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Utilities Commission of the NT
GPO Box 915
DARWIN NT 0801.

By email: Utilities.Commission@nt.gov.au

Dear Sirs

Submissions by Territory Generation – Draft decision by the Utilities Commission on the new Generator Performance Standards

Territory Generation thanks the Commission for the invitation to make this submission in relation to the Draft Decision dated 4 December 2019.

There are four main areas that Territory Generation wishes to make comment for consideration by the Commission, being our previous submissions, grandfathering, Power and Water Corporation (“PWC”) Undertakings, and transitional arrangements.

Previous Submissions

Territory Generation has previously made two comprehensive submissions, on 29 March 2019 and 19 July 2019, [Territory Generation – 29 March¹](#) and [Territory Generation – 19 July²](#), in response to PWC’s requests for submissions on the proposed changes to the Network Technical Code (NTC) and System Control Technical Code (SCTC) (the “Codes”).

In these submissions Territory Generation raised several points for PWC to consider. Territory Generation acknowledges that PWC adopted, or addressed, many of the points raised in the submissions. However, PWC has not accommodated any proposed changes to the Codes that were not, in the opinion of PWC, directly related to the Generator Performance Standards (GPS).

PWC indicated to Territory Generation that many of the issues raised in the submissions would be considered at a later date, however there are two issues that were raised by Territory Generation that are specifically related to the GPS and have not been accepted by PWC.

1. The classification of generators.
 - Territory Generation disagrees with the rationale provided by PWC to, effectively, remove the semi-scheduled generator classification. This one size fits all approach places unnecessary requirements on thermal generation, such as forecasting capacity.
 - Territory Generation made submissions on this issue in both previous submissions.

¹ https://www.powerwater.com.au/_data/assets/pdf_file/0021/24654/Territory-Generation-29th-March.pdf

² https://www.powerwater.com.au/_data/assets/pdf_file/0012/28110/Territory-Generation.pdf

2. Proposed clause 3.3.5.3 of the NTC – Generating Unit Response to Frequency Disturbance.

- As drafted there is no requirement for any generator to remain on-line above 52 Hz.
- The PWC response ([Appendix A | response to stakeholder submissions](#))³, Ref#199 states that no changes will be made but commented it intended that generator over frequency protection settings would be graded to ensure generators do not trip concurrently. PWC states that this is a technical matter to be coordinated under clause 3.3.3 of the NTC. Subclause 3.3.3(a)(3) refers to primary protection and backup protection. Over frequency is just one of many protections and without explicit reference for the need to grade over frequency protection this could be missed.
- The PWC response does not address the issue that there is no obligation on any generator to remain connected once the system frequency exceeds 52 Hz. However, all generators must remain connected for 10 minutes when the frequency remains below 52 Hz.
- It would seem that the proposed GPS means that generators could instantaneously trip at 52 Hz. It is not apparent to Territory Generation as to how PWC would require generators to determine meaningful over frequency protection grading when there is no requirement for a generator to provide any capability to remain connected above 52 Hz.
- Territory Generation requests that the proposed changes made in 2016 and attached to the submission of 19 July 2019 be revisited so that all generators will be obligated to provide some over frequency (>52 Hz) capability, so that PWC have an ability to determine grading of over frequency protection settings, rather than relying on Territory Generation historical settings that are servicing above the level required by the current code.

Grandfathering provisions

NTC

The proposed clause 12.2 of the NTC requires Territory Generation's plants connected to the network prior to 1 April 2019 to be compliant with version 3 of the NTC. By virtue of clause 12.1(a) of version 3 of NTC, the grandfathering provisions should continue to apply to all plants connected to the network as at 1 September 2012.

To avoid doubt, Territory Generation proposes the following to be added to the proposed clause 12.2(b)(i):

“For avoidance of doubt, clause 12.2 of version 3 will continue to apply to plants and equipment in the Network and all facilities connected to this Network existing at 1 September 2012”.

Proposed clause 12.2(c) requires Territory Generation to document compliance or non-compliance of all generating units against the proposed new requirements if required by the Network Operator.

Under the current arrangements it is Territory Generation's experience that demonstrating compliance with version 3 of the NTC has proven to be problematic. There are neither testing guidelines nor template test plans provided by the Network Operator as to what tests and what test programs are to be undertaken to demonstrate compliance.

³ https://www.powerwater.com.au/data/assets/pdf_file/0023/26078/Appendix-A-Response-to-stakeholder-submissions.pdf

Test plans are currently developed on a case by case and ad hoc basis with incremental tests determined by System Control during compliance testing. Presumably System Control acts as the agent for the Network Operator in this.

The cost of demonstrating compliance is met by Territory Generation and the cost of having PWC witness and endorse compliance has previously been recovered from Territory Generation by PWC. Territory Generation notes the Draft Decision requires that Territory Generation would not be required to recompense PWC their expenses and supports this. However, that component is a small component of the total costs of compliance.

Proposed clause 12.2(f) requires Territory Generation to meet full compliance with the NTC if the existing plant is modified. Territory Generation has a number of 'non-compliances' that are grandfathered. In particular, compliance with the proposed Reactive Power Capability (see clause 3.3.5.1 of the proposed NTC), would likely require replacement of plant and not an upgrade. If Territory Generation were to make a modification to one part of a generating unit that has grandfathering provisions, say the control system, then the current draft would require upgrading of the entire generating unit to full compliance. This is a dis-incentive to make any upgrade to a generating unit or power station and will lead to suboptimal outcomes.

Territory Generation requests that the modification provisions in proposed clause 12.2(f) be as follows:

“If a *Generator User* materially modifies, alters or enhances Existing Connection Plant, then it must do so, if required by the Network Operator, in accordance with any applicable provisions of the NT NER and this *Code* (including where required by this Code complying with the automatic access standards or such *negotiated access standards* as maybe agreed).”

SCTC

Territory Generation suggests that a general grandfathering provision should be included in the SCTC to cover all changes to the SCTC that affect existing generators.

Undertakings made by PWC

Territory Generation notes that, in its Draft Decision, the Commission has placed obligations on PWC to develop guidelines for assessment of system strength impact, and to publish a procedure to be used to detect any no-compliance with the capacity forecasting performance standard.

Territory Generation is pleased to see that PWC has provided a number of actions to be performed by PWC in its response to Territory Generation’s submissions ((see [Appendix A | response to stakeholder submissions](#)⁴ and [Appendix D | Responses to Stakeholder Submissions](#)⁵). Territory Generation suggests that indicative timelines be explicit and implementation of action items are monitored by the Commission.

Transitional Arrangements – ‘Grace Period’

Territory Generation notes that, in the Draft Decision discussion on the proposed NTC Clause 12, the grace period for new generators connecting to the system is between 1 to 13 months for compliance

⁴ https://www.powerwater.com.au/_data/assets/pdf_file/0023/26078/Appendix-A-Response-to-stakeholder-submissions.pdf

⁵ https://www.powerwater.com.au/_data/assets/pdf_file/0017/31427/GPS-final-submission-Appendix-D-Redacted.pdf-13.9.2019.pdf

with the GPS. As the current supplier of ancillary services, Territory Generation notes that there will be increased pressure on Territory Generation in providing additional ancillary services with no provisions for adequate compensation for such supply. A mechanism to recover these costs should be put in place.

Territory Generation asks the Commission to consider the above submissions in its Final Decision on the propose GPS changes.

If you have any questions or require additional information, please do not hesitate to contact me on 79792509 or by email hieu.nguyen@territorygeneration.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Hieu Nguyen', with a long, sweeping flourish extending to the right.

Hieu Nguyen
General Counsel & Company Secretary