

PRIMARY FREQUENCY RESPONSE REQUIREMENTS CONSULTATION FORUM NOTES

DATE: Thursday, 23 April 2020

TIME: 10.00 am

VIDEOCONFERENCE: Webex

ATTENDEES:¹

COMPANY	NAME
AEMO	Mark Stedwell, Andrew Groom, Andrew Paver, Evy Papadopoulos, Paul Johnson
AEMC	Julian Eggleston
AGL	Liz Gharghori, Darren Hunt, KC Low
CQ Partners	Jack Yates
Energy Queensland	Laura Males
Hydro Tasmania	Peter Palencia, Lingxiao Situ
Jacobs	Shilpa Karri
Snowy Hydro	Kamal Kapurugek, Nick Kamenytzky
Stanwell Corporation	Trevor Johnson, Luke Van Boeckel

The forum was organised by AEMO as part of AEMO's consultation on the draft Interim Primary Frequency Response Requirements (IPFRR).

Mark Stedwell chaired the forum and conducted a page-turn of the document. The numbers refer to the questions from participants. The blue text is AEMO's response to the question above it.

1. Will the IPFRR be updated prior to the close of submissions?

In light of repeated requests for this, AEMO will consider how it might be able to do this and ensure that all possible affected parties are made aware of the update.

2. Section 2 – Does the reference to 'spot market' include the FCAS markets?

Yes, because it picks up the definition from the National Electricity Rules (NER), which is defined by reference to clause 3.4.1, which includes the FCAS markets.

3. Section 3.4 – How does one interpret the second paragraph? The concern is how these requirements relate to the testing regime, when different hydro or steam generating units will have different response times depending on whether they are increasing or decreasing output.

¹ There was a total of 17 participants for most of the time. Not all participants' names appeared on the screen as they were dialling by mobile.

AEMO understands the limitations of hydro plant and appreciate that the speed of response capability can be very different for increasing or lowering output.

The paragraph indicates that response may be demonstrated in a positive *or* negative direction.

Where there are issues with meeting a parameter, they are appropriately dealt with by way of variation.

4. Section 3.4 – Has there been any discussion on the use of P_{max} as a reference point? In the case of hydro plant, dam level might be a more appropriate parameter.

AEMO is open to the use of other parameters if they are more appropriate and looks forward to suggestions from Consulted Persons on this issue.

Control systems are set based on P_{max} and not adjusted by reference to dam levels on a day-to-day basis, and neither is the droop setting. AEMO does not expect that unit control tuning would be continually adjusted in response to system conditions.

If there is any particular issue with this, it can be addressed by way of variation.

5. Section 3.4 – The reference to control settings being ‘adequately damped’ is problematic.

This is a standard requirement for all control systems. It is prescribed by the National Electricity Rules (NER).

6. Section 4.1 – Can Generators withdraw PFR if it is not safe for their plant?

Yes. It is acknowledged as one of the limitations on the provision of PFR, currently in section 4.2 and 9.1. In the next draft, it will be one of the standing variations.

7. Section 4.1 – Will Generators need to notify AEMO every time PFR is withdrawn for such a reason?

No. AEMO is adopting a compliance-light approach.

If, after implementation, AEMO sees Generators are withdrawing PFR for no apparent reason, or relatively frequently, this might cause AEMO to reconsider how it addresses compliance monitoring and reporting.

8. Section 5.1 – What does the last paragraph mean?

This was included to assist with the paperwork where a Generator has many generating systems it operates, so that it can include all self-assessment results in the one submission. It is optional. Generators can also, if they wish, submit separate self-assessments for each Affected GS.

9. Section 5.1 – Do tests need to be carried out in preparation for the self-assessment? Some Generators have many plant and won’t have enough time to test every unit.

10. Any issues that individual Generators have with their plant should be taken offline with relevant AEMO staff. Emails to pfr@aemo.com.au are encouraged to kick off any private consultation on how to meet these requirements. Section 6 – What is the timeline for implementation?

AEMO expects the Tranche 1 generating systems to be providing PFR before summer. Realistically, if all goes well, the first lot will probably be asked to change their settings by late September.

11. Section 6.3.1 – There is a typo. The Appendix referred to should be C, not B.

Noted.

12. Section 7 – The difference between exemptions and variations.

AEMO considers an exemption to be appropriate if plant cannot be made frequency-responsive after having considered every available option and having applied the principles in clause 4.4.2B of the NER.

A variation would be appropriate if plant is frequency-responsive but cannot meet one or more of the parameters AEMO expects to provide PFR.

13. Section 7 – Will generating systems that are not registered in the FCAS markets be exempt?

No.

14. Section 7 – What if plant is not designed to be frequency-responsive?

15. Yes, but only if Generators can demonstrate a lack of frequency-responsiveness by providing design information. AEMO understands that some run-of-river hydro plant could be in this category. Section 7 – What if plant is old and not frequency-responsive?

AEMO is interested in the plant's inherent capability. It becomes a question of looking at how it might be made frequency-responsive and whether there are any physical impediments to this.

16. Section 8 – Will tests be carried out on a generating unit or generating system basis?

The requirements and the tests are based on generating system, namely each DUID is a separate 'unit' for the purposes of these requirements and the testing regime.

While these requirements and tests are drafted on a generating system basis, there could be cases where it might be more appropriate that they be dealt with on a generating unit basis, especially where the units within a generating system are of a different type, or have different control systems and settings.

Outliers are encouraged to contact AEMO at pfr@aemo.com.au to kick off any private consultation on these requirements.

17. Section 8 – There are three compliance verification options: (a) normal metering, (b) FCAS metering and (3) high speed metering (HSM). Which of these should be deployed?

The rule² precludes AEMO from requiring HSM for PFR, but if a Generator has it installed for other reasons and they wish to use it for the purposes of PFR verification, that would not be an issue for AEMO.

² See clause 4.4.2A(c)(2) of the rule. Available at <https://www.aemc.gov.au/rule-changes/mandatory-primary-frequency-response>.

In all other respects, AEMO has adopted a compliance-light approach because the provision of PFR is not being remunerated.

18. Section 8 – If limiters are changed to provide PFR, will this require validation of R2 models?

Limiters are not addressed in the document, and AEMO will consider how they might be addressed.

Generally, there is no intention to trigger a clause 5.3.9 process or require new models of existing control systems where AEMO does not currently have a model.

19. Section 8 – How many tests does a Generator have to do?

The purpose of the test is to check for stability. It can be carried out either offline, or following a contingency.

20. Section 8 – If a Generator has recently carried out extensive testing, will they need to redo the step response test?

AEMO needs evidence that changing the deadband does not alter generating unit performance.

21. Some governors have internal monitoring. Can results from that be used to verify test results?

Yes.

22. Appendix A – What is the difference between section 3 and section 5? They seem identical.

Section 3 is for the provision of current settings, whereas section 5 is provided to allow for the specification of alternatives where minor changes are required to plant to achieve performance that meets the requirements for PFR.

If the form is confusing, AEMO will look at it again and redesign it.

Extension of deadline for submissions

AEMO advised that the deadline for submissions to the consultation will be extended to 8 May 2020.