

MODIFICATION PROPOSAL FORM



DSU PERFORMANCE MONITORING – MPID 257

160 SHELBOURNE ROAD
BALLSBRIDGE

DUBLIN 4

PH: +353-1-677 1700

FAX: +353-1-6615375

EMAIL: GRIDCODE@EIRGRID.COM

FORM GC1. PROPOSAL OF MODIFICATION TO GRID CODE.

MODIFICATION PROPOSAL ORIGINATOR:	EirGrid		
MODIFICATION PROPOSAL ORIGINATOR (CONTACT NAME)	Séamus Power	MODIFICATION PROPOSAL ORIGINATOR FAX NUMBER:	
MODIFICATION PROPOSAL ORIGINATOR TELEPHONE NUMBER:	01 2370522	DATE:	12/05/2014
MODIFICATION PROPOSAL ORIGINATOR E-MAIL ADDRESS:	seamus.power@eirgrid.com	MODIFICATION PROPOSAL NUMBER (EIRGRID USE ONLY)	MPID 257
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.)	<p>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.</p>		
IMPLICATION OF NOT IMPLEMENTING THE MODIFICATION	Unable to accurately performance monitor Demand Side Unit Dispatch Instructions		
<i>Please submit the Modification Proposal by fax, post or electronically, using the information supplied above</i>			
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.]

FORM GC1

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.

FORM GC1

<p>Demand Side Unit Best Correlated Profile</p>	<p>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.</p>
<p>Demand Side Unit Performance Monitoring Error</p>	<p>The absolute value of the Demand Side Unit Calculated MWh Response less the Demand Side Unit MWh Response.</p>
<p>Demand Side Unit Performance Monitoring Percentage Error</p>	<p>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.</p>
<p>Demand Side Unit SCADA Error</p>	<p>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.</p>
<p>Demand Side Unit SCADA Percentage Error</p>	<p>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.</p>
<p>Demand Side Unit Calculated MWh Response</p>	<p>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.</p>