CONFIDENTIAL FORM GC1

MODIFICATION PROPOSAL FORM

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FORM GC1, PROPOSAL OF MODIFICATION TO GRID CODE.

MODIFICATION PROPOSAL ORGINATOR:	EirGrid		
MODIFICATION PROPOSAL ORIGINATOR (CONTACT NAME)	Séamus Power	**MODIFICATION PROPOSAL ORIGINATOR FAX NUMBER:**	
MODIFICATION PROPOSAL ORIGINATOR TELEPHONE NUMBER:	01 2370522	**DATE:**	12TH NOVEMBER 2014
MODIFICATION PROPOSAL ORIGINATOR E-MAIL ADDRESS:	seamus.power@eirgrid.com	**MODIFICATION PROPOSAL NUMBER (EIRGRID USE ONLY)**	

GRID CODE SECTION(S) AFFECTED BY PROPOSAL:	OC10.4.5.2, OC10.7.5.3, SDC1.4.4.2, SDC1 - Appendix A, Definitions
GRID CODE VERSION :	Version 5
MODIFICATION PROPOSAL DESCRIPTION **(MUST CLEARLY STATE THE DESIRED AMENDMENT, ALL TEXT/FORMULA CHANGES TO THE GRID CODE. THE REQUIRED REASON FOR THE MODIFICATION MUST STATED. ATTACH ANY FURTHER INFORMATION IF NECESSARY.)**	There is general consensus among Demand Side Unit Operators and prospective Demand Side Unit Operators that the current method of performance monitoring of DSU Dispatch Instructions in which Demand Side Units must predict within an accuracy of 5% the aggregate demand of all sites comprising a Demand Side Unit for each half-hour trading period for the following trading day is unworkable and not fit for purpose. The method proposed below generates a baseline profile to which a DSU is monitored against. The baseline is based on the best correlated profiles in the previous twelve weeks. A vote among Demand Side Unit Joint Grid Code Working Group members at the 5th meeting which took place via teleconference on 09/05/2014 resulted in seven members abstaining from the vote and six members voting in favour of the modification.
IMPLICATION OF NOT IMPLEMENTING THE MODIFICATION	Unable to accurately performance monitor Demand Side Unit Dispatch Instructions
Please submit the Modification Proposal by fax, post or electronically, using the information supplied above	
EIRGRID REVIEWER	
EIRGRID ASSESSMENT	

Performance Monitoring of Dispatch Instructions

OC10.4.5.2 Compliance of **Demand Side Units** with **Dispatch Instructions**

~~The following validation will be performed in real time:~~

~~(i) A **Demand Side Unit** shall be deemed compliant if the **SCADA** signal confirms that the **Demand Side Unit MW Response** is within 5% of the **Dispatch Instruction.**~~

~~The following validation will be performed post event:~~

~~(ii) A **Demand Side Unit** shall be deemed to be compliant with the **Dispatch Instruction** if the difference between the **Demand Side Unit Energy Profile** and the metered **Demand** plus the **Demand Side Unit MW Response** is within 5% of the **Demand Side Unit Energy Profile**.~~

~~(iii) For **Demand Side Units** which are not **Dispatched** but have been declared **Available** in an **Availability Notice**, the **Demand Side Unit** shall be deemed to be compliant with its declared **Demand Side Unit Energy Profile** if the difference between the **Demand Side Unit Energy Profile** and the metered **Demand** is within 5% of the **Demand Side Unit Energy Profile**.~~

A **Demand Side Unit** shall be deemed compliant with a **Dispatch Instruction** if:

(i) the **Demand Side Unit MW Response** of the **Dispatch Instruction** is achieved in the **Demand Side Unit MW Response Time** and maintained until the subsequent **Dispatch Instruction** or until the **Maximum Down-Time** of the **Demand Side Unit** has elapsed; and

(ii) the **Demand Side Unit Performance Monitoring Percentage Error** is less than 5% for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response** for 90% of the last ten **Dispatches** or 90% of the **Dispatches** in a three-hundred and sixty-five day period

or

the **Demand Side Unit Performance Monitoring Error** is less than 0.125 **MWh** for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response** in 90% of the last ten **Dispatches** or 90% of the **Dispatches** in a three-hundred and sixty-five day period; and

(iii) the **Demand Side Unit Performance Monitoring Percentage Error** is less than 10% for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response**

or

the **Demand Side Unit Performance Monitoring Error** is less than 0.250 **MWh** for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response**; and

(iv) the **Demand Side Unit Performance Monitoring Percentage Error** is on average less than 5% for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response**

or

the **Demand Side Unit Performance Monitoring Error** is on average less than 0.125 MWh for each full quarter-hour **Meter** period of the **Demand Side Unit MW Response**; and

(v) the **Demand Side Unit SCADA Percentage Error** is less than 5% or the **Demand Side Unit SCADA Error** is less than 0.250 **MWh**.

OC10.7.5.3 In the event that the performance of a **Demand Side Unit** is deemed by the **TSO** in accordance with the provisions of this OC10 to be in non-compliance with its **Operating Characteristics**~~, including **Demand Side Unit Energy Profile,**~~ or with a **Connection Condition**, then the **TSO** shall notify the **Demand Side Unit Operator** of the non-compliance and the **Demand Side Unit Operator** shall take immediate action to remedy such non compliance. The terms of this OC10.7.5 shall be without prejudice to the rights of the **TSO** to **De-energise** the **Demand Site** and **Apparatus** in accordance with the terms of OC9.6.

SDC1.4.4.2 **Additional Grid Code Characteristics Notice**

The following items are required to be submitted by each **User** direct to the **TSO**:

(a) Individual ***CCGT Unit*** data equivalent to the data required for a **CCGT Installation**. It shall also show any revisions to the **Technical Parameters** for each of the ***CCGT Units*** within it.

[Note: The term "CCGT Module" applies to the SONI Grid Code and the term "CCGT Unit" will apply to the EirGrid Grid Code.]

(b) Different Fuels: In the case where a **CDGU** is capable of firing on different fuels, then the **Generator** shall submit an **Additional Grid Code Characteristics Notice** in respect of any additional fuel for the **CDGU**, each containing the information set out in SDC1.4.4.1 above for each fuel and each marked clearly to indicate to which fuel it applies.

(c) *Export adjustment factors applied by the **User** in submitting data and that may be applied by the **TSO** where applicable in issuing **Dispatch Instructions** and otherwise in calculations relating to instructions in relation to the relevant **Plant** and/or **Apparatus**, between the **Generator Terminals** and the **Connection Points**.*

(d) In the case of **Interconnector Owners**, **Interconnector** data, including but not limited to the **Availability** of **Interconnector Filters**.

(e) In relation to each **Demand Side Unit**, the **Demand Side Unit Notice Time**~~**Energy Profile**~~ and the **Demand Side Unit MW Response Time**.

(f) Where there is a ***Ancillary Services Agreement*** in place, the ***Ancillary Services*** which are **Available**.

(g) The parameters listed in Appendix A Part 2 of SDC1.

*(h) A **Generator** shall submit to the **TSO** the **Operating Reserve** capabilities for each category of **Operating Reserve** defined in OC4.6.3 for each of its **CDGUs** for each **Trading Period**.*

[Note: Please note that the above paragraph only applies to the EirGrid Grid Code only.]

A **User** shall notify the **TSO** as soon as it becomes aware, acting in accordance with ***Prudent Utility Practice***, that any of the data submitted under SDC1.4.4.2 changes.

SDC1 - Appendix A

Technical Parameter	CDGU				Control WFPS	DSU		Agg. Gen	CDGU <10MW	Pump Storage Demand
	Thermal	Hydro / En Ltd	Disp. WFPS	Pump S Gen	-	Individual Demand Site	Aggregated Demand Sites		-	-
~~Demand Side Unit Energy Profile~~						✓	✓			

~~**Demand Side Unit Energy Profile**~~	~~The estimated total **Energy** requirement for an **Individual Demand Site** or aggregated consumption for each **Individual Demand Site** which form part of an **Aggregated Demand Site** for each **Trading Period** in the following **Optimisation Time Horizon** period and which must be submitted to the **TSO** in the **Availability Notice** under SDC1.4.4.2.~~
Demand Side Unit MWh Response	The equivalent **Energy** in a quarter-hour **Meter** period of a **Demand Side Unit MW Response** requested in a **Dispatch Instruction**.
Demand Side Unit Performance Monitoring Baseline	An **Energy** value for each quarter-hour **Meter** period while a **Demand Side Unit** is **Dispatched**. It is the **Demand Side Unit Best Correlated Profile** excluding the first forty-eight quarter-hour **Meter** periods.
Demand Side Unit Profile	Consecutive aggregated **Meter** readings of all **Individual Demand Sites** that comprise a **Demand Side Unit** for each of the full quarter-hour **Meter** periods in a twelve-hour period plus the duration of **Dispatch**. If the **Demand Side Unit** was **Dispatched** during the period the **Demand Side Unit Calculated MWh Response** in the same quarter-hour **Meter** periods are added, except in the case of the **Dispatch** being monitored. In this case the accumulated **Energy** calculated from **Demand Side Unit MW Response** from **Generation** operating in **Continuous Parallel Mode** or **Shaving Mode** signal (CC.12.2 (l)) plus the **Demand Side Unit MW Response** from avoided **Demand** consumption and **Generation** operating in **Lopping Mode**, **Standby Mode** or **Automatic Mains Failure Mode** signal (CC.12.2 (m)) are added.

Demand Side Unit Best Correlated Profile	The four **Demand Side Unit Profiles** from one day to eighty-four days prior to the **Dispatch Instruction**, offset to minimise the average absolute error across all the **Meter** periods comprising the **Demand Side Unit Profile** when compared to the **Demand Side Unit Profile** which finishes with the **Dispatch** period, resulting in the four smallest average absolute errors, averaged.
Demand Side Unit Performance Monitoring Error	The absolute value of the **Demand Side Unit Calculated MWh Response** less the **Demand Side Unit MWh Response**.
Demand Side Unit Performance Monitoring Percentage Error	The absolute value of the **Demand Side Unit Calculated MWh Response** less the **Demand Side Unit MWh Response** divided by the **Demand Side Unit MWh Response**.
Demand Side Unit SCADA Error	The **Demand Side Unit Calculated MWh Response** less the accumulated **Energy** calculated from **Demand Side Unit MW Response** from **Generation** operating in **Continuous Parallel Mode** or **Shaving Mode** signal (CC.12.2 (l) plus the **Demand Side Unit MW Response** from avoided **Demand** consumption and **Generation** operating in **Lopping Mode, Standby Mode** or **Automatic Mains Failure Mode** signal (CC.12.2 (m)) in the same quarter-hour **Meter** period.
Demand Side Unit SCADA Percentage Error	The **Demand Side Unit Calculated MWh Response** less the accumulated **Energy** calculated from **Demand Side Unit MW Response** from **Generation** operating in **Continuous Parallel Mode** or **Shaving Mode** signal (CC.12.2 (l) plus the **Demand Side Unit MW Response** from avoided **Demand** consumption and **Generation** operating in **Lopping Mode**, **Standby Mode** or **Automatic Mains Failure Mode** signal (CC.12.2 (m)) divided by **Demand Side Unit Calculated MWh Response** the in the same quarter-hour **Meter** period.
Demand Side Unit Calculated MWh Response	The value of the quarter-hour **Demand Side Unit Performance Monitoring Baseline** less the sum of the quarter-hour **Meter** readings of all the **Individual Demand Sites** that comprise the **Demand Side Unit** aligned to a quarter-hour **Meter** period.