

**Grid Code
Modification
Recommendation Form**



Title of Recommended Proposal:

MPID 297 – Clarification of RfG and Non-RfG PPM Frequency Periods

MPID(for EirGrid use only): **297**

Date: 18/02/2022

Recommended at GCRP Meeting No.: No. 3 (02 November 2021)

Grid Code Version: 9

Grid Code Section(s) Impacted by Recommended Proposal: PPM1.5.1 Transmission System Frequency Ranges

The Reason for the Recommended Modification:

The frequency ranges over which a Generator must remain connected to the transmission system are described in CC.7.3.1.1(a), (b), (c), (w) and duplicated specifically for PPMs in PPM1.5.1(a), (b), (c). It was brought to our attention that the RfG PPM frequency ranges were not correctly integrated into PPM1.5.1. This modification proposes to align PPM1.5.1(a), (b) and (c) with the non-RfG requirements described in CC.7.3.1.1 (a), (b) and (c) and RfG requirements described in CC.7.3.1.1(w).

This will clarify which requirements apply to RfG and non-RfG PPMs. It does not change any requirements or proposed apply any new requirements.

History of Progression through GCRPs, Working Group and/or Consultation:

GCRP Meeting 02 November 2021:

Modification MPID 297 was presented to members at the GCRP on 2 November 2021. No questions were asked and the MPID 297 was recommended for submission to CRU.

Summary Note of any Objections to the Recommended Change from GCRP Members or Consultation Responses:

No objections raised by the GCRP members in relation to the recommended modification, MPID 297.

Outcome of any GCRP Meeting Actions Relating to the Recommended Modification:

No actions were raised by GCRP members in relation to the recommended modification, MPID 297.

Red-line Version of Impacted Grid Code Section(s) - show recommended changes to text:

Deleted text in ~~strike-through red font~~ and new text highlighted in *blue font*

PPM1.5.1 **Controllable PPMs** shall have the capability to:



- (a) operate continuously at normal rated output at **Transmission System Frequencies** in the range 49.5 Hz to 50.5 Hz;
- (b) remain connected to the **Transmission System** at **Transmission System Frequencies** within the range 47.5 Hz to 52.0 Hz for a duration of 60 minutes;
- (c) remain connected to the **Transmission System** at **Transmission System Frequencies** within the range 47.0 Hz to 47.5 Hz for a duration of 20 seconds required each time the **Transmission System Frequency** is below 47.5 Hz;

(d)



- (i) remain connected to the **Transmission System** during rate of change of **Transmission System Frequency** of values up to and including 0.5 Hz per second.

○

- (ii) remain connected to the **Transmission System** for a **Rate of Change of Frequency** up to and including 1 Hz per second as measured over a rolling 500 milliseconds period. **Voltage** dips may cause localised **ROCOF** values in excess of 1 Hz per second for short periods, and in these cases, the **Fault-Ride Through** clause PPM1.4.2(f) supersedes this clause. For the avoidance of doubt, this requirement relates to the capabilities of **Controllable PPMs** only, and does not impose the need for **Rate of Change of Frequency** protection nor does it impose a specific setting for anti-islanding or loss-of-mains protection relays.

No additional **Generation Unit** shall be started while the **Transmission System Frequency** is above 50.2 Hz.

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- (e) Remain synchronised to the **Transmission System** and operate within the frequency ranges and time periods specified in *Table PPM1.5.1(e)*.

Table PPM 1.5.1(e): Minimum Time Periods for Generation Units to Remain Operational without Disconnecting

Frequency Range	Time Period
47 – 47.5 Hz	20 seconds
47.5 – 48.5 Hz	90 minutes
48.5 – 49 Hz	90 minutes
49 – 51 Hz	Unlimited
51 – 51.5 Hz	90 minutes
51.5 – 52 Hz	60 minutes

Green-line Version of Impacted Grid Code Section(s) - show proposed final text:

PPM1.5.1 **Controllable PPMs** shall have the capability to:



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- (b) remain connected to the **Transmission System** at **Transmission System Frequencies** within the range 47.5 Hz to 52.0 Hz for a duration of 60 minutes;
- (c) remain connected to the **Transmission System** at **Transmission System Frequencies** within the range 47.0 Hz to 47.5 Hz for a duration of 20 seconds required each time the **Transmission System Frequency** is below 47.5 Hz;

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- (i) remain connected to the **Transmission System** during rate of change of **Transmission System Frequency** of values up to and including 0.5 Hz per second.



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