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(by email)

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Notice of Second Stage of Consultation
National Electricity Rules – Rule 8.9
Review of Market Ancillary Service Specification
Response To Invitation To Make Submissions

This is a submission relating to Clause 6.9 of the draft Market Ancillary Services Specification version 5.0 document ref ESOPP_12. This submission is not being made on behalf of any market participant. It seeks to clarify a potential technical operational issue.

The last sentence of Clause 6.9 notes, "*Generating units enabled* for *regulation services* should respond to *AGC* instructions as soon as *frequency* returns to the range of 49.9 Hz to 50.1 Hz."

For convenience, this submission refers only to a fall in system frequency. However, the same applies to a rise in system frequency.

Consider events after frequency has fallen below 49.85 Hz, initiating the fast raise, slow raise and delayed raise services as applicable. In some cases the frequency may remain below 49.90 Hz for some time following the initial incident. During this period (frequency remaining below 49.90 Hz), the fast, slow and delayed raise services can be contributing little or zero (response of variable controller once frequency is above 49.85 Hz). In such a scenario, the AGC system is likely to be issuing "raise" commands as part of efforts to restore system frequency. However, Clause 6.9 notes that units do not have to respond to the raise commands until the frequency has recovered to 49.90 Hz.

If this requirement is implemented, units would not respond to AGC raise commands until after frequency has recovered to 49.90 Hz. This failure to respond is likely to inhibit the recovery of system frequency.

A solution can be for units to respond to AGC raise commands once any “FCAS” raise services are not also raising load. This can allow units to respond to AGC raise commands when frequency is low, yet can avoid the excessive rates of load increase that can result if both AGC and “FCAS” raise services are applied simultaneously.

Please consider whether any change to the last sentence of Clause 6.9 is warranted.

A further minor observation is that the diagram for the mainland in Appendix A could be misleading due to it not being drawn to scale. Referring to Figure 1, if drawn to scale, the horizontal line for 49.85 Hz would be shown lower, at “70 %” of the distance between 49.5 and 50. This would clarify the delay before the “t = 0 s” point at which the Contingency FCAS commences. (For a ramp from 50 Hz, this delay is 1.2 sec to reach 49.85 Hz.) Similar comments apply to the diagram for the rise in frequency. The diagrams in Figure 1 may more clearly explain operations if drawn closer to scale.

Please advise if you would like any further clarification about this.

Regards,

Philip Nicholson
Principal Engineer