

**Grid Code
Modification Proposal Form**

Email to gridcode@eirgrid.com



Title of Modification Proposal: Housekeeping Modification of Grid Code Version 9

MPID (EirGrid Use Only): **MPID 276 (d)**

Date:	04 November 2019		
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Grid Code Version:	Housekeeping Modifications included in proposed Grid Code Version 9		
Grid Code Section(s) Impacted by Modification Proposal:	Various sections throughout proposed Grid Code Version 9 – see table below.		

Modification Proposal Justification:

We are proposing a number of various house-keeping modifications to the proposed Grid Code version 9. Further details are provided in the table below and justifications are provided for each modified clause.

It is worth noting that proposed Grid Code Version 9 also includes the following proposed modifications:

- MPID 276 (a) Incorporation of DCC Non-Exhaustive Parameters
- MPID 276 (b) Incorporation RfG Operations Notification process
- MPID 276 (c) Incorporation RfG Derogation Process

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1.	PC.A5	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.	Controllable WFPS-PPM Data Requirements All information for Controllable WFPS-PPM connection applications shall include details of the Transmission System Connection Point . This shall include details listed in PC.A2.1, PC.A2.2 for the Connection Point . The minimum technical, design and operational criteria to be met by Controllable WFPS-PPM are specified in the Connection Conditions .	Controllable PPM Data Requirements All information for Controllable PPM connection applications shall include details of the Transmission System Connection Point . This shall include details listed in PC.A2.1, PC.A2.2 for the Connection Point . The minimum technical, design and operational criteria to be met by Controllable PPM are specified in the Connection Conditions .
2.	PC.A5.5	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.5.	Wind Turbine Generator transformer Provide details of the transformer that connects the WTG with the internal Controllable WFPS-PPM network. This may include but is not limited to the rating of WTG transformer (MVA or kVA), the WTG transformer voltage ratio (kV) or the WTG transformer impedance (%).	Wind Turbine Generator transformer Provide details of the transformer that connects the WTG with the internal Controllable PPM network. This may include but is not limited to the rating of WTG transformer (MVA or kVA), the WTG transformer voltage ratio (kV) or the WTG transformer impedance (%).
3.	PC.A5.7	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.7.	Controllable WFPS-PPM control and protection systems Provide details of any control or protection systems that affect the performance of the Controllable WFPS-PPM at the Connection Point . This shall include any systems or modes of operation that activate during system Voltage or Frequency excursions including Low Voltage Ride Through (FRT), High Voltage Ride Through, Low	Controllable PPM control and protection systems Provide details of any control or protection systems that affect the performance of the Controllable PPM at the Connection Point . This shall include any systems or modes of operation that activate during system Voltage or Frequency excursions including Low Voltage Ride Through (FRT), High Voltage Ride Through, Low Frequency Response and High Frequency Response. The

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			<p>Frequency Response and High Frequency Response. The transition between Controllable WFPS-PPM control modes shall also be specified. Laplace diagrams and associated parameters shall be provided to the TSO where appropriate.</p>	<p>transition between Controllable PPM control modes shall also be specified. Laplace diagrams and associated parameters shall be provided to the TSO where appropriate.</p>
4.	PC.A5.8	<p>Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.8.</p>	<p>Grid connection transformer of Controllable WFPSPPM</p> <p>Provide details of the transformer that connects the Controllable WFPS-PPM site with the Distribution/Transmission System (equivalent to the Generator Transformer of a conventional power station). This shall include but is not limited to rating of grid transformer (MVA or kVA), transformer Voltage ratio (kV), transformer impedance (%), transformer tap changing control and no-load losses.</p>	<p>Grid connection transformer of Controllable PPM</p> <p>Provide details of the transformer that connects the Controllable PPM site with the Distribution/Transmission System (equivalent to the Generator Transformer of a conventional power station). This shall include but is not limited to rating of grid transformer (MVA or kVA), transformer Voltage ratio (kV), transformer impedance (%), transformer tap changing control and no-load losses.</p>
5.	PC.A5.9	<p>Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.9.</p>	<p>Internal network of Controllable WFPSPPM</p> <p>Provide details of the Controllable WFPS's-PPM's internal network structure (Collector Network) and lay out (by means of a single-line diagram or other description of connections). This shall include but is not limited to a breakdown of how the individual WTGs are connected together as well as how they are connected back to the</p>	<p>Internal network of Controllable PPM</p> <p>Provide details of the Controllable PPM's internal network structure (Collector Network) and lay out (by means of a single-line diagram or other description of connections). This shall include but is not limited to a breakdown of how the individual WTGs are connected together as well as how they are connected back to the Controllable PPM</p>

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			Controllable WFPS-PPM substation. Please specify different cable or overhead line types and the individual length of each section of circuit.	substation. Please specify different cable or overhead line types and the individual length of each section of circuit.
6.	PC.A5.10	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.10.	Flicker and harmonics Provide details of harmonic or flicker contribution from the Controllable WFPS-PPM that may affect the performance of the Controllable WFPS-PPM at the Connection Point . This may include harmonic current injections and phase angles associated with the Controllable WFPSPPM . Details of any additional AC filter devices shall also be provided by the Controllable WFPS-PPM to the TSO.	Flicker and harmonics Provide details of harmonic or flicker contribution from the Controllable PPM that may affect the performance of the Controllable PPM at the Connection Point . This may include harmonic current injections and phase angles associated with the Controllable PPM . Details of any additional AC filter devices shall also be provided by the Controllable PPM to the TSO.
7.	PC.A5.11	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PC.A5.11.	Short Circuit Contribution Provide details of the single-phase to ground, phase-phase and three-phase to ground short circuit contribution from the Controllable WFPS PPM at the Connection Point . The Controllable WFPS-PPM shall provide the TSO with the single-phase and three-phase short circuit contribution for rated conditions, i.e. maximum output from the Controllable WFPS-PPM with all WTGs and any additional devices in the Controllable WFPS-PPM contributing to the short circuit current. The Controllable WFPS-PPM shall also provide the	Short Circuit Contribution Provide details of the single-phase to ground, phase-phase and three-phase to ground short circuit contribution from the Controllable PPM at the Connection Point . The Controllable PPM shall provide the TSO with the single-phase and three-phase short circuit contribution for rated conditions, i.e. maximum output from the Controllable PPM with all WTGs and any additional devices in the Controllable PPM contributing to the short circuit current. The Controllable PPM shall also provide the single-phase to ground,

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			single-phase to ground, phase-phase and three-phase to ground short circuit contribution from an individual WTG . Signature plots of the short circuit contribution from an individual WTG shall also be supplied by the Controllable WFPSPPM .	phase-phase and three-phase to ground short circuit contribution from an individual WTG . Signature plots of the short circuit contribution from an individual WTG shall also be supplied by the Controllable PPM .
8.	PPM1.7.1.2.1	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PM1.7.1.2.1.	Controllable WFPSs 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 WFPSPPM :	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 :
9.	PPM1.7.1.2.2	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PM1.7.1.2.2.	The meteorological data signals shall be provided by a dedicated Meteorological Mast located at the Controllable WFPSs PPMs site or, where possible and preferable to do so, data from a means of the same or better accuracy. For Controllable WFPSs PPMs where the WTG are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable WFPSPPM , the meteorological data shall be provided from a number of individual Meteorological Masts , or where possible and preferable to do so, data from	The meteorological data signals shall be provided by a dedicated Meteorological Mast located at the Controllable PPMs site or, where possible and preferable to do so, data from a means of the same or better accuracy. For Controllable PPMs where the WTG are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable PPM , the meteorological data shall be provided from a number of individual Meteorological Masts , or where possible and preferable to do so, data from a source of the

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			a source of the same or better reliability for groups of WTG (e.g. 1 set of meteorological data for each group of XX WTG within the Controllable WFPSPPM). It is expected that WTG within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable WFPS's PPM's scheduled Operational Date .	same or better reliability for groups of WTG (e.g. 1 set of meteorological data for each group of XX WTG within the Controllable PPM). It is expected that WTG within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .
10.	PPM1.7.1.2.3	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in clause PM1.7.1.2.3.	Controllable PPMs , in excess of 5 MW, with the exception of Controllable WFPSsPPMs , 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 . The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .	Controllable PPMs , in excess of 5 MW, with the exception of 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 . The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .
11.	PPM1.7.1.2.4	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for	The meteorological data signals shall be provided by a measurement device located at the Controllable PPM site, the exception of Controllable WFPS PPM sites, as defined by the	The meteorological data signals shall be provided by a measurement device located at the Controllable PPM site, the exception of Controllable PPM sites, as defined by the TSO . All

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		energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in clause PM1.7.1.2.4.	TSO. All meteorological data signals shall at a minimum meet accuracy levels defined by the TSO . For Controllable PPMs , with the exception of Controllable WFPSs PPMs , where the Generation Units are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable PPM , the meteorological data shall be provided from a number of individual sources. It is expected that Generation Units within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .	meteorological data signals shall at a minimum meet accuracy levels defined by the TSO . For Controllable PPMs , with the exception of Controllable PPMs , where the Generation Units are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable PPM , the meteorological data shall be provided from a number of individual sources. It is expected that Generation Units within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .
12.	PPM1.7.1.3.1	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PM1.7.1.3.1.	Controllable WFPSs-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 WFPSPPM : a) Controllable WFPS-PPM Availability (0-100 % signal); b) Percentage of WTG shutdown due to high wind-speed conditions (0-100 %); c) Percentage of WTG not generating due low wind-speed shutdown (0-100 %).	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 : a) Controllable PPM Availability (0-100 % signal); b) Percentage of WTG shutdown due to high wind-speed conditions (0-100 %); c) Percentage of WTG not generating due low wind-speed shutdown (0-100 %).

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13.	PPM1.7.1.3.2	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the change from WFPS to PPM was unintentionally missed in Grid Code clause PM1.7.1.3.2.	For Controllable WFPSs–PPMs with a MEC in excess of 10 MW, where the WTG are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable WFSPPM , the above data set (ref. PPM1.7.1.3.1) shall be provided for a number of groups of WTG (e.g. 1 signal for each group of XX WTG within the Controllable WFSPPM). It is expected that WTG within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable WFPS's–PPM's scheduled Operational Date .	For Controllable PPMs with a MEC in excess of 10 MW, where the WTG are widely dispersed over a large geographical area and rather different weather patterns are expected for different sections of the Controllable PPM , the above data set (ref. PPM1.7.1.3.1) shall be provided for a number of groups of WTG (e.g. 1 signal for each group of XX WTG within the Controllable PPM). It is expected that WTG within an individual group shall demonstrate a high degree of correlation in Active Power output at any given time. The actual signals required shall be specified by the TSO at least 120 Business Days prior to the Controllable PPM's scheduled Operational Date .
14.	SDC1.4.7.2	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time	Merit Order Subject as provided below, a Merit Order will be compiled by the TSO (in conjunction with the Other TSO) for each Imbalance Settlement Period from the Price Quantity Pairs, Start-Up Cost,	Merit Order Subject as provided below, a Merit Order will be compiled by the TSO (in conjunction with the Other TSO) for each Imbalance Settlement Period from the Price Quantity Pairs, Start-Up Cost,

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		of the proposal the inclusion of Energy Storage Power Station Demand was unintentionally missed in Grid Code clause SDC1.4.7.2.	<p>Shutdown Cost and No-Load Cost (which together shall be known as the “Price Set”) and, subject as provided in this SDC1, used to determine which of the CDGUs, Controllable PPMs, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Units, Aggregated Generating Units or Interconnector power transfer to Schedule and Dispatch in relation to their Price Sets at values that differ from those indicated by Physical Notifications, as required to deliver the objectives set out in SDC1.2(a), SDC1.2(b) and SDC1.2(c). The Merit Order for increasing MW Output above the level indicated in Physical Notifications and Interconnector Schedule Quantities will be on the basis of ascending prices so that the CDGU, Controllable PPM, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Unit, or Aggregated Generating Unit Price Set or bid-offer data from an External System Operator at the head of a Merit Order will be that which has the lowest price per MWh, and that at the foot of a Merit Order shall be the one with the highest price per MWh. Each CDGU, Controllable PPM, Pumped Storage Plant Demand, <u>Energy Storage Power Station Demand</u>, Demand Side Unit, Aggregated Generating Units and/or bid-offer data from an External System Operator shall appear in the</p>	<p>Shutdown Cost and No-Load Cost (which together shall be known as the “Price Set”) and, subject as provided in this SDC1, used to determine which of the CDGUs, Controllable PPMs, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Units, Aggregated Generating Units or Interconnector power transfer to Schedule and Dispatch in relation to their Price Sets at values that differ from those indicated by Physical Notifications, as required to deliver the objectives set out in SDC1.2(a), SDC1.2(b) and SDC1.2(c). The Merit Order for increasing MW Output above the level indicated in Physical Notifications and Interconnector Schedule Quantities will be on the basis of ascending prices so that the CDGU, Controllable PPM, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Unit, or Aggregated Generating Unit Price Set or bid-offer data from an External System Operator at the head of a Merit Order will be that which has the lowest price per MWh, and that at the foot of a Merit Order shall be the one with the highest price per MWh. Each CDGU, Controllable PPM, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Unit, Aggregated Generating Units and/or bid-offer data from an External System Operator shall appear in the</p>

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			<p>Merit Order for each Price Set submitted.</p> <p>The Merit Order for dispatching MW Output to a level below that indicated in Physical Notifications and Interconnector Schedule Quantities will be on the basis of descending prices so that the CDGU, Controllable PPM, Pumped Storage Plant Demand, <u>Energy Storage Power Station Demand</u>, Demand Side Unit, Aggregated Generating Unit Price Set or bid-offer data from an External System Operator at the head of a Merit Order will be that which has the highest price per MWh, and that at the foot of a Merit Order shall be the one with the lowest price per MWh. Each CDGU, Controllable PPM, Pumped Storage Plant Demand, <u>Energy Storage Power Station Demand</u>, Demand Side Unit, Aggregated Generating Units or bid-offer data from an External System Operator shall appear in the Merit Order for each Price Set submitted</p>	<p>Merit Order for each Price Set submitted.</p> <p>The Merit Order for dispatching MW Output to a level below that indicated in Physical Notifications and Interconnector Schedule Quantities will be on the basis of descending prices so that the CDGU, Controllable PPM, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Unit, Aggregated Generating Unit Price Set or bid-offer data from an External System Operator at the head of a Merit Order will be that which has the highest price per MWh, and that at the foot of a Merit Order shall be the one with the lowest price per MWh. Each CDGU, Controllable PPM, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Unit, Aggregated Generating Units or bid-offer data from an External System Operator shall appear in the Merit Order for each Price Set submitted</p>
15.	SDC1.4.7.4(ii)	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the inclusion of Energy Storage Power Station	as will in aggregate (after taking into account electricity delivered other than from CDGUs, Controllable PPMs, Aggregated Generating Units , and/or Interconnector power transfers and variation in Demand from Pumped Storage Plant Demand, Energy Storage Power Station Demand and Demand Side Units) be sufficient to match at	as will in aggregate (after taking into account electricity delivered other than from CDGUs, Controllable PPMs, Aggregated Generating Units , and/or Interconnector power transfers and variation in Demand from Pumped Storage Plant Demand, Energy Storage Power Station Demand and Demand Side Units) be sufficient to match at

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		Demand was unintentionally missed in clause SDC1.4.7.4(ii).	all times (to the extent possible having regard to the Availability or Demand Side Unit MW Availability of CDGUs, Controllable PPMs, Pumped Storage Plant Demand, Energy Storage Power Station Demand , Demand Side Units, Aggregated Generating Units and Interconnector power transfers) the forecast aggregated Demand (derived under OC1 of the Grid Code and the Other Grid Code) together with such margin of reserve as the TSO working in conjunction with the Other TSO shall consider to be appropriate; and	all times (to the extent possible having regard to the Availability or Demand Side Unit MW Availability of CDGUs, Controllable PPMs, Pumped Storage Plant Demand, Energy Storage Power Station Demand, Demand Side Units, Aggregated Generating Units and Interconnector power transfers) the forecast aggregated Demand (derived under OC1 of the Grid Code and the Other Grid Code) together with such margin of reserve as the TSO working in conjunction with the Other TSO shall consider to be appropriate; and
16.	SDC1.4.7.11	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the inclusion of Energy Storage Power Station Demand was unintentionally missed in Grid Code clause SDC1.4.7.11.	<p><u>Data Requirements</u></p> <p>SDC1 Appendix A Part 1 sets out the Technical Parameters for which values are to be supplied by a User in respect of each of its CDGUs and/or Controllable PPMs and/or Pumped Storage Plant Demand and/or Demand Side Units and/or Energy Storage Power Station Demand and/or Aggregated Generating Units by not later than Gate Closure 1 for the relevant Trading Day.</p> <p>SDC1 Appendix A Part 2 sets out the additional data items required in respect of an Additional Grid Code Characteristics Notice.</p>	<p><u>Data Requirements</u></p> <p>SDC1 Appendix A Part 1 sets out the Technical Parameters for which values are to be supplied by a User in respect of each of its CDGUs and/or Controllable PPMs and/or Pumped Storage Plant Demand and/or Demand Side Units and/or Energy Storage Power Station Demand and/or Aggregated Generating Units by not later than Gate Closure 1 for the relevant Trading Day.</p> <p>SDC1 Appendix A Part 2 sets out the additional data items required in respect of an Additional Grid Code Characteristics Notice.</p>

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17.	SDC2.4.1.3	Grid Code Modification MPID 269 introduced the PPM definition and updated existing terminology, as well as creating new definitions for energy storage devices. At the time of the proposal the inclusion of Energy Storage Power Station Demand was unintentionally missed in Grid Code clause SDC2.4.1.3.	In the event of two or more CDGUs, Demand Side Units, Pumped Storage Plant Demand, <u>Energy Storage Power Station Demand</u> and/or Aggregated Generating Units having the same Price Set and the TSO not being able to differentiate on the basis of the factors identified in SDC1.4.7.2, SDC1.4.7.3 and SDC1.4.7.4, then the TSO will select first for Dispatch the one which in the TSO's reasonable judgement is most appropriate in all the circumstances.	In the event of two or more CDGUs, Demand Side Units, Pumped Storage Plant Demand, Energy Storage Power Station Demand and/or Aggregated Generating Units having the same Price Set and the TSO not being able to differentiate on the basis of the factors identified in SDC1.4.7.2, SDC1.4.7.3 and SDC1.4.7.4, then the TSO will select first for Dispatch the one which in the TSO's reasonable judgement is most appropriate in all the circumstances.
18.	PC.A	<p>Grid Code Modification MPID 240, approved by the CRU on 23.09.2013, changed the term Dispatchable Demand Customers to Demand Side Unit Operator. This approved change was missed at the time of updating the Grid Code. We are capturing this change now in this proposed housekeeping modification.</p> <p>We also proposed fixing a 'typo' in the he final paragraph of the clause. The clause refers to PC.A77 and this reference does not exist in the Grid Code.</p>	<p>PLANNING CODE APPENDIX INTRODUCTION</p> <p>This appendix specifies data to be submitted to the TSO by Users or prospective Users of the Transmission System. The requirement to provide data is governed by the Planning Code (PC.4.2, PC.4.3, PC.4.4, PC.5 and PC.6).</p> <p>The specific data requirements depend on whether the User is a Customer or a Generator or Interconnector or a Demand Side Unit Operator or more than one combined. PC.A1 and PC.A2 apply to all Users. PC.A3 applies to demand Users. PC.A4 applies to Generators. PC.A5 applies to Controllable PPM. PC.A6 applies to Interconnectors. PC.A7 applies to <u>Demand Side Unit Operator</u>Dispatchable Demand Customers.</p>	<p>PLANNING CODE APPENDIX INTRODUCTION</p> <p>This appendix specifies data to be submitted to the TSO by Users or prospective Users of the Transmission System. The requirement to provide data is governed by the Planning Code (PC.4.2, PC.4.3, PC.4.4, PC.5 and PC.6).</p> <p>The specific data requirements depend on whether the User is a Customer or a Generator or Interconnector or a Demand Side Unit Operator or more than one combined. PC.A1 and PC.A2 apply to all Users. PC.A3 applies to demand Users. PC.A4 applies to Generators. PC.A5 applies to Controllable PPM. PC.A6 applies to Interconnectors. PC.A7 applies to Demand Side Unit Operator. PC.A8 refers to the dynamic Model</p>

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			<p>PC.A8 refers to the dynamic Model requirements for Users. For the avoidance of doubt, this clause may apply to the DSO, where the need for such models is identified.</p> <p>Any material changes to the data specified in PC.A3, PC.A4, PC.A5, PC.A6 or PC.A7 must be notified to the TSO as soon as practicable.</p>	<p>requirements for Users. For the avoidance of doubt, this clause may apply to the DSO, where the need for such models is identified.</p> <p>Any material changes to the data specified in PC.A3, PC.A4, PC.A5, PC.A6 or PC.A7 must be notified to the TSO as soon as practicable.</p>
19.	OC.2.6.3.3	Grid Code clause OC.2.5 does not exist. We recommend removing all references to it.	<p>Where, in accordance with OC2.5, the request is not likely to have a detrimental effect on Capacity Adequacy or the secure operation of the Transmission System then the TSO shall amend the COP accordingly. The Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator shall be advised by the TSO that the change has been accepted.</p>	<p>Where the request is not likely to have a detrimental effect on Capacity Adequacy or the secure operation of the Transmission System then the TSO shall amend the COP accordingly. The Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator shall be advised by the TSO that the change has been accepted.</p>
20.	OC.2.6.3.4	Grid Code clause OC.2.5 does not exist. We recommend removing all references to it.	<p>Where, in accordance with OC2.5, the Outage change is likely to have a detrimental effect on Capacity Adequacy or requirements for the secure operation of the Transmission System then the TSO shall not amend the COP. The TSO shall contact the Generator, Generator Aggregator or Demand Side Unit Operator and inform the Generator, Interconnector Operator's, Generator Aggregator or Demand Side Unit Operator that the change to the COP has not been accepted, the TSO shall at the Generator's, Interconnector</p>	<p>Where the Outage change is likely to have a detrimental effect on Capacity Adequacy or requirements for the secure operation of the Transmission System then the TSO shall not amend the COP. The TSO shall contact the Generator, Generator Aggregator or Demand Side Unit Operator and inform the Generator, Interconnector Operator's, Generator Aggregator or Demand Side Unit Operator that the change to the COP has not been accepted, the TSO shall at the Generator's, Interconnector Operator,</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			<p>Operator, Generator Aggregator's or Demand Side Unit Operator's request enter into discussions with the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator to facilitate an alternative modification which may meet the requirements of the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator while not having an unacceptable effect on Capacity Adequacy or requirements for secure operation of the Transmission System. In the event that the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator wishes to avail of an alternative modification, it shall submit a change request in accordance with OC.2.6.3.1.</p>	<p>Generator Aggregator's or Demand Side Unit Operator's request enter into discussions with the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator to facilitate an alternative modification which may meet the requirements of the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator while not having an unacceptable effect on Capacity Adequacy or requirements for secure operation of the Transmission System. In the event that the Generator, Interconnector Operator, Generator Aggregator or Demand Side Unit Operator wishes to avail of an alternative modification, it shall submit a change request in accordance with OC.2.6.3.1.</p>
21. 	OC.4.3.4.1.2	OC.4.3.4.3 no longer exists; this clause was re-numbered to OC.4.3.4.1.3.	<p>Other than as permitted in accordance with OC.4.3.4.3<u>OC.4.3.4.1.3</u>:</p> <p>(a) Generation Units when Synchronised to the Transmission System shall operate at all times under the control of a Governor Control System, unless otherwise specified by the TSO, with characteristics within the appropriate ranges as specified in Connection Conditions;</p>	<p>Other than as permitted in accordance with OC.4.3.4.1.3:</p> <p>(a) Generation Units when Synchronised to the Transmission System shall operate at all times under the control of a Governor Control System, unless otherwise specified by the TSO, with characteristics within the appropriate ranges as specified in Connection Conditions;</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			(b) no time delays other than those necessarily inherent in the design of the Governor Control System shall be introduced;	(b) no time delays other than those necessarily inherent in the design of the Governor Control System shall be introduced;
22.	OC.7.2.4.7.3	Grid Code Modification MPID 240 , approved by the CRU on 23.09.2013, removed clauses OC.7.2.4.3.6 and OC.7.2.4.3.7. However the references to these clauses were not removed from clause OC.7.2.4.7.3. We are capturing the removal of these clauses in this proposed housekeeping modification.	At any point in time, a single person shall be designated by the Demand Side Unit Operator and notified to the TSO as the Responsible Manager . The Responsible Manager shall be responsible for dealing with the TSO on matters relating to the Grid Code other than as provided for in OC7.2.4.3.6 and OC7.2.4.3.7. In the event that the Responsible Manager is not a person on duty at the Control Facility of the Demand Side Unit Operator , then the Responsible Manager must be capable of being contacted from the Control Facility of the Demand Side Unit Operator at all times, and in the event that the TSO issues a request to the Control Facility of the Demand Side Unit Operator requiring the Responsible Manager to contact the NCC , the Responsible Manager shall comply with the request without unreasonable delay and in any case within 15 minutes of the request.	At any point in time, a single person shall be designated by the Demand Side Unit Operator and notified to the TSO as the Responsible Manager . The Responsible Manager shall be responsible for dealing with the TSO on matters relating to the Grid Code . In the event that the Responsible Manager is not a person on duty at the Control Facility of the Demand Side Unit Operator , then the Responsible Manager must be capable of being contacted from the Control Facility of the Demand Side Unit Operator at all times, and in the event that the TSO issues a request to the Control Facility of the Demand Side Unit Operator requiring the Responsible Manager to contact the NCC , the Responsible Manager shall comply with the request without unreasonable delay and in any case within 15 minutes of the request.
23.	OC.7.2.6.1.3	The reference to clause OC.7.2.5 is unintentionally omitted from Grid	Unless otherwise specified in the Grid Code , all instructions given by NCC and communications	Unless otherwise specified in the Grid Code , all instructions given by NCC and communications

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
		Code version 8.	between NCC and the User's Control Facility shall be given by means of the facilities described in OC.7.2.5 .	between NCC and the User's Control Facility shall be given by means of the facilities described in OC.7.2.5.
24.	Various clauses throughout the code including the Glossary (Acronyms and Definitions).	The CER changed its name to the CRU in 2017 to better reflect the expanded powers and functions of the organisation. We propose reflecting the name change throughout the latest version of the Grid Code.	<p>1. Change all references to the term CER to CRU.</p> <p>2. Acronyms: CER — CRU Commission for Regulation of Utilities Commission for Energy Regulation</p> <p>3. Definitions: Regulatory Authority: The authority appointed under legislation to regulate the electricity industry in the respective jurisdiction. In the Republic of Ireland it is the CER CRU and in Northern Ireland it is NIAUR (Northern Ireland Authority for Utility Regulation).</p>	<p>1. Change all references to the term CER to CRU.</p> <p>2. Acronyms: CRU Commission for Regulation of Utilities</p> <p>3. Definitions: Regulatory Authority: The authority appointed under legislation to regulate the electricity industry in the respective jurisdiction. In the Republic of Ireland it is the CRU and in Northern Ireland it is NIAUR (Northern Ireland Authority for Utility Regulation).</p>
25.	SDC1.4.3.2 SDC1.4.3.3A SDC1.4.3.4 SDC1.4.3.5A SDC1.4.3.8 SDC1.4.3.9 Glossary	The modification MPID 268 , titled Outturn Availability, was recommended by the Ireland GCRP on 26 May 2016. The CRU approved the recommendation on 10 October 2016; please see here for the approval paper. The modification to the Grid Code was inadvertently missed in Grid Code version 8.	SDC1.4.3.2 Each Generator , and where relevant each Generator Aggregator , shall, subject to the exceptions in SDC1.4.3.3 and SDC1.4.3.3A , use reasonable endeavours to ensure that it does not at any time declare in the case of its CDGU, Controllable WFPS, or Aggregated Generating Unit , the Availability, or Technical Parameters at levels or values different from those that the CDGU, Controllable WFPS, and/or an Aggregated	SDC1.4.3.2 Each Generator , and where relevant each Generator Aggregator , shall, subject to the exceptions in SDC1.4.3.3 and SDC1.4.3.3A, use reasonable endeavours to ensure that it does not at any time declare in the case of its CDGU, Controllable WFPS, or Aggregated Generating Unit , the Availability, or Technical Parameters at levels or values different from those that the CDGU, Controllable WFPS, and/or an

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			<p>Generating Unit could achieve at the relevant time. The TSO can reject declarations to the extent that they do not meet these requirements.</p> <p>SDC1.4.3.3A SDC1.4.3.2 shall not apply for a CDGU, a Controllable WFPS, an Aggregated Generating Unit or Pumped Storage Plant Demand that is disconnected during any one or more of the following:</p> <p>(a) any TSO scheduled Annual Maintenance Outage or portion thereof on the Outturn Availability Connection Asset lasting up to and including a maximum of five days in total in a calendar year; or</p> <p>(b) where work to the Transmission System is being carried out that is driven by the relevant CDGU, Controllable WFPS, Aggregated Generating Unit or Pumped Storage Plant Demand or driven by works related to the Connection Agreement of the relevant CDGU, Controllable WFPS, Aggregated Generating Unit or Pumped Storage Plant Demand. This</p>	<p>Aggregated Generating Unit could achieve at the relevant time. The TSO can reject declarations to the extent that they do not meet these requirements.</p> <p>SDC1.4.3.3A SDC1.4.3.2 shall not apply for a CDGU, a Controllable WFPS, an Aggregated Generating Unit or Pumped Storage Plant Demand that is disconnected during any one or more of the following:</p> <p>(a) any TSO scheduled Annual Maintenance Outage or portion thereof on the Outturn Availability Connection Asset lasting up to and including a maximum of five days in total in a calendar year; or</p> <p>(b) where work to the Transmission System is being carried out that is driven by the relevant CDGU, Controllable WFPS, Aggregated Generating Unit or Pumped Storage Plant Demand or driven by works related to the Connection Agreement of the relevant CDGU, Controllable WFPS, Aggregated Generating Unit or</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			<p>does not include work carried out related to another Generating Unit with a different Connection Point but a shared asset.</p> <p>The relevant CDGU, Controllable WFPS, Aggregated Generating Unit or Pumped Storage Plant Demand shall declare Availability at a value of zero during any one or more of (a) or (b) above, as advised by the TSO.</p> <p>SDC1.4.3.4 Availability of Demand Side Units</p> <p>Each Demand Side Unit Operator shall, subject to the exceptions in SDC1.4.3.5 and SDC1.4.3.5A, use reasonable endeavours to ensure that it does not at any time declare the Demand Side Unit MW Availability and the Demand Side Unit characteristics of its Demand Side Unit at levels or values different from those that the Demand Side Unit could achieve at the relevant time. The TSO can reject declarations to the extent that they do not meet these requirements.</p>	<p>Pumped Storage Plant Demand. This does not include work carried out related to another Generating Unit with a different Connection Point but a shared asset.</p> <p>The relevant CDGU, Controllable WFPS, Aggregated Generating Unit or Pumped Storage Plant Demand shall declare Availability at a value of zero during any one or more of (a) or (b) above, as advised by the TSO.</p> <p>SDC1.4.3.4 Availability of Demand Side Units</p> <p>Each Demand Side Unit Operator shall, subject to the exceptions in SDC1.4.3.5 and SDC1.4.3.5A, use reasonable endeavours to ensure that it does not at any time declare the Demand Side Unit MW Availability and the Demand Side Unit characteristics of its Demand Side Unit at levels or values different from those that the Demand Side Unit could achieve at the relevant time. The TSO can reject declarations to the extent that they do not meet these requirements.</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			<p>SDC1.4.3.5A SDC1.4.3.4 shall not apply for a Demand Side Unit that is disconnected during any one or more of the following:</p> <p>(a) any TSO scheduled Annual Maintenance Outage or portion thereof on the Outturn Availability Connection Asset lasting up to and including a maximum of five days in total in a calendar year; or</p> <p>(b) where work to the Transmission System is being carried out that is driven by the relevant Demand Side Unit or driven by works related to Connection Agreement of the relevant Demand Side Unit. This does not include work carried out related to another Generating Unit with a different Connection Point but a shared asset.</p> <p>The relevant Demand Side Unit shall declare Availability at a value of zero during any one or more of (a) or (b) above, as advised by the TSO.</p> <p>SDC1.4.3.8 Outturn Availability Outturn Availability shall be set equal</p>	<p>SDC1.4.3.5A SDC1.4.3.4 shall not apply for a Demand Side Unit that is disconnected during any one or more of the following:</p> <p>(a) any TSO scheduled Annual Maintenance Outage or portion thereof on the Outturn Availability Connection Asset lasting up to and including a maximum of five days in total in a calendar year; or</p> <p>(b) where work to the Transmission System is being carried out that is driven by the relevant Demand Side Unit or driven by works related to Connection Agreement of the relevant Demand Side Unit. This does not include work carried out related to another Generating Unit with a different Connection Point but a shared asset.</p> <p>The relevant Demand Side Unit shall declare Availability at a value of zero during any one or more of (a) or (b) above, as advised by the TSO.</p> <p>SDC1.4.3.8 Outturn Availability</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
			<p>to the declared value of Availability.</p> <p>Definitions:</p> <p>Annual Maintenance Outage A transmission outage that is scheduled with reasonable notice to the relevant Generator(s) in advance of the start of the outage for planned maintenance of equipment that is part of an Outturn Availability Connection Asset.</p> <p>Meshed Transmission Station A Transmission Station which is looped into the Transmission System.</p> <p>Outturn Availability The set of Availability data for the relevant CDGU, Controllable WFPS, Aggregated Generating Unit, Pumped Storage Plant Demand or Demand Side Unit as declared pursuant to SDC1.4 and submitted by the TSO to SEM after the end of the Trading Day.</p> <p>Outturn Availability Connection Asset Any equipment that is part of the Transmission System between and including the Connection Point and the busbar clamps at the Meshed Transmission Station for which the TSO schedules outages.</p>	<p>Outturn Availability shall be set equal to the declared value of Availability.</p> <p>Definitions:</p> <p>Annual Maintenance Outage A transmission outage that is scheduled with reasonable notice to the relevant Generator(s) in advance of the start of the outage for planned maintenance of equipment that is part of an Outturn Availability Connection Asset.</p> <p>Meshed Transmission Station A Transmission Station which is looped into the Transmission System.</p> <p>Outturn Availability The set of Availability data for the relevant CDGU, Controllable WFPS, Aggregated Generating Unit, Pumped Storage Plant Demand or Demand Side Unit as declared pursuant to SDC1.4 and submitted by the TSO to SEM after the end of the Trading Day.</p> <p>Outturn Availability Connection Asset Any equipment that is part of the Transmission System between and including the Connection Point and the busbar clamps at the Meshed Transmission Station for which the TSO schedules</p>

NO.	CLAUSE	MODIFICATION PROPOSAL	RED-LINE	GREEN-LINE
				outages.
26.	SDC2.4.10(c)	The modification MPID 271(a) , titled Scheduling and Dispatch for I-SEM – revised version of new clause SDC2.4.10(c), was recommended by the GCRP on 31 January 2018. The CRU approved the recommendation on 30 April 2018; please see here for the approval paper. The modification to the Grid Code was inadvertently missed in Grid Code version 8.	<p>SDC2.4.2.10(c)</p> <p>The applicable synchronous start up time shall be based on the prevailing heat state at the time when the TSO issues a Notice to Synchronise in respect of their relevant Generating Unit. When issuing Notice to Synchronise to Generators in respect of their Generating Units, the TSO shall recognise the applicable heat state of each relevant Generating Unit at the proposed Synchronisation effective time and facilitate the synchronous start up time applicable to that heat state as indicated by the Generator in the Technical Parameters supplied for the Generating Unit.</p>	<p>SDC2.4.2.10(c)</p> <p>When issuing Notice to Synchronise to Generators in respect of their Generating Units, the TSO shall recognise the applicable heat state of each relevant Generating Unit at the proposed Synchronisation effective time and facilitate the synchronous start up time applicable to that heat state as indicated by the Generator in the Technical Parameters supplied for the Generating Unit.</p>

