

24/09/2024

EirGrid GCRP Meeting

24 September 2024



EirGrid GCRP Agenda

1. Introduction: 10 minutes

- a. Welcome to Members.
- b. Minutes and Actions from Previous Meeting (20 March 2023).

2. Modifications: 50 minutes

- a. MPID 317 - Signals and indications required from Users (formerly Digital Signal Lists) (Revised from March 2024 GCRP);
- b. MPID 318 - Incorporation of Energy Storage Power Stations Phase 2 (SONI SPID_03_2024) (Revised from March GCRP 2024);
- c. MPID 322 - Update of definitions for CNC/Non-CNC Units (Revised from March GCRP 2024);
- d. MPID 325 - PPM clarification of the justification text;
- e. MPID 326 – Update of Safety Rules Definition;
- f. MPID 327 – Notice to React for DSUs.

3. Discussions: 15 minutes

- a. Housekeeping Modification Process Trial.
- b. Beginners Guide to Grid Code.

4. Updates: 10 minutes

- a. Approved Grid Code Modifications since previous meeting.
- b. Grid Code Derogations.
- c. CRU.

5. AOB: 5 minutes



1. Introduction: 10 minutes

- a. Welcome Members
- b. Minutes and Actions from Previous Meeting (20 March 2024)



2. Modifications: 50 minutes

- a. **MPID 317 - Signals and indications required from Users (formerly Digital Signal Lists) (Revised from March 2024 GCRP);**
- b. **MPID 318 - Incorporation of Energy Storage Power Stations Phase 2 (SONI SPID_03_2024) (Revised from March GCRP 2024);**
- c. **MPID 322 - Update of definitions for CNC/Non-CNC Units (Revised from March GCRP 2024);**
- d. **MPID 325 - PPM clarification of the justification text;**
- e. **MPID 326 - Update of Safety Rules Definition;**
- f. **MPID 327 - Notice to React for DSUs.**



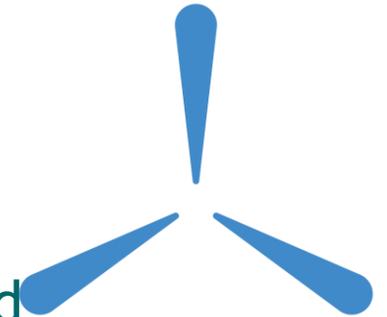
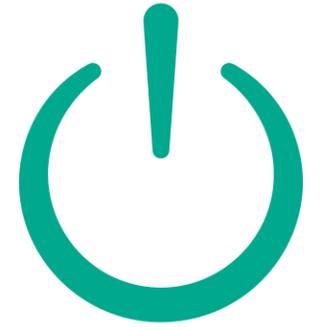
MPID 317

Signals and indications required from Users (formerly Digital Signal Lists) (Revised from March 2024 GCRP);



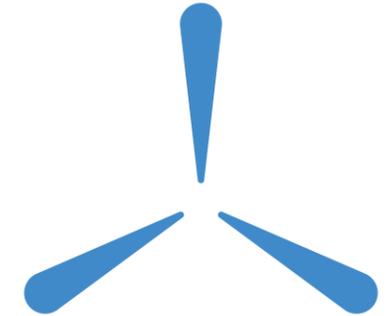
MPID317 Signals & Indications from Users Revised Mod Proposal

- This proposed modification, MPID317, suggests removing and/or modifying text in Grid Code clauses that specify how and where certain signals and indications are to be provided.
- Where the Grid Code is best placed to capture the requirements around what signals and indications are to be provided by Users, there are relevant specifications and signal lists that are best placed to capture the nuances regarding how and where such signals and indications are to be provided.
- The proposed modification was presented at the March 2024 GCRP meeting. No recommendation was sought at that stage so the TSO could engage with members on feedback received during the meeting.
- This modification proposal has since been revised to incorporate Demand Side Unit specific wording, and the removal of the word “functional” from the term “functional specifications” throughout the modification.



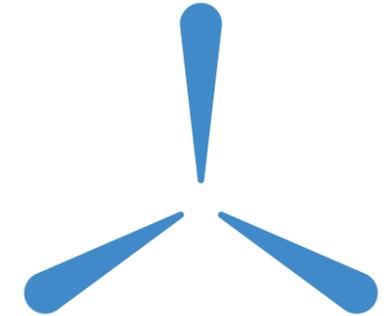
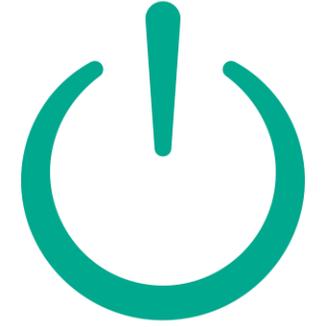
MPID317 Revised Proposal

<p>CC.12.6</p>	<p>Demand Side Unit Operators and Generator Aggregators shall provide the TSO the specification of the method of aggregation of SCADA from multiple sites. The minimum specifications shall be agreed with the TSO in advance and shall include:</p> <p>(a) signals from Demand Side Unit Operators, as specified in the relevant specifications and Demand Side Unit specific signal lists, shall be relayed to the TSO Telecommunication Interface Cabinet which reflect the Demand Side Unit MW Response to an accuracy of within 1 MW of the actual Demand Side Unit MW Response shall be relayed to the TSO within 15 seconds of change occurring to the Demand Side Unit MW Response; and</p> <p>[...]</p>	<p>Demand Side Unit Operators and Generator Aggregators shall provide the TSO the specification of the method of aggregation of SCADA from multiple sites. The minimum specifications shall be agreed with the TSO in advance and shall include:</p> <p>(a) signals from Demand Side Unit Operators, as specified in the relevant specifications and Demand Side Unit specific signal lists, which reflect the Demand Side Unit MW Response to an accuracy of within 1 MW of the actual Demand Side Unit MW Response shall be relayed to the TSO within 15 seconds of change occurring to the Demand Side Unit MW Response; and</p> <p>[...]</p>
<p>PPM1.7.1.1.1</p>	<p>Signals List #1</p> <p>The Controllable PPM, excluding Offshore PPMs, shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM: to the TSO as specified in the relevant specifications and site-specific signal lists:</p> <p>(a) Active Power output (MW) at the lower voltage side of the Grid Connected Transformer;</p> <p>(b) Reactive Power output/demand (+/-Mvar) at the lower voltage side of the Grid Connected Transformer;</p> <p>(c) Voltage (in kV) at the lower voltage side of the Grid Connected Transformer;</p> <p>(d) Available Active Power (MW) at the lower voltage side of the Grid Connected Transformer (including separate signals for export and import from Controllable PPMs consisting of ESPSs);</p> <p>(e) Grid Connected Transformer tap positions;</p> <p>(f)</p> <ol style="list-style-type: none"> i. Power Factor control mode status feedback (ON/OFF); ii. Power Factor set-point feedback (degrees) 	<p>Signals List #1</p> <p>The Controllable PPM, excluding Offshore PPMs, shall make the following signals available to the TSO as specified in the relevant specifications and site-specific signal lists:</p> <p>(a) Active Power output (MW) at the lower voltage side of the Grid Connected Transformer;</p> <p>(b) Reactive Power output/demand (+/-Mvar) at the lower voltage side of the Grid Connected Transformer;</p> <p>(c) Voltage (in kV) at the lower voltage side of the Grid Connected Transformer;</p> <p>(d) Available Active Power (MW) at the lower voltage side of the Grid Connected Transformer (including separate signals for export and import from Controllable PPMs consisting of ESPSs);</p> <p>(e) Grid Connected Transformer tap positions;</p> <p>(f)</p> <ol style="list-style-type: none"> i. Power Factor control mode status feedback (ON/OFF); ii. Power Factor set-point feedback (degrees) iii. Reactive Power control code status feedback (ON/OFF);



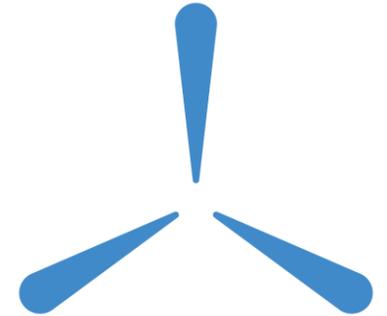
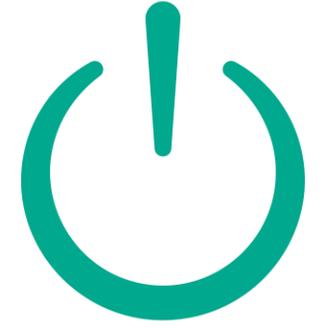
MPID317 Revised Proposal

<p>PPM1.7.1.1.2</p>	<p>The Offshore PPM shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Offshore PPM to the TSO as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (a) Active Power output (MW) at the lower voltage side of the Offshore Connection Transformer; (b) Reactive Power output/demand (+/-Mvar) at the lower voltage side of the Offshore Connection Transformer; (c) Voltage (in kV) at the lower voltage side of the Offshore Connection Transformer; (d) Available Active Power (MW) at the lower voltage side of the Offshore Connection Transformer; (e) On/off status indications for all Reactive Power devices exceeding 5 Mvar²; (f) Circuit-breaker and disconnect position indication shall be required. These may include indications from circuit-breakers on individual Generation Unit circuits. Signals from individual Generation Unit circuit-breakers shall not be required. The actual circuit-breaker and disconnect signals required shall be specified by the TSO at least 120 Business Days prior to the Offshore PPM's scheduled Operational Date; (g) Fault indications for the Offshore Connection Transformer lower voltage bay; and (h) On/off status of TSO remote control enable switch, which disables the ability of the TSO to send commands to the Offshore PPM. 	<p>The Offshore PPM shall make the following signals available to the TSO as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (a) Active Power output (MW) at the lower voltage side of the Offshore Connection Transformer; (b) Reactive Power output/demand (+/-Mvar) at the lower voltage side of the Offshore Connection Transformer; (c) Voltage (in kV) at the lower voltage side of the Offshore Connection Transformer; (d) Available Active Power (MW) at the lower voltage side of the Offshore Connection Transformer; (e) On/off status indications for all Reactive Power devices exceeding 5 Mvar²; (f) Circuit-breaker and disconnect position indication shall be required. These may include indications from circuit-breakers on individual Generation Unit circuits. Signals from individual Generation Unit circuit-breakers shall not be required. The actual circuit-breaker and disconnect signals required shall be specified by the TSO at least 120 Business Days prior to the Offshore PPM's scheduled Operational Date; (g) Fault indications for the Offshore Connection Transformer lower voltage bay; and (h) On/off status of TSO remote control enable switch, which disables the ability of the TSO to send commands to the Offshore PPM.
<p>PPM1.7.1.2.1</p>	<p>Wind-powered Controllable PPMs comprising of Wind Turbine Generators with a MEC in excess of 10 MW shall make the following meteorological data signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (a) Wind speed (at hub height or as agreed with the TSO) - measurand signal; 	<p>Wind-powered Controllable PPMs comprising of Wind Turbine Generators with a MEC in excess of 10 MW shall make the following meteorological data signals available as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (e) Wind speed (at hub height or as agreed with the TSO) - measurand signal; (f) Wind direction (at hub height or as agreed with the TSO) - measurand signal;



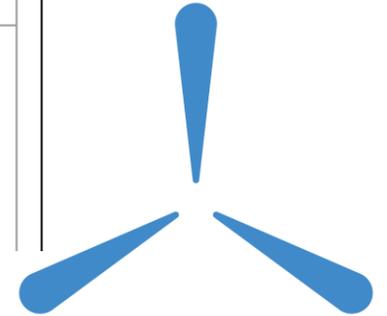
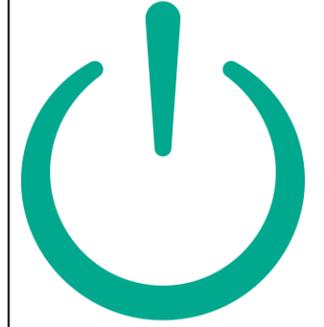
MPID317 Revised Proposal

<p>PPM1.7.1.2.2.1</p>	<p>Solar-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following meteorological data signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (a) Global Horizontal Irradiance (GHI) - measurand signal; (b) Diffused Horizontal Irradiance (DHI) - measurand signal; (c) Direct Normal Irradiance (DNI) (required for solar tracking panels only) - measurand signal; (d) Air temperature - measurand signal; (e) Back panel temperature - measurand signal; (f) Wind speed - measurand signal; (g) Wind direction - measurand signal; (h) Precipitation – measurand signal; (i) Air pressure - measurand signal. 	<p>Solar-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following meteorological data signals available as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> (a) Global Horizontal Irradiance (GHI) - measurand signal; (b) Diffused Horizontal Irradiance (DHI) - measurand signal; (c) Direct Normal Irradiance (DNI) (required for solar tracking panels only) - measurand signal; (d) Air temperature - measurand signal; (e) Back panel temperature - measurand signal; (f) Wind speed - measurand signal; (g) Wind direction - measurand signal; (h) Precipitation – measurand signal; (i) Air pressure - measurand signal.
<p>PPM1.7.1.2.3</p>	<p>Controllable PPMs, in excess of 5 MW, with the exception of wind-powered and solar-powered Controllable PPMs, shall make relevant meteorological data signals available, which may include but are not limited to solar irradiance and tidal streams, at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as agreed with the TSO and specified in the relevant specifications and site-specific signal lists.</p> <p>The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date.</p>	<p>Controllable PPMs, in excess of 5 MW, with the exception of wind-powered and solar-powered Controllable PPMs, shall make relevant meteorological data signals available, which may include but are not limited to solar irradiance and tidal streams, as agreed with the TSO and specified in the relevant specifications and site-specific signal lists.</p> <p>The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date.</p>
<p>PPM1.7.1.3.1</p>	<p>Wind-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p>	<p>Wind-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following signals available specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> a) Wind-powered Controllable PPM Availability (0-100 % signal);



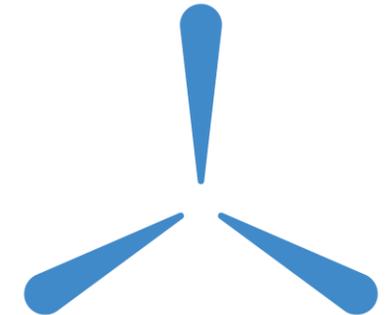
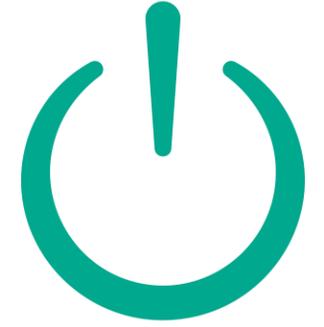
MPID317 Revised Proposal

<p>PPM1.7.1.3.2.1</p>	<p>Solar-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <p>(a) Solar-powered Controllable PPM Availability (0-100 % signal).</p>	<p>Solar-powered Controllable PPMs with a MEC in excess of 10 MW shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</p> <p>(a) Solar-powered Controllable PPM Availability (0-100 % signal).</p>
<p>PPM1.7.1.3.3</p>	<p>Controllable PPMs, with a MEC in excess of 5 MW, with the exception of wind-powered and solar-powered Controllable PPMs, shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that wind-powered Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <p>a) Controllable PPM Availability (0-100 % signal);</p> <p>b) Percentage of Generation Unit shutdown due to high resource conditions (0-100 %);</p> <p>c) Percentage of Generation Unit not generating due to low resource conditions (0-100 %).</p>	<p>Controllable PPMs, with a MEC in excess of 5 MW, with the exception of wind-powered and solar-powered Controllable PPMs, shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</p> <p>a) Controllable PPM Availability (0-100 % signal);</p> <p>b) Percentage of Generation Unit shutdown due to high resource conditions (0-100 %);</p> <p>c) Percentage of Generation Unit not generating due to low resource conditions (0-100 %).</p>
<p>PPM1.7.1.3.5</p>	<p>The Controllable PPM consisting of ESPSs shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM: as specified in the relevant specifications and site-specific signal lists:</p> <p>a). ESPS available export capacity (+MWh)</p> <p>b). ESPS available import capacity (-MWh)</p>	<p>The Controllable PPM consisting of ESPSs shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</p> <p>a). ESPS available export capacity (+MWh)</p> <p>b). ESPS available import capacity (-MWh)</p>



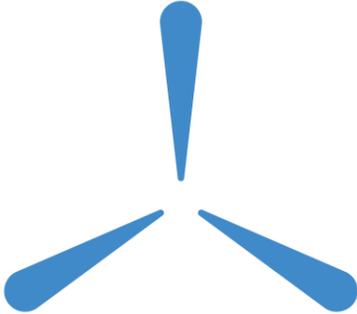
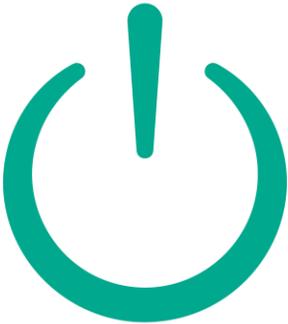
MPID317 Revised Proposal

<p>PPM1.7.1.4</p>	<p>Signals List #4 The Controllable PPM shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> a) Active Power Control Set-point feedback (MW); b) Active Power Control status feedback (ON/OFF). 	<p>Signals List #4 The Controllable PPM shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> c) Active Power Control Set-point feedback (MW); d) Active Power Control status feedback (ON/OFF).
<p>PPM1.7.1.5</p>	<p>Signals List #5 The Controllable PPM shall make the following signals available at the designated TSO Telecommunication Interface Cabinet for that Controllable PPM as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> a) Frequency Response Curve (i.e. Power-Frequency Response Curve 1 or 2 or Mode (1 to 5)); b) Frequency Response System status feedback (ON/OFF); c) Frequency Response System Governor Droop feedback (%) (for a Controllable PPM consisting of ESPSs, c) is not applicable). 	<p>Signals List #5 The Controllable PPM shall make the following signals available as specified in the relevant specifications and site-specific signal lists:</p> <ul style="list-style-type: none"> a) Frequency Response Curve (i.e. Power-Frequency Response Curve 1 or 2 or Mode (1 to 5)); b) Frequency Response System status feedback (ON/OFF); c) Frequency Response System Governor Droop feedback (%) (for a Controllable PPM consisting of ESPSs, c) is not applicable).
<p>PPM1.7.1.6</p>	<p>Time Delays and Data Quality Digital signal changes from the Controllable PPM shall be relayed to the TSO Telecommunication Interface Cabinet, as per the relevant specifications and site-specific signal lists, within 1 second of the associated change of state event. Analogue signal changes shall be relayed within 5 seconds and with an error of 0.5% or less, with the exception of the Meteorological Data required as per PPM1.7.1.2, which shall be updated within 5 seconds and shall be accurate at least 97.5% of the time over a rolling 12-month period.</p>	<p>Time Delays and Data Quality Digital signal changes from the Controllable PPM shall be relayed to the TSO, as per the relevant specifications and site-specific signal lists, within 1 second of the associated change of state event. Analogue signal changes shall be relayed within 5 seconds and with an error of 0.5% or less, with the exception of the Meteorological Data required as per PPM1.7.1.2, which shall be updated within 5 seconds and shall be accurate at least 97.5% of the time over a rolling 12-month period.</p>
<p>PPM1.7.2.2</p>	<p>Active Power Control An Active Power Control Set-point signal shall be sent by the TSO to the PPM Control System. This set-point shall define the maximum Active Power output permitted from the Controllable PPM. The PPM Control System shall be capable of receiving this signal and acting accordingly to achieve the desired change in Active Power output. This signal shall be in the form of a single analogue value and a strobe pulse to enable, as specified in the relevant specifications and site-specific signal lists.</p>	<p>Active Power Control An Active Power Control Set-point signal shall be sent by the TSO to the PPM Control System. This set-point shall define the maximum Active Power output permitted from the Controllable PPM. The PPM Control System shall be capable of receiving this signal and acting accordingly to achieve the desired change in Active Power output. This signal shall be in the form as specified in the relevant specifications and site-specific signal lists. The Controllable PPM is required to make it possible for the TSO to remotely enable/disable the Active Power Control function in the PPM Control System. The associated status indication is described in PPM1.7.1.4.</p>



MPID317 Revised Proposal

PPM1.7.2.4	Voltage Regulation The following signals shall allow the TSO to select Reactive Power control mode and send Reactive Power control set-points to the Voltage Regulation System . Set-point signals shall be in the form of a single analogue value and a strobe pulse to enable , as specified in the relevant specifications and site-specific signal lists. <ul style="list-style-type: none">• Power Factor control mode with Power Factor set-point (PF set-point)• Reactive Power control mode with Reactive Power set-point (Q set-point)• Automatic Voltage Regulation control mode with Voltage Regulation Set-point (kV set-point)	Voltage Regulation The following signals shall allow the TSO to select Reactive Power control mode and send Reactive Power control set-points to the Voltage Regulation System . Set-point signals shall be in the form as specified in the relevant specifications and site-specific signal lists. <ul style="list-style-type: none">• Power Factor control mode with Power Factor set-point (PF set-point)• Reactive Power control mode with Reactive Power set-point (Q set-point)• Automatic Voltage Regulation control mode with Voltage Regulation Set-point (kV set-point)
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Questions?

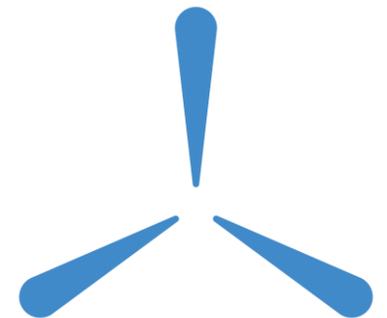
MPID318

ESPS Phase 2 (Revised from March 2024 GCRP);



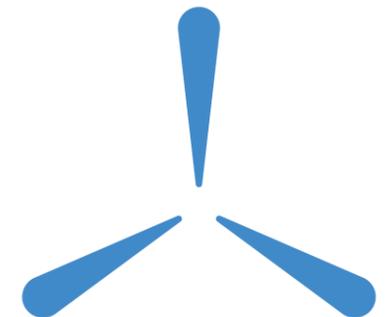
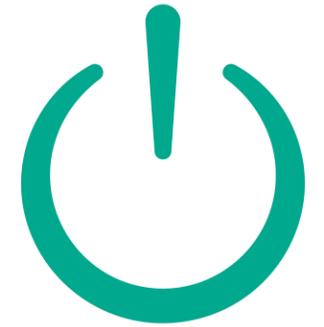
MPID318 ESPS Phase 2 Revised Modification proposal

- This revised modification contains changes to the SDC1 section that were discussed in the JGCRP meeting earlier.
- We will now present the proposed EirGrid Grid Code specific changes regarding revised low frequency demand disconnection requirements for ESPSs.



ESPS Phase 2 - Original Modification Proposal

- OC.5.5.8 **Energy Storage Power Stations** shall be capable of automatic low **Frequency Demand Disconnection** between 47 – 50 Hz.
- OC.5.5.9 **Energy Storage Power Stations** shall be made subject to automatic low **Frequency Disconnection** at the TSO's direction, only when the **Energy Storage Power Station** is acting as **Demand**.
- OC.5.5.10 The automatic low **Frequency Disconnection** scheme for an **Energy Storage Power Station** shall be capable of disconnecting **Demand** in stages for a range of operational frequencies. The specific performance requirements of the scheme shall be specified and agreed with the **TSO**.
- OC.5.5.11 The automatic low **Frequency Disconnection** scheme shall allow for operation from a nominal AC input to be specified by the **TSO**, and shall meet the following functional capabilities:
- (i) **Frequency range**: at least between 47-50 Hz, adjustable in steps of 0.05 Hz;
 - (ii) **Operating time**: no more than 150 ms after triggering the **Frequency** setpoint;
 - (iii) **Voltage lock-out**: blocking of the functional capability shall be possible when the voltage is within a range of 30 to 90 % of reference 1 p.u. **Voltage**; and
 - (iv) Provide the direction of **Active Power** flow at the point of **Disconnection**.



ESPS Phase 2 - Revised Modification Proposal

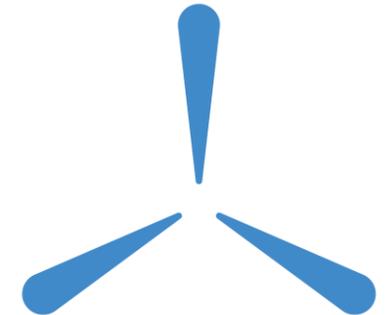
OC.5.5.8 **Energy Storage Power Stations** that cannot switch to **Generation** during a low **Frequency** event shall be capable of automatic low **Frequency Demand Disconnection** where the steady state **System Frequency** falls below 49.5 Hz for a sustained period of more than 1 minute.

OC.5.5.9 Such **Energy Storage Power Stations** shall be made subject to automatic low **Frequency Demand Disconnection** at the **TSO's** direction, only when the **Energy Storage Power Station** is acting as **Demand**.

OC.5.5.10 The specific performance requirements of the automatic low **Frequency Demand Disconnection** scheme for such **Energy Storage Power Stations** shall be specified and agreed with the **TSO**.

OC.5.5.11 The automatic low **Frequency Demand Disconnection** scheme shall allow for operation from a nominal AC input to be specified by the **TSO**, and shall meet the following functional capabilities:

- (i) **Frequency** range: where the steady state **System Frequency** falls below 49.5 Hz for a sustained period of more than 1 minute;
- (ii) **Operating time**: no more than 150 ms after triggering the **Frequency** setpoint;
- (iii) **Voltage** lock-out: blocking of the functional capability shall be possible when the **Voltage** is within a range of 30 to 90 % of reference 1 p.u. **Voltage**; and
- (iv) Provide the direction of **Active Power** flow at the point of **Disconnection**.



Questions?

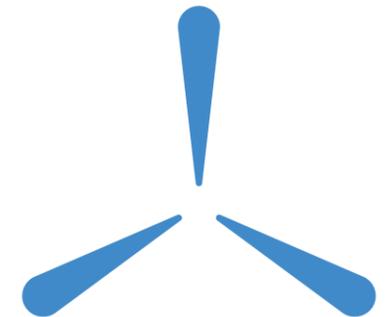
MPID 322

Update of definitions for CNC/Non-CNC Units (Revised from March 2024 GCRP);



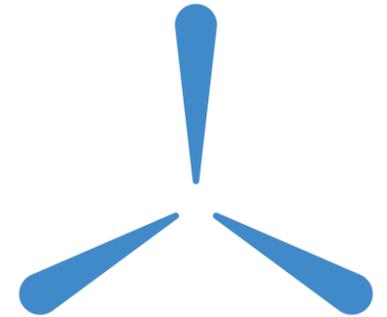
MPID322 Update to CNC Unit Definitions Revised Mod Proposal

- The original modification proposal for MPID322 was presented at the March 2024 GCRP and suggested updating specific Grid Code definitions and clauses to better reflect the criteria detailed in EirGrid and ESB Networks' guideline document, [EirGrid and ESB Networks' Guideline for the Application to Existing Users of Commission Regulation \(EU\) 2016/631 establishing a network code on requirements for grid connection of generators \(RfG\), Commission Regulation \(EU\) 2016/1388 establishing a Network Code on Demand Connection \(DCC\) and Commission Regulation \(EU\) 2016/1447 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current connected power park modules \(HVDC\)](#), aligning them with current custom and practice.
- For the HVDC Unit definition, it was also proposed that the text referring specifically to embedded Interconnectors within one control area connected to the Transmission System, and embedded Interconnectors within one control area connected to the Distribution System when a cross-border impact is demonstrated to the TSO, be removed from the definition and instead placed in relevant clauses CC.15.6 and CC.15.19.6 of the Grid Code.



MPID322 Update to CNC Unit Definitions Revised Mod Proposal

- There was discussion at the March 2024 GCRP meeting around the value of adding ‘is not a Non-RfG Generation Unit’ or ‘is not a non-HVDC Unit’ or ‘is not a non-DCC unit’ to the unit definitions and it was agreed to remove these terms from the proposal.
- The TSO issued a revised modification proposal based on what was agreed, and members were given ten business days to review.
- The TSO received comments on the text referring specifically to embedded Interconnectors within one control area connected to the Transmission System, and embedded Interconnectors within one control area connected to the Distribution System when a cross-border impact is demonstrated to the TSO, indicating that the purpose of the text was not clear.
- Upon further consultation, this text has been reworded for clarity and added to this revised modification.



MPID322 Removal of “that is not an XXX Unit” in definitions

RfG Generation Unit	<p>A Generation Unit that is not a Non-RfG Generation Unit, with a signed Connection Agreement:</p> <ul style="list-style-type: none"> a) Connected to the Network after the 30th November 2018; or b) Whose owner has concluded a final and binding contract for the purchase of the main Plant and/or Apparatus after the 30th November 2018; or c) Is <u>not</u> one of the exceptions to the applicability of the RfG Generation Unit requirements and is <u>not</u> a Generation Unit as follows: <ul style="list-style-type: none"> (i) Installed to provide back-up power and operate in parallel with the Network for less than five minutes per calendar month while the system is in normal system state; or (ii) No permanent Connection Point and is used by the TSO to temporarily provide power when normal system capacity is partly or completely unavailable; or (iii) Energy Storage Units except for Pumped Storage Plant; or d) Is <u>not</u> a Non-RfG Generation Unit.
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HVDC Unit	<p>An Interconnector or DC-connected PPM that is not a Non-HVDC Unit, with a signed Connection Agreement:</p> <ul style="list-style-type: none"> a) Connected to the Network after the 15th September 2018; or b) Whose owner has concluded a final and binding contract for the purchase of the main Plant and/or Apparatus after the 15th September 2018; or c) Is <u>not</u> a Non-HVDC Unit. <p>In addition, HVDC Units, which are comprised of:</p> <ul style="list-style-type: none"> a) embedded Interconnectors within one control area and connected to the Transmission System, and/or b) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO. The relevant TSO shall consider the long-term development of the network in this assessment shall not be subject to Grid Code clauses CC.15.16 to CC.15.19.6, if one or more of the following conditions apply: <ul style="list-style-type: none"> 1) the Interconnector has at least one Interconnector Converter Station owned by the TSO; 2) the Interconnector is owned by an entity which exercises control over the TSO; or 3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO.
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DCC Unit	<p>A Demand Facility, Closed Distribution System or Distribution System that is not a Non-DCC Unit, with a signed Connection Agreement:</p> <ul style="list-style-type: none"> a. Connected to the Network after the 7th September 2019; or b. Whose owner has concluded a final and binding contract for the purchase of the main Plant and/or Apparatus after the 7th September 2019; or c. Is <u>not</u> an exception to the applicability of the DCC Unit requirements and is <u>not</u> a Non-DCC Unit such as a Pumped Storage Unit that has both generating and pumping operation mode. A Pumped Storage Unit which only operates as Pumped Storage Plant Demand, and does not meet Non-DCC Unit criteria, is classified as a DCC Unit.
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MPID322 Embedded Interconnector Text

Original Text

Definition	Red Line Version Text
	<i>Deleted text in strike-through-red font and new text highlighted in blue font</i>
CC.15.6	<p>The Interconnector Owner shall demonstrate to the TSO that it has complied with Interconnector requirements by successfully completing the Operational Notification Procedure for connection of each Interconnector.</p> <p>Where HVDC Units are comprised of:</p> <ul style="list-style-type: none"> a) embedded Interconnectors within one control area and connected to the Transmission System, and/or b) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO, <p>the relevant TSO shall consider the long-term development of the network. In this assessment, the above units shall not be subject to this clause if one or more of the following conditions apply:</p> <ul style="list-style-type: none"> 1) the Interconnector has at least one Interconnector Converter Station owned by the TSO; 2) the Interconnector is owned by an entity which exercises control over the TSO; or 3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO.

Revised Text

Definition	Red Line Version Text
CC.15.6	<p><i>Deleted text in strike-through-red font and new text highlighted in blue font</i></p> <p>The Interconnector Owner shall demonstrate to the TSO that it has complied with Interconnector requirements by successfully completing the Operational Notification Procedure for connection of each Interconnector.</p> <p>Where HVDC Units are comprised of:</p> <ul style="list-style-type: none"> a) embedded Interconnectors within one control area and connected to the Transmission System, and/or b) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO, <p>such Interconnectors shall not be subject to this clause if one or more of the following conditions apply:</p> <ul style="list-style-type: none"> 1) the Interconnector has at least one Interconnector Converter Station owned by the TSO; 2) the Interconnector is owned by an entity which exercises control over the TSO; or 3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO. <p>In the relevant TSO's assessment of whether or not a HVDC Unit embedded Interconnector within one control area and connected to the distribution network has a cross-border impact, the relevant TSO shall consider the long-term development of the network.</p>



MPID322 Embedded Interconnector Text

Original Text

CC.15.19.6	<p>If the TSO does not grant an extension of the period of validity of the LON in accordance with CC.15.19.4 or if it refuses to allow the operation of the Interconnector once the LON is no longer valid in accordance with CC.15.19.5, the Interconnector Owner may refer the issue for decision to the CRU within six months after the notification of the decision of the TSO.</p> <p>Where HVDC Units are comprised of:</p> <ul style="list-style-type: none">a) embedded Interconnectors within one control area and connected to the Transmission System, and/orb) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO, <p>the relevant TSO shall consider the long-term development of the network. In this assessment, the above units shall not be subject to this clause if one or more of the following conditions apply:</p> <ul style="list-style-type: none">1) the Interconnector has at least one Interconnector Converter Station owned by the TSO;2) the Interconnector is owned by an entity which exercises control over the TSO; or3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO.
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Revised Text

CC.15.19.6	<p>If the TSO does not grant an extension of the period of validity of the LON in accordance with CC.15.19.4 or if it refuses to allow the operation of the Interconnector once the LON is no longer valid in accordance with CC.15.19.5, the Interconnector Owner may refer the issue for decision to the CRU within six months after the notification of the decision of the TSO.</p> <p>Where HVDC Units are comprised of:</p> <ul style="list-style-type: none">a) embedded Interconnectors within one control area and connected to the Transmission System, and/orb) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO, <p>such Interconnectors shall not be subject to this clause if one or more of the following conditions apply:</p> <ul style="list-style-type: none">1) the Interconnector has at least one Interconnector Converter Station owned by the TSO;2) the Interconnector is owned by an entity which exercises control over the TSO; or3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO. <p>In the relevant TSO's assessment of whether or not a HVDC Unit embedded Interconnector within one control area and connected to the distribution network has a cross-border impact, the relevant TSO shall consider the long-term development of the network.</p>
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Questions?

24/09/2024

MPID325

PPM clarification of the justification text



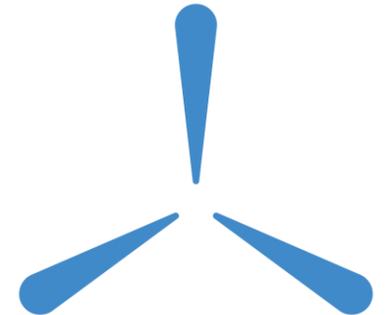
MPID325 - PPM clarification of the justification text

The requirements for PPMs was first incorporated into Version 1.2 of the Grid Code in May 2005.

The Grid Code originally included the requirements for wind powered PPMs only (formerly known as Wind Farm Power Stations, or WFPSs).

The original modification included text that explained the need for a new WFPS section, which has since been renamed the PPM section and expanded to include other types of PPMs.

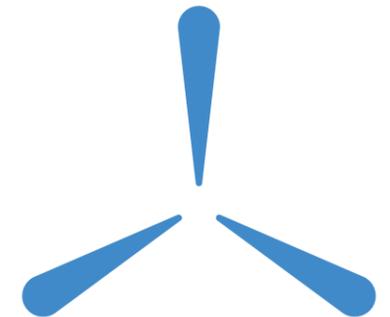
Given the length of time since the original incorporation of the PPMs requirements, the text explaining the need for the new section needs to be updated in order to remain relevant.



MPID325 - Red line version:

PPM1.1:

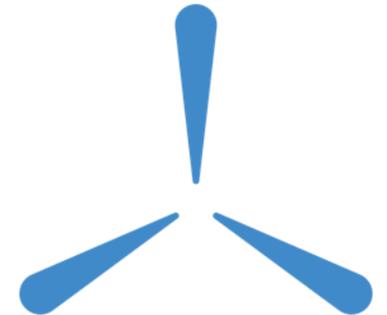
All **Generators** connecting to the **Transmission System** are required to comply with the **Grid Code**. The **Grid Code** was originally developed with synchronous generators in mind. ~~Since **Generation Units** do not have the same characteristics as synchronous generators, it was considered appropriate to develop a new set of **Grid Code** provisions specifically for **Controllable PPMs**.~~ It was considered appropriate to develop a new set of **Grid Code** provisions specifically for **Controllable PPMs**, since they do not have the same characteristics as synchronous generators. This section of the **Grid Code** gives the specific requirements for **Controllable PPMs** and **PPM Extensions** to pre-existing **Controllable PPMs** where an extension to a **PPM** shall be classified as one of the following two types:



MPID325 - Green line version:

PPM1.1:

All **Generators** connecting to the **Transmission System** are required to comply with the **Grid Code**. The **Grid Code** was originally developed with synchronous generators in mind. It was considered appropriate to develop a new set of **Grid Code** provisions specifically for **Controllable PPMs**, since they do not have the same characteristics as synchronous generators. This section of the **Grid Code** gives the specific requirements for **Controllable PPMs** and **PPM Extensions** to pre-existing **Controllable PPMs** where an extension to a **PPM** shall be classified as one of the following two types:



Questions?

24/09/2024

MPID326

Update of Safety Rules Definition

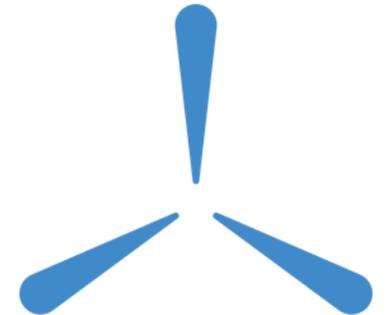


MPID326 - Safety Rules

As part of MPID305 incorporation of the Grid Code Requirements for Offshore PPMs, a new definition of EirGrid Safety Rules was included as well as the incorporation of the EirGrid Safety Rules into Grid Code Section OC.11.4 - Safety Rules.

However, due to an oversight, the EirGrid Safety Rules was omitted from the definition of “Safety Rules”.

The purpose of this modification proposal is to address this oversight.



MPID326 - Red and Green Line Versions:

Red Line Version:

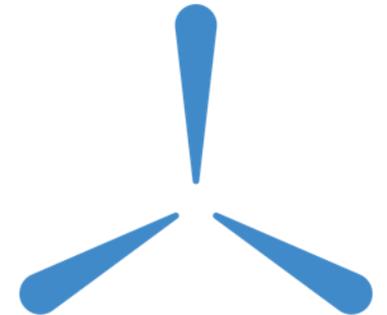
Safety Rules Definition:

ESB Networks Electricity Safety Rules, ESB Power Generation Electricity Safety Rules, [EirGrid Safety Rules](#) or the rules of a **User, compliance with which ensures that persons working on **Plant** and/or **Apparatus** to which the rules apply are safeguarded from hazards arising from the **System**.**

Green Line Version:

Safety Rules Definition:

ESB Networks Electricity Safety Rules, ESB Power Generation Electricity Safety Rules, [EirGrid Safety Rules](#) or the rules of a **User, compliance with which ensures that persons working on **Plant** and/or **Apparatus** to which the rules apply are safeguarded from hazards arising from the **System**.**



Questions?

24/09/2024

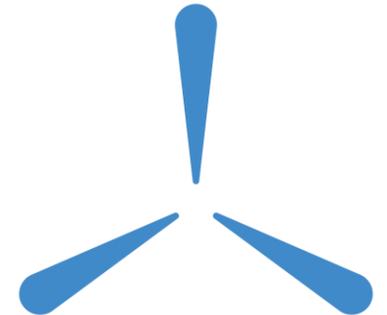
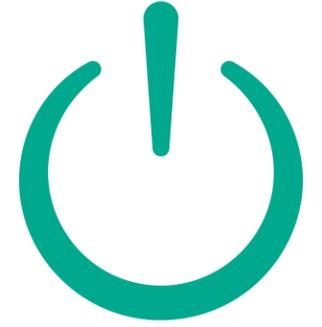
MPID327

Notice to React for DSUs



MPID327 Notice to React for DSUs

- This proposed modification was discussed earlier at the JGCRP.
- We are now seeking agreement from members to submit the proposed modification to the CRU for approval.



3. Discussions: 15 minutes

- a. Housekeeping Modification Process Trial;
- b. Beginners Guide to Grid Code.



24/09/2024

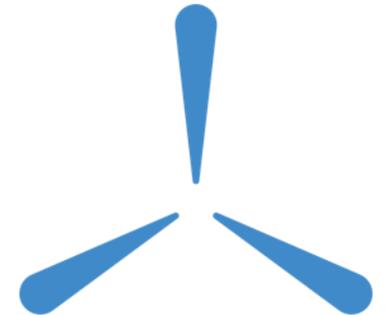
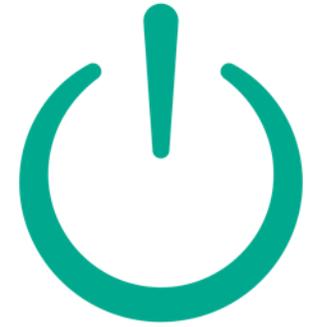
Discussion

Housekeeping Modification Process Trial



Background

- ❖ The Grid Code needs to be adaptable and responsive - it is a living document that is constantly evolving, and so requires consistent maintenance in the form of housekeeping modifications.
- ❖ A Grid Code housekeeping modification is a modification that:
 - Does not add or remove a requirement from any user of the Grid Code;
 - Does not make a material change or impact to the existing compliance of any user under the Grid Code;
 - Aims to ensure that the Grid Code is as accessible as possible, and that the form of each clause is well-structured and conveys the correct meaning.
- As housekeeping of the Grid Code is an ongoing process, EirGrid, as TSO, presented a streamlined process for housekeeping modifications for discussion at the March 2024 GCRP.

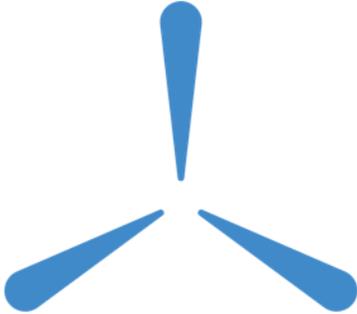
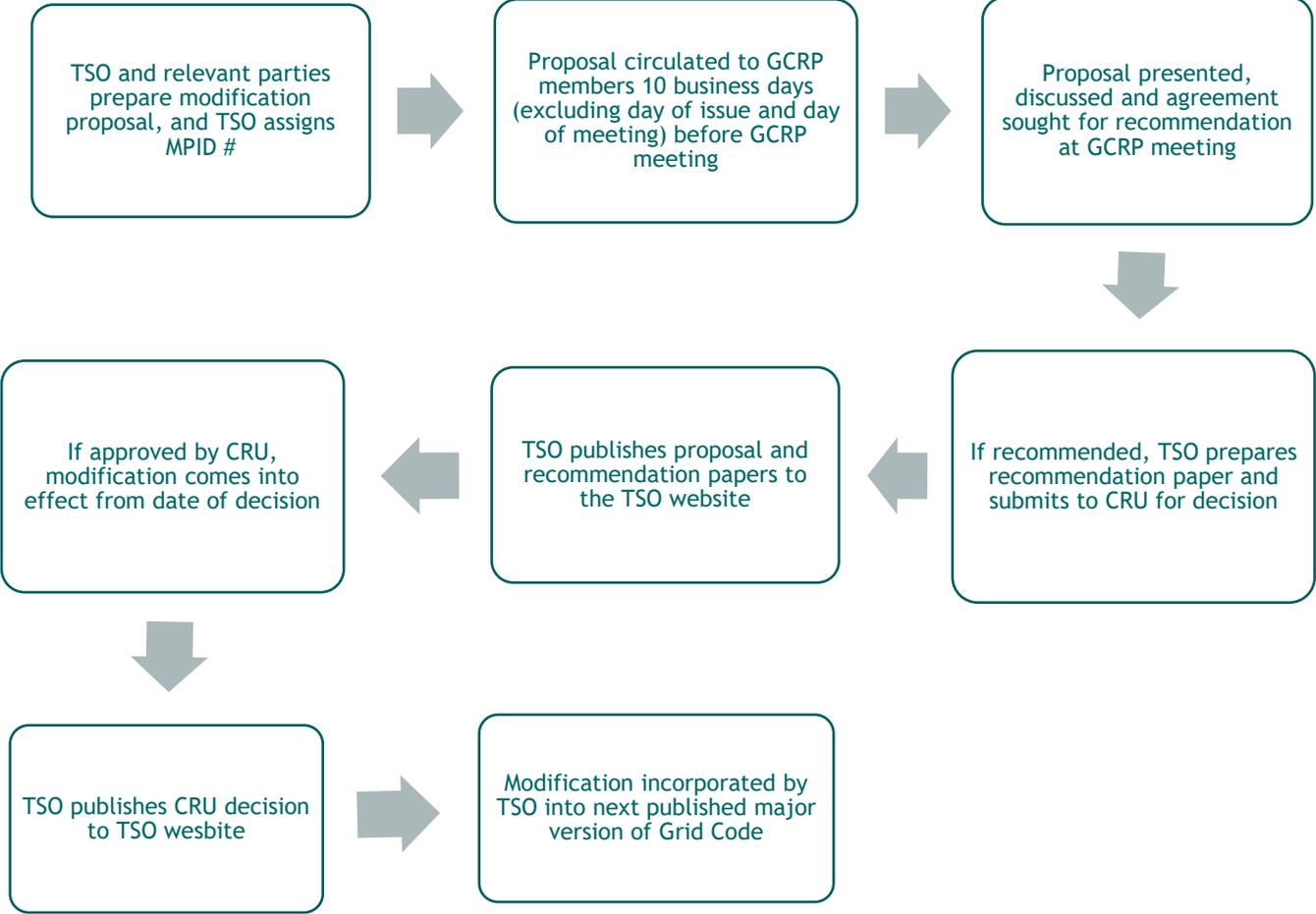


Housekeeping vs other Grid Code Modifications

Considered a housekeeping modification	<u>Not</u> considered a housekeeping modification
Bolding and capitalising defined terms Unbolding and uncapitalising undefined terms	Changes to the definitions of defined terms and their use cases
Changes to the format, grammar, syntax, etc. of clauses and definitions for clarity and accuracy which would not change a user’s requirement(s) or compliance under the Grid Code	Changes to the wording of clauses or definitions for clarity and accuracy which would change a user’s requirement(s) or compliance under the Grid Code
Replacing undefined terms with defined terms where it would not change a user’s requirement(s) or compliance under the Grid Code	Replacing undefined terms with defined terms where it would change a user’s requirement(s) or compliance under the Grid Code
Correction of numbering of sections or clauses	Addition of new sections/clauses/definitions to the Grid Code
Correction of references or broken hyperlinks	
Correction of typographical errors	
Changes to formatting or structure to improve user experience	
Removal of stranded definitions	

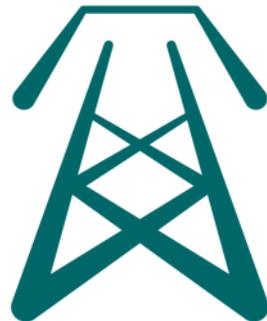
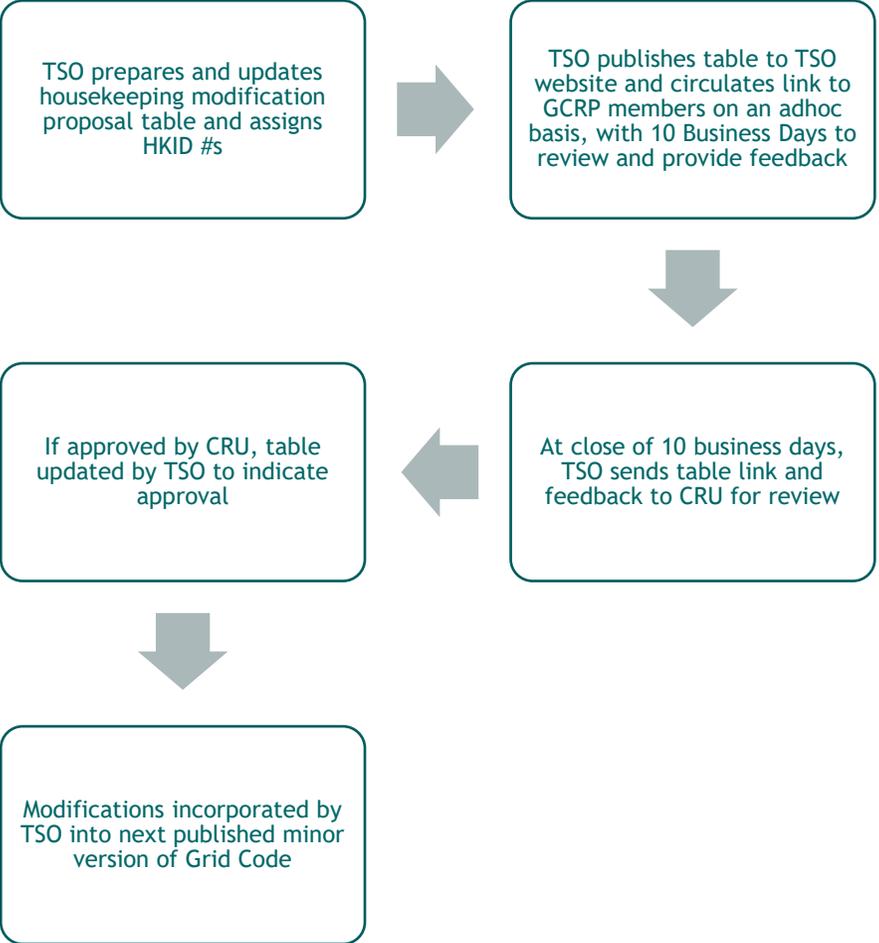


Current governance process for Grid Code modifications



Current applies to all proposed Grid Code modifications irrespective of whether they fall under the definition of a housekeeping modification, or whether they are a significant modification such as the implementation of a new user type into the Grid Code.

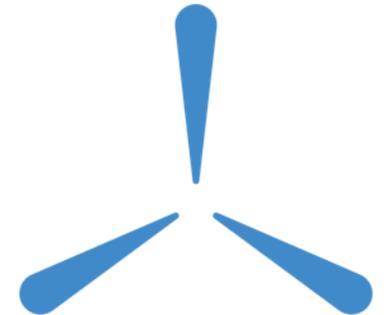
Proposed governance process for housekeeping modifications



If approved, this new process would only apply to housekeeping modifications. The process as presented in the previous slide would still apply to all other Grid Code modifications.

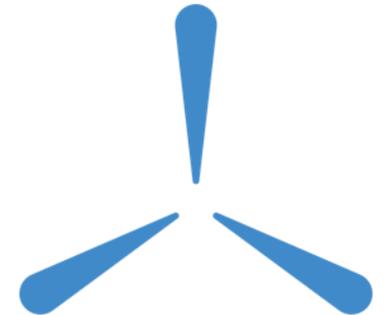
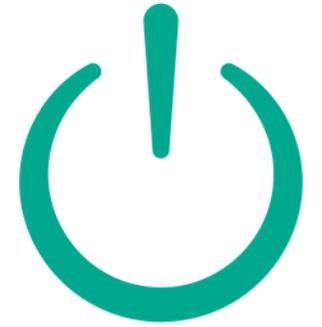
Feedback from the CRU on proposed HK mod process

- ❖ The TSO also submitted the discussion document to the CRU for feedback and to request a trial of the proposed process.
- ❖ The CRU have approved a trial of the proposed process from 1st October 2024 to 23 December 2024.
- ❖ The CRU is satisfied that the proposed approach seeks to enhance the efficiency of the GCRP meetings and maintain accessibility for stakeholders.
- ❖ The CRU requests that EirGrid submits a report to the CRU evaluating the effectiveness of the revised process, the GCRP members feedback and recommendations on next steps once the trial period concludes.
- ❖ The TSO will circulate a feedback tracker/survey to GCRP members at the approach of the end of the trial period and will discuss that feedback and next steps at the first GCRP meeting in 2025.



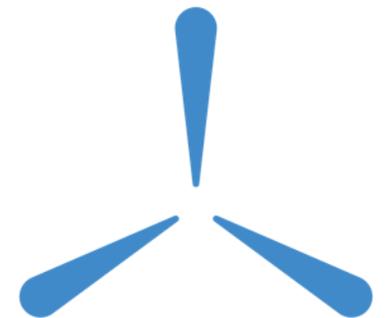
Feedback already received from members on proposed HK mod process

- ❖ Feedback was received in the meeting, and members were also asked to provide feedback on the accompanying discussion document by 3 May 2024.
- ❖ Feedback received at the meeting (taken from meeting minutes):
 - ❖ *The members welcomed the new process but highlighted the need to have more structure around the circulation of the housekeeping modifications. Paraic Higgins (Pumped Storage) noted that if the proposals were issued on an ad-hoc basis that they may be missed.*
- ❖ Feedback received post meeting:
 - ❖ *Correction of numbering of sections/clauses/pages: We believe that the numbering of sections and clauses is important to be considered as a housekeeping modification. We agree that page numbers are not that significant. We propose that if the section/clause numbering could cause a potential misdirection or confusion, there should be a possibility to raise it by the GCRP as “not housekeeping”.*



Next Steps if trial is considered successful

- ❖ If the TSO, GCRP members and the CRU are satisfied post the trial period that the proposed housekeeping modification process, or a revised version of same with feedback implemented, is effective, EirGrid will submit a modification proposal for the next GCRP meeting that incorporates proposed changes to relevant areas of the Grid Code that refer to the governance of Grid Code modifications.
- ❖ This would allow for the proposed process for housekeeping modifications to be fully implemented.
- ❖ If approved for recommendation by the GCRP, the modification proposal will be submitted to the CRU for decision. If approved by the CRU, the new proposed process will come into effect from the date specified in the CRU decision paper.



Questions?

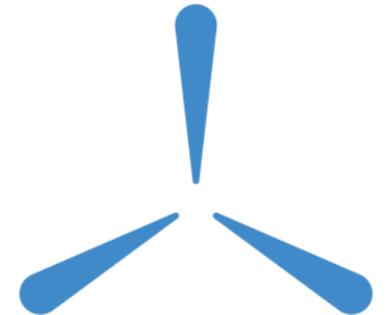
Discussion

Beginner's Guide to Grid Code



Beginner's Guide to Grid Code

- ❖ The EirGrid Beginner's Guide to Grid Code (BGTGC) is a tool to aid existing and future Users of the Transmission System in identifying, establishing and meeting their Grid Code compliance requirements.
- ❖ A separate BGTGC spreadsheet exists for each User under the Grid Code. For each clause in the EirGrid Grid Code, the BGTGC seeks to indicate whether that clause contains important information, mandatory requirements or optional actions for that User, and seeks to present a description of same. There is also a summary table that represents this data at-a-glance.



Beginner's Guide to Grid Code



Draft Beginner's Guide to Grid Code: RFG Wind-Powered Controllable PPM Requirements & Actions

Primary Responsible Person	Secondary Responsible Person (where applicable)	Technology Class	Technology Subclass	CNC Classification	Instruction Classification	Grid Code Version	Chapter #	Chapter Title	Section #	Section Title	Clause #	Clause Title	Subclause #
Generator	N/A	Generation Unit(s)	Wind-Powered Controllable PPM(s)	RFG	Controllable	14.2	4	Connection Conditions	CC.15	Commissioning and Notification	CC.15.10	Operational Notification Procedure	CC.15.10.3
Generator	N/A	Generation Unit(s)	Wind-Powered Controllable PPM(s)	RFG	Controllable	14.2	4	Connection Conditions	CC.15	Commissioning and Notification	CC.15.10	Operational Notification Procedure	CC.15.10.3
Generator	N/A	Generation Unit(s)	Wind-Powered Controllable PPM(s)	RFG	Controllable	14.2	4	Connection Conditions	CC.15	Commissioning and Notification	CC.15.11	N/A	N/A
Generator	N/A	Generation Unit(s)	Wind-Powered Controllable PPM(s)	RFG	Controllable	14.2	4	Connection	CC.15	Commissioning and Notification	CC.15.12	Limited Operational	CC.15.12.1

Is there important information for this User under this clause?	Grid Code Text	Are there mandatory requirements for this User under this clause?	Mandatory requirements for this User	Are there optional actions for this User under this clause?	Optional actions for this User
Yes	The TSO will issue a FON to the Generator for a Generation Unit , subject to completion of the FON checklist. Upon receipt of the FON, a Generator may operate the associated Generation Unit and generate power by using the grid connection that is specified for the Connection Point . If the TSO identifies a reason not to issue a FON, the Generator may seek a derogation via the process described in GC.9.3.	Yes	For Generators with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the Transmission System , the TSO will issue a FON to the Generator for a Generation Unit , subject to completion of the FON checklist.	Yes	For Generators with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the Transmission System , upon receipt of the FON, a Generator may operate the associated Generation Unit and generate power by using the grid connection that is specified for Generators with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the Transmission System , if the TSO identifies a reason to not issue a FON, the Generator may seek a derogation via the process described in GC.9.3.
Yes	Where a request for a derogation is rejected, the TSO shall have the right to refuse to allow the operation of the Generation Unit until the Generator and the TSO resolve the incompatibility and the TSO considers that the Generation Unit is compliant with Grid Code . If the TSO and the Generator do not resolve the incompatibility within a reasonable time frame, but in any case not later than 6 months after the notification of the rejection of the request for a derogation, each party may refer the issue for	Yes	For Generators with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the Transmission System , where the TSO identifies a reason to not issue a FON to a Generator , and that Generator seeks a derogation via the process described in GC.9.3, and where the request for a derogation is rejected, the TSO shall have the right to refuse to allow the operation of the Generation Unit until the Generator and the TSO resolve the incompatibility and the TSO considers that the Generation Unit is compliant with Grid Code .	Yes	Where the TSO identifies a reason to not issue a FON to an such a Generator , and that Generator seeks a derogation via the process described in GC.9.3, and where the request for a derogation is rejected, if the TSO and the Generator do not resolve the incompatibility within a reasonable time frame, but in any case not later than 6 months after the notification of the rejection of the request for a derogation, each party may refer
Yes	A Generator issued with a FON shall inform the TSO immediately in the following circumstances: (a) the facility is temporarily subject to either significant modification or loss of capability affecting its performance; or (b) equipment failure leading to non-compliance with some relevant requirements.	Yes	Generators with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the Transmission System issued with a FON shall inform the TSO immediately in the following circumstances: (a) the facility is temporarily subject to either significant modification or loss of capability affecting its performance; or (b) equipment failure leading to non-compliance with some	No	N/A
Yes	A Generator shall apply to the relevant system operator for a Limited Operational Notification (LON), if the Generator	Yes	Where a Generator with Wind-Powered Controllable PPM RFG Generation Unit(s) with Registered Capacity greater than 2MW and/or that are connected to the	No	N/A



Beginner's Guide to Grid Code



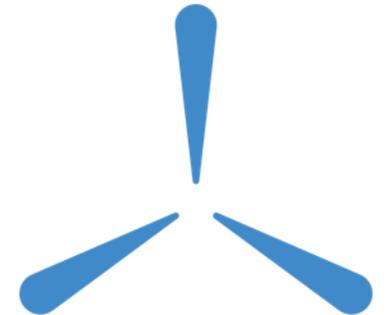
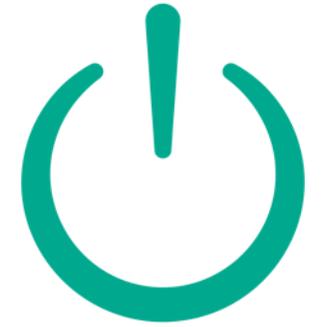
Draft Beginner's Guide to Grid Code: RfG Wind-Powered Controllable PPM Requirements & Actions

Primary Responsible Person	Grid Code Version	Clause #	Is there important information for this User under this clause?	Are there mandatory requirements for this User under this clause?	Are there optional actions for this User under this clause?
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.1.1	✓	X	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.1.2	✓	✓	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.2.1	✓	X	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.3	✓	✓	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.4.1	✓	X	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.5.1	✓	X	✓
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.5.2	✓	X	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.6.1	✓	X	✓
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.6.2	✓	✓	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.6.3	✓	X	X
Generator with Wind-Powered Controllable PPM RfG Generation Unit(s)	14.2	GC.7.1	✓	X	✓



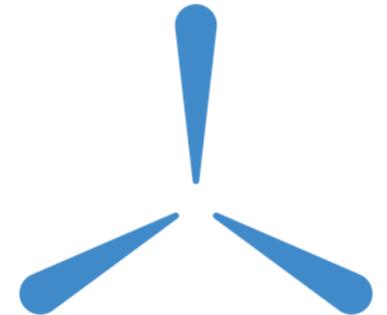
Beginner's Guide to Grid Code

- ❖ The objective of the BGTGC is to:
 - Increase knowledge and awareness of, and engagement with, the EirGrid Grid Code;
 - Aid existing and future Users in better identifying and understanding their Grid Code requirements; and
 - Support the evolution and maintenance of the Grid Code by providing greater granularity and transparency with regards to Grid Code requirements
- ❖ The BGTGC is not a replacement for the EirGrid Grid Code and reliance is not to be placed on the BGTGC as a substitute for a User's review, reference to and understanding of the terms of the EirGrid Grid Code to ensure compliance with same.
- ❖ It remains a User's sole responsibility to identify, establish and meet their EirGrid Grid Code requirements via reference to the terms of the EirGrid Grid Code itself. Any actions taken on foot of, and reliance on, the BGTGC shall be at that party's own risk.



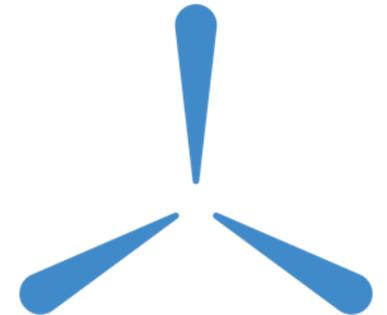
Beginner's Guide to Grid Code - Next Steps

- ❖ The BGTGC is currently in draft format.
- ❖ We plan to circulate BGTGC packs to members post this GCRP meeting. The packs will contain;
 - ❖ A copy of that member's relevant User draft BGTGC spreadsheet;
 - ❖ A copy of the TSO's draft BGTGC spreadsheet;
 - ❖ A copy of the CRU's draft BGTGC spreadsheet;
 - ❖ A copy of the GCRP member's draft BGTGC spreadsheet;
 - ❖ The latest copy of the EirGrid Grid Code, which the BGTGC spreadsheets are currently based off;
 - ❖ The latest copy of the EirGrid GCRP constitution;
 - ❖ A feedback tracker.



Beginner's Guide to Grid Code - Next Steps

- ❖ We ask that members review the documents in their pack and provide feedback, by sending the feedback tracker to gridcode@eirgrid.com, by COB 23rd December 2024.
- ❖ The TSO is happy to make itself available for meetings with members during this period to discuss any feedback or answer any questions members might have.
- ❖ Once feedback has been implemented, the aim is to publish the spreadsheets on the TSO website, where the BGTGC will be updated to reflect the latest published version of the EirGrid Grid Code.



Questions?

4. Updates: 10 minutes

- a. **Approved Grid Code Modifications since previous meeting;**
- b. **Grid Code Derogations;**
- c. **CRU.**



Update

Approved Grid Code Modifications since previous meeting



Modification Update

Modification	#
Decisions made by CRU since 20 March 2024	1
Recommendation papers with CRU for decision	2
Proposals being put forward at GCRP 24 September (today)	6

- MPID 312 Removal of IOP approved by CRU 12/07/2024
- Grid Code version 14.2 issued 18/07/2024.
- Recommendations MPID 321 IOS and MPID 320 NPDR are with the CRU for decision.
- All information on modifications can be found on the EirGrid website [here](#).

Questions?

Update

Derogations



Current Derogations Stats for GCRP March 2024

Under TSO Assessment	163
Approved by CRU	510
Still Valid	163
With CRU	146

<u>Under TSO Assessment</u>		
Type		
WFPS	71	
Conventional	39	
TEG	6	
BESS	19	
DSU	23	
Categories		
APC/Freq	51	
Reactive	34	
FRT	29	
RoCoF	4	

<u>Since March 2024</u>	
Submitted	20
Forwarded to CRU	16
Approved by CRU	25



Questions?

24/09/2024

Update CRU



AOB

Meeting Minutes will be issued by COB 08 October 2024