Manager Networks (Investment and Pricing), AER

Attachments:

- (1) TasNetworks' NCIPAP proposal for the regulatory period 1 July 2019 – 30 June 2024 - AEMO Review.

Attachment: TasNetworks' NCIPAP proposal for the regulatory period 1 July 2019 – 30 June 2024 - AEMO Review

Summary of TasNetworks' project description											AEMO's Review		
TasNetworks Project Ranking	Project name	Transmission circuit/Injection point	Scope of works	Current limit	Target limit	Timing	Capital cost estimate (\$)	Operating cost estimate (\$)	Market benefit per annum (\$)	Pay-back period (years)	Ranking of projects	Review of material benefit	Benefit category
1	Weather Stations on Burnie-Smithton 110 kV corridor	Burnie-Smithton and Burnie-Port Latta-Smithton 110 kV transmission circuits	Install a new weather station near Smithton to enable dynamic rating of Burnie Smithton and Burnie-Port Latta-Smithton 110 kV transmission circuits	Thermal ratings of Burnie-Smithton and Burnie-Port Latta-Smithton 110 kV circuits are static for a given discrete ambient temperature.	Dynamic thermal ratings to the Burnie-Smithton and Burnie-Port Latta-Smithton 110 kV transmission circuits, resulting in an expected average 26 MVA increase to line thermal capacity. This increased rating would reduce congestion of new wind generation on this corridor.	Jun-22	364,927	1,825	124,415	3.0	1	TasNetworks has received connection applications for new wind generation up to 112 MW in the North-West Coast of Tasmania (not currently considered committed by AEMO). TasNetworks expects that some of this generation will connect prior to the 2019-24 regulatory period. AEMO calculated benefits under a range of generator connection scenarios, including 20 MW, 30 MW and 40 MW. This review found payback periods of 11.7, 3 and 1.2 years respectively. As a relatively conservative assumption, the 30 MW scenario was used to rank this project.	Improve transfer capability.
2	Lightning Withstand Capability Improvement on Norwood-Scottsdale-Derby 100 kV Transmission Corridor	Norwood-Scottsdale double circuit and Scottsdale-Derby 110 kV single circuit transmission lines	Improve footing resistance to the earth at selected towers on the Norwood-Scottsdale-Derby 110 kV transmission circuits.	(1) An average of 4.5 outages per year of both Norwood-Scottsdale 110 kV circuits due to lightning strikes, and (2) re-classification of non-credible contingency of both Norwood-Scottsdale circuits as credible contingency for an average of twice a month with an average of two hours.	With improved footing resistance, Norwood-Scottsdale 110 kV circuits will be able to withstand 98% of lightning strikes. This will result in (1) Reduced outage of Norwood-Scottsdale double circuit, and (2) removal of Norwood-Scottsdale 110 kV double transmission circuits from the re-classification list.	Jun-20	800,000	-	187,547	4.3	2	Proposed augmentation is to significantly reduce the probability of a double circuit outage of Norwood-Scottsdale 110 kV circuits and remove this non-credible contingency from the reclassification list. This project: (1) Allows Musselroe windfarm to deliver its full output to the market when there is lightning in the area. (2) Increases the reliability of supply to Derby and Scottsdale substations and reduces unserved energy (USE) at these substations. The market benefits for this project are based only on fuel cost savings.	Improve transfer capability.
3	Port Latta 110kV double tee connection	Both circuits of Burnie-Smithton 110 kV transmission line	(1) Rearrange the 110 kV network connection at Port Latta Substation to double tee from Burnie-Smithton circuits instead of existing loop in and loop out arrangement from one of these circuits.  (2) Revise the protection and communication according to the proposed network arrangement.	With the current switching configuration at Port Latta, Smithton-Burnie and Smithton-Port Latta-Burnie 110 kV circuits have unequal loading. With proposed new generation at Port Latta, Port Latta-Burnie 110 kV line would be overloaded, while the parallel Smithton-Burnie 110 kV line underutilised. This would result in constrain of generation at Port Latta.	With the proposed rearrangement 110 kV network at Port Latta substation, both the Smithton-Port Latta-Burnie 110 kV circuits would have equal loading and, hence would increase power transfer capability on these lines.  According to summer conductor rating, 15.6 MVA capacity increase is expected. This can be higher when the transmission line operates using dynamic line rating.	Jun-23	845,000	42,250	49,000	17.24	3	Proposed project improvement target will result in the proposed priority project having a material benefit if additional new generation were to be built in Port Latta/Smithton area. Material benefit can be realised with increased connection of new generation in Port Latta/Smithton area. TasNetworks informed they received a number of connection applications for wind farm development in Port Latta and/or Smithton area to connect on the Burnie-Smithton 110 kV circuits, targeting prior to or at the beginning of the 2019-24 regulatory control period. The Burnie-Smithton 110 kV transmission circuits currently operated with AEMO work book rating. TasNetworks made a NCIPAP proposal "Install a new weather station near Smithton to enable dynamic rating" in its 2019-24 revenue proposal. This has been accepted by AER's draft decision in September 2018. The proposed works to rearrange 110 kV network at Port Latta would allow increased transfer capability in addition to increased transfer capability with enabling of dynamic rating.	Improve transfer capability.
4	Transmission Line Ground Clearances Improvement Program	Sheffield-Fisher 220 kV transmission line Farrell-Mackintosh 220 kV transmission line Sheffield-Devils Gate transmission line Tungatinah-Butlers Gorge 110 kV transmission lines Burnie-Smithton 110kV transmission line Farrell-Que-Waratah Tee 110 kV transmission line Sheffield-Railton 110 kV transmission line New Norfolk-Creek Rd 110 kV transmission line George Town-Starwood 110 kV transmission line	Improve ground clearances at identified sites on the 110 kV and 220 kV transmission lines by ground profiling, conductor tensioning, waist extension and raising tower heights.	Transfer limited due to ground clearances of transmission lines. This results in constrained flows with reduced thermal ratings, increased safety and environmental risks, and unmet transmission circuit clearance compliance along these lines.	Improved ground clearances to re-establish transmission circuit operation to its design temperature; thereby increasing transmission capacity, decreasing safety and environmental risks and meeting transmission circuit clearance compliance.	Dec-22	3,000,000	-	147,200	20.4	4	This project addresses potential de-rating of existing transmission capacity and generation congestion due to insufficient ground clearances. This project (1) reduces the safety and environmental risks presented by insufficient ground clearances (2) provides increased transfer levels of hydro generation and (3) reduces unserved energy. Market benefits include only reduced cost of generation rescheduling and does not include the value of reduced USE.	Improves safety, reliability of supply and transfer capability.