Grid Code Modification Proposal Form Email to gridcode@eirgrid.com	

Title of Modification Proposal: Clarification of Curve 1 and Curve 2

MPID (EirGrid Use Only): 343

Date:	10th of September 2025
Company Name:	EirGrid
Applicant Name:	Aideen O'Hagan
Email Address:	GridCode@EirGrid.com
Grid Code Version:	15
Grid Code Section(s) Impacted by Modification Proposal:	• Definitions • PPM1.5.3.6 • PPM1.5.3.7 • PPM1.7.1.5

Modification Proposal Justification:

A number of focused updates are being proposed to the **Grid Code** to improve clarity around **Power-Frequency Curve** 1 and curve 2, particularly within the definition of **Resource Following Mode.** The current wording does not clearly distinguish the operational characteristics of curve 1, which has led to ambiguity in its interpretation. The revised definition explicitly outlines the behaviour of **Controllable PPMs** under both curves, clarifying the distinct frequency response characteristics associated with each curve. Additionally, reference tables associated with the **Power-Frequency Curves** are being updated to better reflect values that are already applied in custom and practice, ensuring consistency between **Grid Code** documentation and how it is operationally implemented.

A Table Outlining the Proposed Changes:

<table>
<tr><th>Section</th><th>Red Line Version Text
Deleted text in ~~strike-through red font~~ and new text highlighted in blue font</th><th>Green Line Version Text</th></tr>
<tr><td>Definitions</td><td>
<table>
<tr><td>Resource Following Mode</td><td>A mode of operation of a Controllable PPM, with the exception of ESPSs, where the system frequency is within F_B-F_C, according to the active power-frequency response curve in operation (curve 1 or curve 2) and the Controllable PPM is not under Active Power Control by the TSO. ~~allowing the Controllable PPM to produce up to 100% of its Available Active Power, depending on the Power-Frequency Curve in operation.~~

In power-frequency response curve 1 the Controllable PPM adjusts its Active Power output to produce up to 100% of its Available Active Power.
In power-frequency response curve 2 ~~When operating on Power-Frequency Curve 2,~~ the Controllable PPM is required to maintain its Active Power output at a fixed percentage of its Available Active Power. ~~when Transmission System Frequency is within the range FB-FC.~~
</td></tr>
</table>
</td><td>
<table>
<tr><td>Resource Following Mode</td><td>A mode of operation of a Controllable PPM, with the exception of ESPSs, where the system frequency is within F_B-F_C, according to the active power-frequency response curve in operation (curve 1 or curve 2) and the Controllable PPM is not under Active Power Control by the TSO.

In power-frequency response curve 1 the Controllable PPM adjusts its Active Power output to produce up to 100% of its Available Active Power.
In power-frequency curve 2 the Controllable PPM is required to maintain its Active Power output at a fixed percentage of its Available Active Power.
</td></tr>
</table>
</td></tr>
</table>

PPM.1.5.3.2

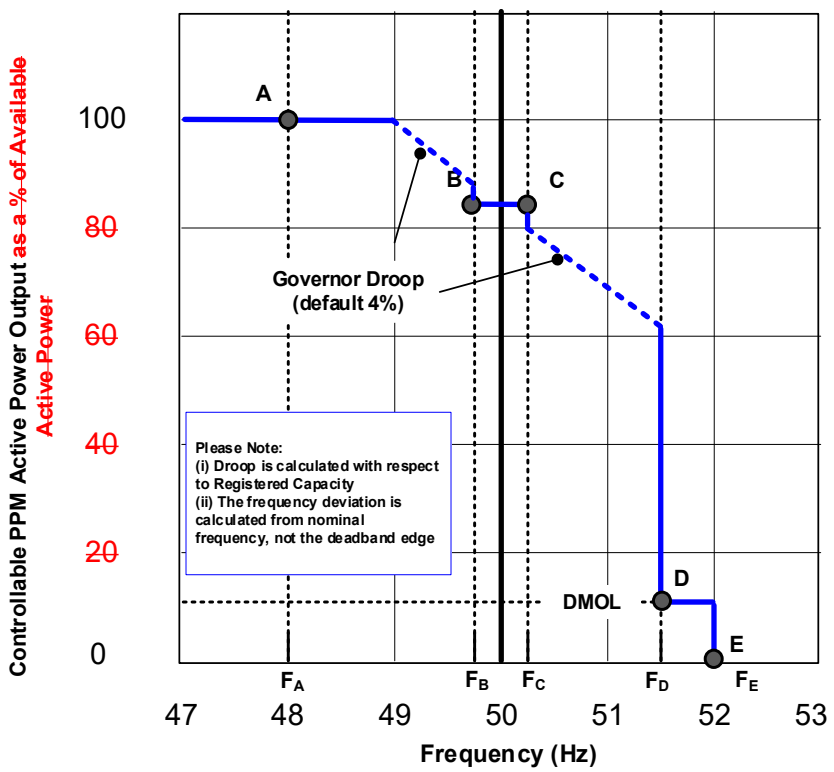

Figure PPM 1.5.3.1.b–Example of *Power-Frequency Response Curve 2* for **Resource Following Mode**

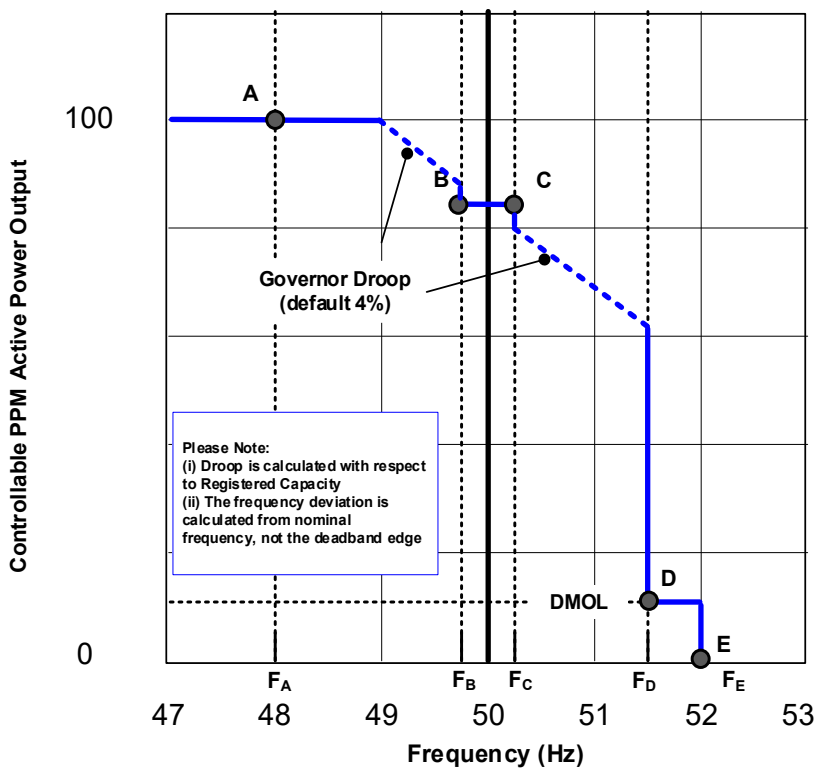

Figure PPM 1.5.3.1.b–Example of *Power-Frequency Response Curve 2* for **Resource Following Mode**

PPM1.5.3.6

Point	***Transmission System Frequency*** *(Hz)*	***Controllable PPM Active Power*** *Output*
A	F_A	P_A *=100% % of* ***Available Active Power***
B	F_B	Minimum of [fix spacing]: P_B or **Active Power Control Set-point** ~~(converted to a % of Available Active Power)~~
C	F_C	Minimum of: P_C or **Active Power Control Set-point** ~~(converted to a % of Available Active Power)~~
D	F_D	Minimum of: P_D **or** **Active Power Control Set-point** ~~(converted to a % of Available Active Power)~~
E	F_E	P_E = 0 %

Point	***Transmission System Frequency*** *(Hz)*	***Controllable PPM Active Power*** *Output*
A	F_A	P_A *=100% %* of ***Available Active Power***
B	F_B	Minimum of: P_B or **Active Power Control Set-point**
C	F_C	Minimum of: P_C or **Active Power Control Set-point**
D	F_D	Minimum of: P_D **or** **Active Power Control Set-point**
E	F_E	P_E = 0 %

Table PPM 1.5.3.6: ***Transmission System Frequency*** *and* ***Controllable PPM Active Power*** *Output Settings for the Points 'A', 'B', 'C', 'D' and 'E' illustrated in Figure PPM 1.5.3.1.b.*

<table>
<tr><td></td><td>Table PPM 1.5.3.6: Transmission System Frequency and Controllable PPM Active Power Output <s>% Available Active Power</s> Settings for the Points ‘A’, ‘B’, ‘C’, ‘D’ and ‘E’ illustrated in Figure PPM 1.5.3.1.b.</td><td></td></tr>
<tr><td>PPM1.5.3.7</td><td>
<table>
<tr><td></td><td>Transmission System Frequency (Hz)</td><td></td><td>Percentage of Available Active Power (%)</td></tr>
<tr><td></td><td></td><td></td><td>Registered Capacity ≥ 5 MW</td></tr>
<tr><td>F_A</td><td>47.0-49.5</td><td>P_A</td><td><s>50</s> 100</td></tr>
<tr><td>F_B</td><td>49.5-50</td><td>P_B</td><td rowspan="2">15-100</td></tr>
<tr><td>F_C</td><td>50-50.5</td><td>P_C</td></tr>
<tr><td>F_D</td><td rowspan="2">50.5-52.0</td><td>P_D</td><td><s>15-100 but not less than</s> DMOL</td></tr>
<tr><td>F_E</td><td>P_E</td><td>0</td></tr>
</table>
</td><td>
<table>
<tr><td></td><td>Transmission System Frequency (Hz)</td><td></td><td>Percentage of Available Active Power (%)</td></tr>
<tr><td></td><td></td><td></td><td>Registered Capacity ≥ 5 MW</td></tr>
<tr><td>F_A</td><td>47.0-49.5</td><td>P_A</td><td>100</td></tr>
<tr><td>F_B</td><td>49.5-50</td><td>P_B</td><td rowspan="2">15-100</td></tr>
<tr><td>F_C</td><td>50-50.5</td><td>P_C</td></tr>
<tr><td>F_D</td><td rowspan="2">50.5-52.0</td><td>P_D</td><td>DMOL</td></tr>
<tr><td>F_E</td><td>P_E</td><td>0</td></tr>
</table>
</td></tr>
<tr><td>PPM1.7.1.5 Signals List #5</td><td>Signals List #5</td><td>Signals List #5
The Controllable PPM shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</td></tr>
</table>

	The Controllable PPM shall make the following signals available as specified in the relevant specifications and site-specific signal lists: a) Frequency Response Curve (i.e. *Power-Frequency Response Curve 1 or Curve 2 or Mode (1 to 5)*);	a) Frequency Response Curve (i.e. *Power-Frequency Response Curve 1 or Curve 2 or Mode (1 to 5)*);