FORM GC1

MODIFICATION PROPOSAL FORM

DSU SIGNAL REQUIREMENTS – MPID 258

FORM GC1, PROPOSAL OF MODIFICATION TO GRID CODE.

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MODIFICATION PROPOSAL ORGINATOR:	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 258**
GRID CODE SECTION(S) AFFECTED BY PROPOSAL:	CC.12.2, 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.)**	This modification aims to clarify EirGrid's signal requirements. Following consultation with industry through the Demand Side Unit Joint Grid Code Working Group the following modification was unanimously agreed among Demand Side Unit Joint Grid Code Working Group members at the 5th meeting which took place via teleconference on 09/05/2014.		
IMPLICATION OF NOT IMPLEMENTING THE MODIFICATION	This modification is required to give clarity to DSU Operators on EirGrid's signal requirements.		
Please submit the Modification Proposal by fax, post or electronically, using the information supplied above			
EIRGRID REVIEWER			
EIRGRID ASSESSMENT			

DSU Signal Requirements

CC.12.2 Signals and indications required to be provided by **Users** will include but shall not be limited to the following:

(a) **LV** switchgear positions pertinent to the status of each **Grid Connected Transformer** through a set of two potential free auxiliary contacts (one contact normally open and one contact normally closed when circuit breaker is open) for each circuit breaker;

(b) kV at transformer low **Voltage** terminals; and

(c) a minimum of four sets of normally open potential free auxiliary contacts in each transformer LV bay for fault indication.

*(d), (e), (f), (g), (h) and (i) are applicable to **Generators** only*

(d) MW and +/-Mvar at alternator terminals of each **Generation Unit**;

(e) kV at **Generator Transformer LV** terminals;

(f) **Generator Transformer** tap position;

(g) Measured or derived MW output on each fuel, from **Generation Units** that can continuously fire on more than one fuel simultaneously;

(h) Where it is agreed between the **TSO** and the **Generator** that signals are not available on the **HV** terminals, +/- **MW** and +/- **Mvar** shall be provided at the **Grid Connected Transformer** low **Voltage** terminals; and

(i) Remaining **Secondary Fuel** capability (where applicable) in MWh equivalent when running at **Registered Capacity**;

(j) and (k) are applicable to **Demand Customers** only,

(j) **MW** and +/- **Mvar** at the **HV** terminals of the **Grid Connected Transformer**; and

(k) **Grid Connected Transformer** tap position.

(l), (m), (n), (o), (p), (q), (r) and (s) are applicable to **Demand Side Unit Operators** who represent a **Demand Side Unit:**

(l) **Demand Side Unit MW Response** from **Generation** operating in **Continuous Parallel Mode** or **Shaving Mode**;

(m) **Demand Side Unit MW Response** from avoided **Demand** consumption and **Generation** operating in **Lopping Mode**, **Standby Mode** or **Automatic Mains Failure Mode**;

(n) Remaining **Demand Side Unit MW** ~~**Capacity**~~**Availability**;

(o) **Demand Side Unit MW Response** from each **Individual Demand Site** ~~load~~ with a **Demand Side Unit MW Capacity** of greater than or equal to 5 **MW**;

(p) **MW Output** from **Generation Units** with a **Capacity** greater than or equal to 5 **MW**;

(q) **Mvar Output** from **Generation Units** with a **Capacity** greater than or equal to 5 **MW** at **Individual Demand Sites** with a **Maximum Export Capacity** specified in the **Connection Agreement** or **DSO Connection Agreement** as applicable, as required by the TSO;

(r) Aggregate **MW Output** from **Generation Units** with a combined **Capacity** of greater than or equal to 5 **MW** on an **Individual Demand Site**~~**s** with a combined **Capacity** of greater than or equal to 5 **MW**~~, as required by the TSO; and

(s) **Demand Side Unit MW Response** from each **Individual Demand Site** that comprises the **Demand Side Unit**, as required by the TSO.

(t), (u), (v), (w) and (x) are applicable to **Interconnectors** only:

(t) +/-**MW** and +/-**Mvar** at the high **Voltage** terminals of the **Interconnector Transformer**;

(u) **kV** at **Interconnector Transformer** high **Voltage** terminals;

(v) **Interconnector Transformer** tap position;
(w) **Interconnector** status; and
(x) **Frequency.**

Automatic Mains Failure Mode	The operation of **Generation Unit(s)** at an **Individual Demand Site** of a **Demand Side Unit** where in the event of **Disconnection**, the **Generation Unit(s)** is(are) enabled and supplies(y) the **Demand Customer's** or **DSO Demand Customer's Load** while not **Synchronised** to the **Transmission System** or **Distribution System**. Upon sustained restoration of the connection to the **Transmission System** or **Distribution System** for a settable period of time, the **Generation Unit(s) Synchronise** to the **Transmission System** or **Distribution System** for a short period of time not exceeding 180 seconds to facilitate the smooth transfer of power prior to **Shutdown** of the **Generation Unit(s)**.
Continuous Parallel Mode	Unrestricted periods of **Synchronised** operation of **Generation Unit(s)** to the **Transmission System** or **Distribution System** at an **Individual Demand Site** of a **Demand Side Unit**, subject to **Connection Agreement** or **DSO Connection Agreement** conditions.
Demand Side Unit MW Capacity	The maximum change in **Active Power** that can be achieved by a **Demand Side Unit** on a sustained basis for the duration of the **Demand Side Unit's Maximum Down Time** by totalling the potential increase in on-site **Active Power Generation** and the potential decrease in on-site **Active Power Demand** at each **Individual Demand Site**.
Lopping Mode	The operation of **Generation Unit(s)** at an **Individual Demand Site** of a **Demand Side Unit** where the **Generation Unit(s)** supplies the **Demand Customer's** or **DSO Demand Customer's Load** while not **Synchronised** to the **Transmission System** or **Distribution System**. The **Generation Unit(s)** is(are) **Synchronised** to the **Transmission System** or **Distribution System** for short periods of time not exceeding 180 seconds at **Start-Up** and **Shutdown** of the **Generation Unit(s)** to facilitate a smooth transfer of power.
Maximum Export Capacity	The value (in MW, MVA, kW and/or kVA) provided in accordance with the **User's Connection Agreement or DSO Demand Customer's DSO Connection Agreement**.
Shaving Mode	The **Synchronised** operation of **Generation Unit(s)** to the **Distribution System** at an **Individual Demand Site** of a **Demand Side Unit** where the **Generation Unit(s)** supplies part of, or, the **DSO Demand Customer's** entire **Load**. Normally the **Generation Unit(s)** would operate for 2 hours per day as agreed with the **DSO**.
Standby Mode	The operation of **Generation Unit(s)** at an **Individual Demand Site** of a **Demand Side Unit** where the **Generation Unit(s)** supplies the **Demand Customer's** or **DSO Demand Customer's Load** while not **Synchronised** to the **Transmission System** or **Distribution System**. The **Generation Unit(s)** is(are) never **Synchronised** to the **Transmission System** or **Distribution System**.