

19 November 2018

Dr Brian Spalding
Chair
Reliability Panel
PO Box A2449
Sydney South NSW 1235

Level 22
530 Collins Street
Melbourne VIC 3000

Postal Address:
GPO Box 2008
Melbourne VIC 3001

T 1300 858724
F 03 9609 8080

Dear Dr Spalding

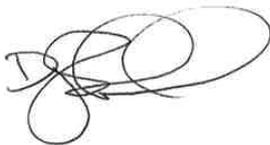
Review of the frequency operating standard, stage 2 – AEMO advice

AEMO is pleased to provide this advice to assist the Panel in its consideration of Stage 2 of the FOS Review. AEMO's advice applies to the following matters:

1. Revision of the limit for the largest contingency event that applies in Tasmania.
2. Settings in the FOS for contingency events, including:
 - a. Frequency settings for the generation and load event band that applies in the mainland.
 - b. The minimum megawatt thresholds that apply for a generation and a load event.
3. The limit in the FOS for accumulated time error.
4. Improvements to the structure and consistency of the FOS document

If you have any queries relating to this advice, please contact Matthew Holmes, Principal – Systems Performance & Commercial via matthew.holmes@aemo.com.au or (07) 3347 3039.

Yours sincerely



Damien Sanford
Executive Group Manager, Operations

Attachment 1: AEMO response to request for advice

AEMO ADVICE TO RELIABILITY PANEL - FOS REVIEW STAGE 2.DOCX

Attachment 1: AEMO response to request for advice

Below is AEMO's advice on each of the key matters being contemplated by Stage 2 of the Review of the FOS.

1. Revision of the limit for the largest contingency event that applies in Tasmania

This topic has two separate but related parts to it that must be considered carefully:

- Harmonisation, to the extent practical, of the treatment of generation and network events.
- Revision of the actual MW limit that applies to contingency events in Tasmania.

AEMO supports harmonisation of the generation and network event definitions where possible and practical. However, AEMO recommends caution regarding revision of the event size limit. AEMO believes revision of the limit should be carefully considered by all affected parties before implementation, and only implemented if the parties collectively agree that the limit can be successfully managed.

Existing arrangements have recognised that the occurrence of an event exceeding the current limit would be relatively rare. However, revising the nominal event size limit upwards from its current setting of 144 MW would allow this to become normal practice rather than an exception. It would also occur in an environment where Tasmania will be connecting several new large renewable generators and may have less synchronous generation typically available to manage frequency.

2. Settings in the FOS for contingency events

2.1. Frequency settings for the generation and load event band that applies in the mainland

AEMO supports the maintenance of the existing settings in the FOS that relate to the management of contingency events and strongly advises against any widening of the generation and load change band at this time. Such a change would remove current safety margins for stabilisation and recovery following contingency events and potentially place at risk under frequency load shedding¹.

Furthermore, there are serious ongoing concerns and a number of active work programs focused on frequency control in the NEM. Relaxing frequency control requirements in this environment would be highly counter-productive. The immediate priority is in the resolution of these issues as documented in the joint AEMC-AEMO frequency control work plan published as part of the final report for the Frequency Control Frameworks Review.

AEMO notes specifically that:

¹ Eliminating margins would mean the Under Frequency Load Shedding Scheme (UFLS) could potentially trigger during credible events, which AEMO believes is not consistent with the intent of the FOS or the Rules.

- Load relief factors are based on historical observations and estimates; in reality load relief varies depending on the nature of the load. Increasing DER and changes in customer load mean load relief factors are not only likely to be decreasing, but becoming less predictable; work is in progress at present to re-evaluate load relief factors.
- System settings should never be designed around an assumption of perfect frequency response delivery at all times. Rather, operational settings should make allowance for operational uncertainty.

2.2. The minimum megawatt thresholds that apply for a generation and a load event

AEMO maintains that while there may be more appropriate or dynamic settings for the minimum megawatt thresholds for generation and load events, in the context of the ongoing frequency control work program this is a very low priority matter as it does not directly impact how AEMO procures FCAS.

3. The limit in the FOS for accumulated time error

AEMO is implementing the recently relaxed time error standard as part of its program of work of reviewing and tuning the AGC system. This work is continuing until the end of 2018. Given this, the time error standard should not be revised further until this is complete and a suitable period of monitoring has taken place.

4. Improvements to the structure and consistency of the FOS document

AEMO and AEMC have worked collaboratively on a re-draft of the FOS to improve readability and consistency. Changes affect structure and language only; the implied Standard itself remains as per the existing FOS. AEMO understands that the Panel is considering this re-draft.