



Record No: D2018/419008
Container No: F2018/1724

Patrick Walsh
Utilities Commissioner
Utilities Commission
GPO BOX 915
DARWIN NT 0801

Dear Dr Walsh

RE: System Controller comment on Generation License Application – Trutinator NT

This submission by Power and Water Corporation (PWC) relates to the Generation License Application (GLA) made by Trutinator NT Pty Ltd (Trutinator NT) on 19 July 2018 and is pursuant to PWC's role as the System Controller and Market Operator under the Electricity Reform Act.

The GLA by Trutinator NT specifies a generating facility in the Darwin-Katherine Power System comprising of "12MW gas-fired generation" connected to Hudson Creek 132/66kV Zone Substation.

PWC System Control (PWC SC) commenced discussions with Trutinator NT in 2017. These discussions touched on the system security requirements set out in the System Control Technical Code (SCTC) and the particular characteristics only related to the proposed generation facilities at Hudson Creek.

System Security and Reliability

PWC SC has an obligation to maintain system security and system reliability as laid out under the SCTC. The GLA by Trutinator NT does not specify the type of gas-fired generation, however discussions between System Control and the proponent is that preference was being given to reciprocating engines. Typically, reciprocating engines have poor inertia and frequency response. The GLA makes no note of any equipment or infrastructure to improve the inertia and frequency response.

The SCTC and the Network Technical Code (NTC) primarily relate to the management of dispatchable synchronous generation and are outdated in terms of the rules required to ensure system security and reliability for a context that includes higher levels of intermittent renewable energy generation or displacement of the existing generation for lower performing generation with respect to frequency control. Aspects proposed for enhancement include:

Generator Performance Standards

Generator Performance Standards (GPS), akin to those incorporated in the National Electricity Rules but appropriate to NT context, are to be established to support system security and reliability in an environment where there is a mix of synchronous/non-synchronous and dispatchable/intermittent generation.

System Control has submitted drafts of the GPS to license applications in December 2017, February 2018, April 2018 and July 2018. The draft of the GPS attached as Attachment A is the same as provided in July 2018 with the inclusion of Attachment B, which provides Trutinator NT and other stakeholders a more substantial view of the type of technical requirements proposed for inclusion in the GPS. It is proposed the GPS will be issued for industry consultation in 2018 prior to the GPS being issued as finalised in the following months.

The GPS will be incorporated into a regulatory instrument, yet to be determined. Once finalised, the updated regulatory instrument with the GPS will take precedence over relevant provisions in the existing Codes. It is proposed that these GPS will apply to all new synchronous/non-synchronous and dispatchable/intermittent generators on a technology-neutral basis.

Ancillary Service Requirements

In accordance with Section 5 of the SCTC, PWC SC has responsibility for determining the technical requirements for ancillary services and developing a regulatory mechanism for procurement and responsibility for ancillary services.

The current Secure System Guidelines (available on the PWC website) set out the ancillary service requirements for the status quo system and generation mix. These existing technical requirements will largely underpin the arrangements for procurement of ancillary services.

However, the expected increase in non-synchronous and reciprocating gas engine generation contribution to energy supply will result in some changes to the Ancillary Service technical parameters and, for example, involve an increase in the Regulating Frequency Control Ancillary Service requirement and possible modifications of Inertia-Frequency Ancillary Services and introduction of Fast Frequency Raise for the Darwin-Katherine System.

PWC SC will consult with system participants and the Utilities Commission on the further development of the regulatory mechanism for procurement of ancillary services in 2018 and updates to the technical requirements.

Power and Water System Control thanks the Utilities Commission for considering this comment regarding the Trutiner NT Pty Ltd Generator License Application.

Please refer to the attachments for further information: Attachment A contains the latest draft of the Generator Performance Standards. Attachment B provides further information regarding the requirements set out in section 23 (Inertia and fast contingency FCAS raise) of the draft Generator Performance Standards.

Please don't hesitate to contact me on (08) 8924 6516 if you would like to discuss.

Yours sincerely



Malcolm Conway

General Manager System Control

19 September 2018

ATTACHED:

ATTACHMENT A – Draft Generator Performance Standards (v0.8)

ATTACHMENT B – C-FCAS Fast, Slow and Delayed Raise/Lower services