

FACT SHEET: REMOVAL OF LIMIT ON ACCUMULATED TIME ERROR

The Reliability Panel is considering removing the obligation for AEMO to limit accumulated time error as part of its operation of the National Electricity Market (NEM).

What is the proposed change?

The Frequency operating standard (FOS) that applies in the National Electricity Market (NEM) currently includes a limit on the amount of time error that can accumulate as a result of deviations from the nominal power system frequency of 50 hertz. Historically this limit was important when clocks that used the power system frequency to keep time were common.

The Reliability Panel has relaxed the requirement for time error correction and is considering whether to remove the limit on accumulated time error from the FOS. This would mean that AEMO would not be required to procure frequency control services to limit and reduce accumulated time error.



Why are we proposing this change?

Most modern clocks no longer rely on the power system frequency to tell the time

Limiting accumulated time error was once important for accurate time keeping. In the past synchronous clocks that rely on the power system frequency for time keeping were common place. However, most modern clocks no longer rely on the power system frequency for accurate time keeping.

Removing this obligation may help to reduce the cost of managing the power system and support better system operation

The removal of the limit on accumulated time error may lead to a modest reduction of the quantity and cost of the services AEMO uses to manage power system frequency. This may act to reduce costs for consumers.

This change may also allow AEMO to manage the power system more effectively

How might this change affect consumers of electricity?

The Panel expects that the impact on electricity consumers and market participants as a result of this change will be minimal. This change should not impact the supply of electricity. Nevertheless, the Panel is interested in gaining a better understanding of whether there are many consumers who still use the power system frequency for the purposes of measuring time, in order to limit any impacts for consumers from this change.

The Panel would like to hear from you!

The Panel is interested to hear from electricity market participants, network business and electricity consumers in relation to this change. Groups and individuals with questions or comments are invited to get in touch with the project team to arrange a briefing and provide feedback.

What are the current limits for accumulated time error?

Currently the FOS includes a requirement for AEMO to operate the power system to limit accumulated time error. The existing accumulated time error limits are:

- 5 seconds for the mainland NEM
- 15 seconds for Tasmania.

Benefits from the removal of the limit on accumulated time error

Decreased cost of regulating FCAS

The cost of limiting accumulated time error in the mainland NEM may be as much as \$1 million per year as compared to the annual cost of regulating FCAS in the mainland NEM for the 2016 calendar year of \$64 million.¹

Improved power system frequency control

AEMO considers that there are no system security benefits specific to conducting time error correction. AEMO's analysis suggests that approximately 20% of the time that time error correction is being undertaken, it is actually mildly degrading power system frequency control.

The review of the FOS

On 14 November 2017 the Panel made a determination for stage one of the review of the FOS. The revised FOS for stage one includes the widening of the limit on accumulated time error for the mainland to 15 seconds in line with the current limit on accumulated time error that applies in Tasmania.

The Panel's initial consideration is that there may be a case for the complete removal of the limit on accumulated time error. However, there is some possibility this change could have unforeseen impacts on large and small consumers. Therefore, the Panel has decided to initially relax the accumulated time error limit that applies in the mainland NEM, with a view to removing the requirement for both the mainland and Tasmania, following consultation with a wider range of consumers.

The Panel notes that the limit on accumulated time error may provide a proxy mechanism to highlight poor frequency control performance in the NEM. The broader issue of frequency performance reporting is being considered by the AEMC through the *Frequency control frameworks review*.

The Panel is consulting with industry and customer representatives in relation to the intention to remove the limit on accumulated time error. The Panel is keen to hear from interested parties, particularly smaller consumers, in relation to this proposed change.

Timeline for the review of the FOS

Milestone	Date
Stage one final determination	14 November 2017
Stage two final determination	Q2 2018

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¹ AEMO, Advice to the Reliability Panel for the review of the frequency operating standard, 18 August 2017, p.5.
AEMO, 2016, AS Payments Summary File 2016.