SONI Limited

Demand Side Units

Grid Code Amendments Consultation Paper

17 October 2014

1. **Introduction**

1.1 Following the SONI Grid Code modification of 02 February 2012, EirGrid have processed a number of Demand Side Unit applications. Together, SONI and EirGrid have also observed the operation of a Demand Side Unit over a two year period. EirGrid tabled a modification for Demand Side Units at their Grid Code Review Panel (GCRP) meeting on 20 February 2013 and this was approved at the EirGrid GCRP meeting on 1 May 2013. SONI also reviewed the current Grid Code provisions for Demand Side Units and draft modifications of certain sections were consulted upon in May 2013. These proposed modifications were not approved by UREGNI as there were to be more modifications proposed as a result of the Joint Grid Code Working Group. As such, this consultation covers both the May 2013 and current (October 2014) modifications. It should be noted that SONI and EirGrid have worked closely together to align, where possible, the requirements set out in these modifications.

1.2 The proposed amended texts of the Grid Code, with both clean and redlined versions of each relevant section showing all the changes made to the existing version can be found in the “Information Centre” section of SONI’s website. This consultation paper sets out a high-level summary of the proposed changes to the Grid Code and SONI would welcome comments from Users on any aspect of these amendments. As large sections of this modification have previously been consulted we would encourage respondents to focus on the October 2014 modifications.

1.3 The deadline for the submission of comments is close of business Friday 14 November 2014.

1. **Section by Section Review (May 2013 Modifications)**

2.1 Introduction

A minor amendment is proposed to the Introduction to the Grid Code. References to ‘**Demand Side Unit Aggregators**’ and ‘**Dispatchable Demand Customers**’ have been deleted and replaced with ‘**Demand Side Unit Operators**’.

2.2 Glossary and Definitions

**Aggregated Demand Site**: the amendment to this definition replaces a reference to ‘Dispatchable Demand Customer’ with ‘Demand Side Unit Operator’.

**Aggregated Maximum Import Capacity**: this definition has been deleted.

**Aggregator**: the amendment to this definition replaces a reference to ‘Dispatchable Demand Customer’ with ‘Demand Side Unit Operator’.

**Demand Side Unit Export Capacity**: this definition has been deleted.

**Demand Side Unit Import Capacity**: this definition has been deleted.

**Demand Side Unit MW Response**: this is a new definition which describes the response of a Demand Side Unit to a Dispatch Instruction. It replaces Initial ‘Demand Side Unit Response’.

**Demand Side Unit Operator**: this is a new definition replacing Dispatchable Demand Customer.

**Dispatch**: the amendment to this definition replaces a reference to ‘Dispatchable Demand Customer’ with ‘Demand Side Unit Operator’.

**Dispatchable Demand Customer**: this definition has been deleted and replaced with a new definition for Demand Side Unit Operator.

**DNO Connection Agreement**: this new definition has been added since this agreement between the DNO and a Demand Side Unit Operator refers to the site specific details of relevant connection arrangements.

**DNO Demand Customer**: this new definition has been included since Individual Demand Sites connected to the Distribution network will be associated with a DNO Demand Customer who must have a DNO Connection Agreement.

**Individual Demand Site**: this definition has been amended to remove unnecessary references to ‘Demand Side Unit Export Capacity’ and ‘Demand Side Unit Import Capacity’.

**Initial Demand Side Unit Response**: has been deleted and superseded with a new definition called Demand Side Unit Response.

**Initial Demand Side Unit MW Response Time**: has been deleted and superseded with a new definition called Demand Side Unit MW Response Time.

**Maximum Ramp Down Rate**: housekeeping change, previously Max Ramp Down Rate.

**Maximum Ramp Up Rate**: housekeeping change, previously Max Ramp Up Rate.

**Minimum Off Time**: definition amended to clarify the term in respect of Demand Side Units.

2.3 Planning Code

Additional sections have been added which details the planning data requirements from Users who are Demand Side Units Operators.

2.4 Connection Conditions

Additional sections have been included which detail the TSO’s requirements for the connection of Demand Side Units. This includes a description of Unit technical performance requirements, Control Facility and Responsible Operator capability, and SCADA standards which must be adhered to.

2.5 Operating Codes

Operating Code 2 covers the obligations on Users and the TSO for outage planning. Most categories of User are required to provide the TSO with information regarding their proposed planned outages. This Code has been amended so that the obligations placed on Demand Side Unit Operators are aligned with those already in place for most other Users, including Generators and Interconnector Owners.

Operating Code 11 has been amended so that it directly refers to Demand Side Units in respect of the TSOs requirements to Monitor (OC11.10) and Test (OC11.11). These amendments will align the obligations on Demand Side Unit Operators with those already in place for most other User categories, including Generators and Interconnector Owners.

A table has also been included which details the tolerances applied to Demand Side Units with respect to their compliance with Dispatch Instructions.

2.6 Scheduling and Dispatch Code

The Scheduling and Dispatch Codes have been amended to remove references to ‘Dispatchable Demand Customers’ and replace them with ‘Demand Side Unit Operators’. New clauses have been added to specifically detail the requirements on Demand Side Unit Operators when changing the Availability of their Demand Side Units. The table detailing the TSO’s requirements for Unit technical parameters (SDC1 Appendix A Part 1) has some minor amendments with respect to Demand Side Units.

2.7 Data Registration Code

The Data Registration Code has been amended to replace references to ‘Dispatchable Demand Customer’ with references to ‘Demand Side Unit Operator’.

1. **Section by Section Review (October 2014 Modifications)**

3.1 Glossary and Definitions

**Demand Side Unit Energy Profile**. This definition has been deleted.

**Demand Side Unit Best Correlated Profile.** This is a new definition which details the best correlated profile for the purposes of performance monitoring.

**Demand Side Unit Calculated MWh Response.** This is a new definition. MWh Response will be calculated for the purposes of performance monitoring.

**Demand Side Unit MW Capacity.** This is a new definition which details the maximum change inactive power that can be achieved by a DSU.

**Demand Side Unit MWh Response.** This is a new definition.

**Demand Side Unit MW Response Time**. This is a new definition which describes the time taken by a Demand Side Unit Operator to respond to a Dispatch Instruction

**Demand Side Unit Notice Time.** This is a new definition which is being proposed to provide clarity as to when a DSU should begin ramping.

**Demand Side Unit Performance Monitoring Baseline.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit Performance Monitoring Error.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit Performance Monitoring Percentage Error.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit Profile.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit SCADA Error.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit SCADA Percentage Error.** This is a new definition for the purposes of performance monitoring.

**Demand Side Unit Ramp Time.** This is a new definition which is being proposed to provide clarity as to when a DSU should begin ramping

**DSU Short-term Synchronous Operating Mode.** This is a new definition to provide clarity on the frequency requirements for generators that form part of a DSU.

**Maximum Export Capacity.** This is a modified definition to include reference to the DNO’s connection agreement.

**Maximum Import Capacity.** This is a modified definition to include reference to the DNO’s connection agreement.

3.2 Planning Code

Modifications to the Planning Code are being proposed to give clarity to DSU Operators on the data requirements of the TSO and DSO in relation to applications for DSUs. Following consultation with industry through the Demand Side Unit Joint Grid Code Working Group this 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.

3.3 Connection Conditions

This modification aims to clarify SONI’s signal requirements. Following consultation with industry through the Demand Side Unit Joint Grid Code Working Group the 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.

3.3 Operating Code 11

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.

3.4 Scheduling and Dispatch Code

This modification aims to clarify the Dispatch process for Demand Side Units. Previously, a Demand Side Unit did not have to specify a Notice Time but only a time to reach the full demand reduction requested in the Dispatch Instruction. Therefore, there was ambiguity regarding the time that a Demand Side Unit should begin ramping (effective time of the Dispatch Instruction). 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.

Additional modifications are proposed within the Scheduling and Dispatch Code in relation to Performance Monitoring modification. See section 3.3 above for descriptor of Performance Monitoring modification.

**4. Next Steps**

4.1 The consultation period will run for 4 weeks and all responses must be received by close of business on 14 November 2014. Should Users have any queries, these should be addressed to Marie-Therese Campbell at SONI (MarieTherese.Campbell@Eirgrid.com or phone 02890707838).

4.2 At the end of the consultation period, SONI will review the submissions from Users and, in accordance with Condition 2 of its Licence to Participate in the Transmission of Electricity, will send to the Northern Ireland Authority for Utility Regulation (the Authority):

 A report on the outcome of the consultation and SONI’s subsequent review;

 The proposed revisions to the Grid Code which SONI, acting reasonably, thinks fit for the objectives of the Grid Code, referenced in Condition 16 of the SONI Licence and;

 Any written representations and objections from electricity undertakings or the Republic of Ireland TSO (including any proposals by such parties for the revisions to the SONI Grid Code not accepted by SONI following its review) arising during the consultation process and subsequently maintained.

4.3 Following the end of the consultation period and discussions which may be held with the Authority, revisions to the Grid Code will be finalised and published on the SONI website, following formal approval by the Authority.