GLOSSARY AND
DEFINITIONS (GD)

GD1. DEFINED TERMS

In the Grid Code the following words and expressions shall, unless the subject matter or the context otherwise requires or is inconsistent therewith, bear the following meanings:

**ACS Conditions**
Average cold spell conditions.

**Active Power Control Set-Point Ramp Rate**
The rate of increase or decrease of Active Power Output of a WFPS in response to an Active Power Dispatch Instruction sent by the TSO via SCADA when the WFPS is operating in an Active Power control mode. This ramp rate will be calculated by the Generator each time an Active Power Dispatch Instruction is sent by the TSO via SCADA based on the change in Active Power required and the curtailment time interval set point.

The Active Power Dispatch Instruction shall be any MW value in the range 0 MW to Registered Capacity of the WFPS. The curtailment time interval set point shall be any value in the range 1 to 30 minutes, as specified by the TSO via SCADA.

**Active Power or MW**
The product of the components of alternating current and voltage that equate to true power which is measured in units of watts and standard multiples thereof, for example:

- 1000 Watts = 1 kW;
- 1000 kW = 1 MW;
- 1000 MW = 1 GW.

**Additional Conversion Factors**
The factors referred to in PCA3.3.12.

**Additional Grid Code Availability Notice**
A notice submitted by a User to the TSO pursuant to SDC1.4.2 relating to additional data on Availability.
**Additional Grid Code Characteristics Notice**

A notice to be submitted to the TSO pursuant to SDC1.4.4.2 relating to additional technical data.

**Aggregate Interconnector Ramp Rate**

The maximum Ramp Up Rate for an Interconnector or maximum Ramp Down Rate as determined by the TSO.

**Aggregated Demand Site**

A group of Individual Demand Sites connected to the Transmission or Distribution System and represented by a Demand Side Unit Operator, which together are capable of a Demand Side Unit MW Capacity equal to or above 4 MW (and which is therefore subject to Central Dispatch from the TSO). Each Individual Demand Site comprising an Aggregated Demand Site shall be in one currency zone and shall have a Demand Side Unit MW Capacity of no greater than 10 MW. Unless otherwise specified, information submitted in respect of an Aggregated Demand Site shall always be at an aggregated level.

**Aggregated Generating Unit**

A group of Generating Units connected to the Transmission or Distribution System and represented by a Generator Aggregator, each of which must not have a Registered Capacity greater than 10 MW. An Aggregated Generating Unit with a total Registered Capacity of 4 MW or more shall be subject to Central Dispatch (and shall therefore be a CDGU), but one with a total Registered Capacity of less than 4 MW may only be subject to Central Dispatch subject to agreement with the TSO. Unless otherwise specified by the TSO or otherwise in the Grid Code, information submitted in respect of an Aggregated Generating Unit shall always be at an aggregated level.

**Aggregated Maximum Export Capacity**

In the case of a Generator Aggregator, the aggregated value (in MW, MVA, kW and/or kVA) provided in each Connection Agreement (or connection agreement to the Distribution System, as the case may be) for the Generating Units for which the Generator Aggregator is responsible.

**Aggregator**

Either a Generator Aggregator or a Demand Side Unit Operator in respect of an Aggregated Demand Site.

**Aggregator Systems**

A system by which an Aggregator controls or operates the plant which is subject to aggregation.

**Agreed Testing and**

The procedures and methodologies developed by GD2

31 July 2015
Monitoring Procedures
the TSO for conducting certain Tests and undertaking certain Monitoring and which form part of the Grid Code.

All Island Networks
As defined in the TSO Licence

All Island Transmission Networks
As defined in the TSO Licence

Ancillary Service
Each of the following services, all of which are used to operate a stable and secure Transmission System; the provision of Reactive Power, Operating Reserve and Black Start Capability, each of which also constitutes a System Support Service.

Apparatus
All equipment in which electrical conductors are used, supported or of which they may form a part.

Authority
The Northern Ireland Authority for Utility Regulation.

Automatic Load Shedding
A Load shedding scheme utilised by the TSO to prevent Frequency collapse or other problems and to restore the balance between generation output and Demand on the NI System.

Automatic Load Shedding Device
A device for initiating Load shedding automatically, such as a Low Frequency Relay.

Automatic Voltage Regulator or AVR
A continuously acting automatic excitation system to control the voltage of a Generating Unit as measured at the Generator Terminals.

Autonomous Generating Units
A Generating Unit that is not subject to Central Dispatch or subject to Active Power control by the relevant TSO.

Availability
In respect of any period (and, in the case of a PPA CDGU, in relation to a Designated Fuel and, in the case of a CDGU other than a PPA CDGU, in relation to a fuel), shall mean:

(a) for any CDGU, Controllable WFPS or Dispatchable WFPS the figure (expressed in MW as at the Connection Point and at the direct connection with the Distribution System) stated in accordance with SDC1.4.1.1(a) to be the capability of the CDGU, Controllable WFPS or Dispatchable WFPS to generate electricity during that period. In relation to all CDGUs including an Open Cycle Gas Turbine
CDGU and/or a CCGT Installation, the Availability declared by a Generator shall correspond to the maximum generation of electricity which that Generator’s CDGU can achieve during that period. In relation to all CDGUs, the Availability declared by a Generator shall correspond to the level of generation of electricity up to and including the Contracted Capacity (for PPA CDGUs other than PPA Open Cycle Gas Turbines) or Contracted Capacity (Peak) (for PPA Open Cycle Gas Turbines) or Registered Capacity (for non-PPA plant) which that CDGU can achieve during that period;

(b) for Demand Side Units, the Demand Side Unit MW Capacity (expressed in MW as at the Connection Point and at the direct connection with the Distribution System) stated in accordance with SDC1.4.1.1(a) to be the capability of the Demand Side Unit to reduce Demand during that period;

(c) for Aggregated Generating Units, the aggregated figures (expressed in MW as at the Connection Points of each individual Aggregated Generating Unit) stated in accordance with SDC1.4.1.1(a) to be the capability of the Aggregated Generating Units as a whole to generate electricity during that period;

(d) for an Interconnector, the figure (expressed in MW at Auchencrosh) stated in accordance with SDC1.4.1.1(a) to be the capability of the Interconnector to export or import electricity.

"Available" shall be construed accordingly.

Availability Notice
A notice to be submitted to the TSO pursuant to SDC1.4.1.1.

Availability Payments
A payment made to a Generator for making a Generating Unit available.

Average Cold Spell Demand
The forecast of peak daily Demand during average cold spell conditions.

Back-up Fuel
Distillate or heavy fuel oil.

31 July 2015

GD4
Black Start

The procedure necessary for a recovery from a Total Shutdown or Partial Shutdown.

Black Start Capability

The capability of a Power Station where at least one of its CDGUs or CCGT Modules has the ability to Start-Up as provided in OC7.4.4.

Black Start Station

A Power Station identified pursuant to the relevant Generator's Connection Agreement as having the ability for at least one of its CDGUs or CCGT Modules to Start-Up as provided in OC7.4.4.

Business Day

Any day (other than a Saturday or a Sunday) on which banks are open for business in Belfast but excluding those days which the TSO may from time to time notify Generators as being days on which normal business will not be conducted at the TSO’s premises.

Block Load

The level of output that a Generating Unit immediately produces following Synchronisation. For avoidance of doubt, Block Load can equal 0 MW.

Block Load Cold

Block Load during a Cold Start.

Block Load Hot

Block Load during a Hot Start.

Block Load Warm

Block Load during a Warm Start.

Bulk Supply Point

A point at which the Distribution System connects to the Transmission System.

Cancelled Start

A response by a Generator to an instruction from the TSO cancelling a previous instruction to Synchronise to the NI System.

CCGT Installation

A collection of CCGT Modules (registered as a CCGT Installation under the PC) comprising one or more gas turbines and one or more steam turbines where, in normal operation, the waste heat from the CCGT Modules which are gas turbines is passed to the heat exchanger of the associated CCGT Modules which are steam turbines from which it is directly supplied to these steam turbines thereby contributing to the overall combined cycle efficiency of the CCGT Installation.

CCGT Installation Matrix

The matrix which must be submitted by a Generator under the Planning Code and which is used by the TSOs for Scheduling and Dispatch purposes under the SDCs as a “look up” table.

31 July 2015
determining which CCGT Module will be operating at any given MW Dispatch level subject to any updated Availability information submitted by a Generator to a TSO under SDC1.

**CCGT Module**

A Generating Unit within a CCGT Installation.

**Central Dispatch**

The process of Scheduling and issuing Dispatch Instructions in relation to CDGUs, Pumped Storage Plant Demand, Demand Side Units and/or Interconnectors direct to a Control Facility by the TSO pursuant to the Grid Code. In particular:

All Dispatchable WFPSs shall be subject to Central Dispatch;

All other Power Stations with a Registered Capacity of above 10 MW shall be subject to Central Dispatch;

All other Power Stations with a Registered Capacity of 10 MW or less can agree with the TSO to be subject to Central Dispatch.

**Centrally Dispatched Generating Unit (CDGU)**

A Generating Unit within a Power Station subject to Central Dispatch, which comprises, unless specified otherwise in relation to a particular use of the term a Thermal Plant including a CCGT Installation, a Dispatchable WFPS, Hydro Unit and Pumped Storage Plant in respect of its Pumped Storage Generation.

**Cold Start**

Any Synchronisation of a Generating Unit that has previously not been Synchronised for a period of time longer than its submitted Warm Cooling Boundary.

**Commercial Offer Data**

Data of that name submitted by a User or an Intermediary to the MO pursuant to the TSC in relation to prices and, where applicable, Nominated Profile for certain Users.

**Commissioning/ Acceptance Test**

Testing of a CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Units, Aggregated Generating Units, Interconnector or an item of User's Equipment required pursuant to the Connection Conditions prior to connection or re-connection in order to determine whether or not it is suitable for connection to the System and also to determine the new values of parameters to apply to it.
following a material alteration or modification of a CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Units, Aggregated Generating Units, Interconnector or of an item of User's Equipment and the term “Commissioning/Acceptance Testing” shall be construed accordingly.

Committed Project Planning Data

Has the meaning set out in PC6.4.3.

Competent Authority

The Authority, or any local, national or supranational agency, authority, department, inspectorate, minister, official, court, tribunal or public or statutory person (whether autonomous or not) of the United Kingdom (or the government thereof) or the European Communities which has jurisdiction over the TSO and the relevant Generator or the subject matter of a Generating Unit Agreement or a Power Station Agreement between NIE Energy and that Generator.

Confirmation Statement

As defined in the Metering Code.

Connection Agreement

In the case of a User other than the DNO, the bilateral agreement between the TSO and the User, which contains the detail specific to the User’s connection to the Transmission System.

Connection Conditions or CC

The part of the Grid Code which is identified as the Connection Conditions.

Connection Point

A Bulk Supply Point or a point at which a User's Plant and/or Apparatus connects to the Transmission System, which in the case of an Interconnector is the connection point specified in the relevant Connection Agreement.

Connection Site

A site containing a Connection Point.

Connection Charges

The TSO's charges to Users for connection to the Transmission System.

Constrained Group

A group of Generating Units located within a constrained part of the System as determined by the TSO.

Contingency Reserve

Has the meaning set out in OC3.
**Contract Customer**

A Customer whose terms of supply contain provisions enhancing its security of supply negotiated with NIE Energy in accordance with guidelines prepared by NIE Energy and approved by the Authority from time to time, insofar as such terms of supply include the right to be excluded, insofar as possible, from Load shedding.

**Contracted Capacity**

In relation to a PPA CDGU, the NFL Capacity of the CDGU which is set out in paragraph 2 of schedule 1 to the Generating Unit Agreement for that CDGU or in the relevant System Support Services Agreement, as that NFL Capacity may be amended from time to time in accordance with that Generating Unit Agreement or the relevant Power Station Agreement or System Support Services Agreement. In relation to a PPA Open Cycle Gas Turbine CDGU and/or a CCGT Installation, the Contracted Capacity figure is the lower figure set out in paragraph 2 of schedule 1 of the Generating Unit Agreement or paragraph 2 of schedule 1 of the relevant System Support Services Agreement, in each case being the higher of the two figures set out in paragraph 2 of Schedule 1.

**Contracted Capacity (Coal)**

In relation to a PPA CDGU which is capable of firing on two different Designated Fuels, the figure (expressed in MW) specified as such in paragraph 2 of schedule 1 to the relevant Generating Unit Agreement or in the relevant System Support Services Agreement.

**Contracted Capacity (Peak)**

In relation to a PPA CDGU, which is an Open Cycle Gas Turbine CDGU and/or a CCGT Installation, the figure (expressed in MW) specified as such (if any) in paragraph 2 of schedule 1 to the relevant Generating Unit Agreement (where it is the higher of the two figures set out in paragraph 2 of schedule 1) or in the relevant System Support Services Agreement (where it is the higher of the two figures set out in paragraph 2 of schedule 1).

**Contracted Technical Parameters**

In relation to a PPA CDGU, the values of Technical Parameters which are identical to those parameters set out in schedule 1 to the Generating Unit Agreement for that CDGU, which are there referred to as "Contracted Operating Characteristics", as those values are amended from time to time in accordance with that...
Generating Unit Agreement. In the case of a CDGU other than a PPA CDGU, the values of Technical Parameters which are identical to the parameters set out in the relevant SSS Agreement and referred to as “SSS Parameters”, as those values are amended from time to time in accordance with that SSS Agreement.

**Control Circuit Load Management**
A direct Load management arrangement whereby certain separate domestic off peak Loads can be controlled by the TSO via radio teleswitch.

**Control Facility**
A location used for the purpose of Monitoring, control and operation of the User’s Plant and Apparatus and for accepting Dispatch Instructions via Electronic Interface.

**Control Person**
The term used as an alternative to "Safety Coordinator" on the Site Responsibility Schedule only.

**Control Phase**
The Control Phase follows on from the Programming Phase and starts with the issue of the Indicative Operations Schedule for the next Trading Day and covers the period down to real time.

**Controllable WFPS**
A WFPS first connected to the NI System on or after 1 April 2005 whose wind turbines comprise a Registered Capacity of 5 MW or more.

**Conversion Factors**
The terms referred to at PC.A3.3.11.

**Customer**
A person to whom electrical power is provided (whether or not he is the same person as the person who provides the electrical power).

**Customer Demand Management**
Has the meaning set out in OC4.4.2.

**Customer Voltage Reduction**
A 3 or 6 per cent reduction of voltage supplied to all or any group of Customers on a particular part of the NI System.

**Cycle Operating Mode**
The Open Cycle Mode or combine cycle Operating Mode of a CCGT Installation which may need to be specified pursuant to a Dispatch Instruction under SDC2.4.2.4(j).

**Data Registration Code** or **DRC**
The part of the Grid Code which is identified as the Data Registration Code.

**Declared Fuel**
A fuel having the characteristics described in schedule 3 of the relevant Generating Unit Agreement.
**Decremental Price**
The marginal price at a particular MW Output, for decreasing Energy output (or increasing demand) by 1 MWh, once that unit has started to generate Energy (or increase Demand, as the case may be).

**Decremental Price Quantity Pairs**
Decremental Prices and their respective quantity ranges for Generating Units, Demand Side Units and Aggregated Generating Units as part of Commercial Offer Data.

**Delivery Point**
Has the meaning ascribed to it in the relevant Generating Unit Agreement or, in the case of a CDGU other than a PPA CDGU, Controllable WFPS or Dispatchable WFPS, in the relevant Connection Agreement.

**Deload Break Point**
The point at which due to technical reason a Generating Unit may need to pause during its MW Output reduction process.

**De-Loaded**
The condition in which a Generating Unit or CCGT Installation, as the case may be, has reduced or is not delivering electrical power to the System to which it is Synchronised and the terms "De-Loading" and "De-Load" shall be construed accordingly.

**De-Loading Rate**
The rate at which a Generation Unit or Generating Unit (as the case may be) reduces MW Output from Minimum Generation to zero when it is instructed to cease output. There are up to two possible De-Loading rates, which are referred to as De-Loading Rate 1 and De-Loading Rate 2.

**Demand**
The amount of electrical power consumed comprising of Active and Reactive Power unless otherwise stated.

**Demand Forecasts**
For operational purposes, a forecast of Demand made pursuant to OC1. For planning purposes, a forecast of Demand made pursuant to the Planning Code.

**Demand Side Unit**
An Individual Demand Site or Aggregated Demand Site with a Demand Side Unit MW Capacity of at least 4 MW. The Demand Side Unit shall be subject to Central Dispatch.

**Demand Side Unit Energy Profile**
The estimated total Energy requirement for an Individual Demand Site or aggregated for each Individual Demand Site which form part of an
Aggregated Demand Site for each Trading Period Imbalance Settlement Period in the following Trading Day Optimisation Time Horizon period and which must be submitted to the TSO in the Availability Notice under SDC 1.4.1.2.

**Demand Side Unit MW Availability**
The forecasted change in Active Power which can be achieved in one currency zone by a Demand Side Unit for each Trading Period Imbalance Settlement Period in the following Trading Day Optimisation Time Horizon period and which must be submitted by the User to the TSO in an Availability Notice under SDC1.4.1.2.

**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.

**Demand Side Unit MW Response**
The proportion (in MW) of the Demand Side Unit MW Capacity that is delivered at a given time following a Dispatch Instruction from the TSO. This value will be zero unless dispatched by the TSO.

**Demand Side Unit MW Response Time**
The time as specified by the Demand Side Unit Operator in the Technical Parameters and is the time it takes for the Demand Side Unit Operator to be able to implement the Demand Side Unit MW Response from receipt of the Dispatch Instruction from the TSO.

**Demand Side Unit Notice Time**
The time as specified by the Demand Side Unit Operator in the Technical Parameters and is the time it takes for the Demand Side Unit to begin ramping to the Demand Side Unit MW Response from receipt of the Dispatch Instruction from the TSO.

**Demand Side Unit Operator**
A person who operates a Demand Side Unit, with a Demand Side MW Capacity not less than 4 MW.

**Demand Side Unit Ramp Time**
The time it takes for a Demand Side Unit to ramp to the Demand Side Unit MW Response. It is equal to the Demand Side Unit MW Response Time less the Demand Side Unit Notice Time.

31 July 2015
**Department**
The Department of Enterprise, Trade and Industry.

**Design and Operating Requirement**
In relation to the Grid Code, a Nominated Generating Unit Agreement (and/or Nominated Power Station Agreement), a SSS Agreement and a Connection Agreement:

(a) an express requirement of one of those documents as to the installation or operational capability of a specified item of Plant and/or Apparatus;

(b) a requirement of one of those documents for the existence of procedures necessary to give effect to the matters listed in (a) above; or

(c) an express provision in one of those documents as to any other particular operational requirement.

**Designated Fuel**
A type of fuel specified in the relevant Generating Unit Agreement as being a type of fuel which the TSO may instruct a Generator to burn in relation to a CDGU which is capable of firing both on coal (which may include a mixture of coal and oil) and on oil or on Gas or Distillate, as the case may be.

**De-Synchronising**
The act of taking a Generating Unit off the NI System, to which it has been Synchronised, and like terms shall be construed accordingly.

**Detailed Planning Data**
Data specified in Part 2 of the Appendix to the Planning Code.

**Development**
A modification relating to a User's Plant and/or Apparatus already connected to the Transmission System or the Distribution System.

**Disconnect**
The act of electrically separating Users’ (and Customers’) equipment from the Transmission System or Distribution System where relevant, and the terms "Disconnection" and "Disconnecting" shall be construed accordingly.

**Dispatch**
The issue by the TSO of instructions to a Generator, Pumped Storage Generator, Interconnector Owner, Demand Side Unit Operator or Generator Aggregator in respect of its CDGU, Pumped Storage Plant Demand, Demand Side Unit, Aggregated Generating Units or Interconnector tranche pursuant to
SDC2 and the term “Dispatched” shall be construed accordingly.”

**Dispatch Characteristics**
Those characteristics referred to in the relevant Table in the Appendix to Part A of OC11 or Part B of OC11 (as the context requires).

**Dispatch Instruction**
An instruction given by the TSO to a CDGU, Demand Side Unit, Interconnector tranche and/or Pumped Storage Plant Demand to that User’s approved Control Facility to change the output, fuel or manner of operation of the CDGU, Demand Side Unit, Interconnector tranche and/or Pumped Storage Plant Demand. “Instruct” and “Instructed” shall be construed accordingly.

**Dispatch Instruction Test Flag**
The flag indicating that a Dispatch Instruction will not be deemed to be a Dispatch Instruction for settlement purposes, used when the TSO approves new or amended test proposals submitted by a Generator after Gate Closure 2 (or there is insufficient time for the TSO to evaluate and approve the test proposal before Gate Closure 2) and as a result, the Dispatch Instructions issued by the TSO deviate from the Final Physical Notifications.

**Dispatchable WFPS or DWFPS**
A Controllable WFPS which must have a Control Facility in order to be dispatched via an Electronic Interface by the TSO.

**Dispatched Fuel**
The Declared Fuel which a Generator is instructed by the TSO in a Dispatched Fuel Notice or a Dispatch Instruction to use for the operation of a CDGU for the time being.

**Distillate**
Liquid fuel, as specified in the relevant schedule to a Generating Unit Agreement, or where there is no Generating Unit Agreement, as agreed with the TSO.

**Distribution Code**
The code in Northern Ireland of the same name.

**Distribution Network Owner (DNO)**
NIE acting in its capacity as owner of the Distribution System.

**Distribution System**
The electric lines within the Authorised Area, as defined in the licence held by the DNO, owned by the Distribution Licensee (but not, for the avoidance of doubt, any lines forming part of the transmission system or any Interconnector), and any other electric lines which the Authority may specify as forming part of the distribution system, together with (in each case) any Plant and 31 July 2015
Apparatus and/or meters owned or operated by the DNO used in connection with the distribution of electricity.

**DNO Connection Agreement**

The bilateral agreement between the DNO and the DNO Demand Customer, which contains the detail specific to the DNO Demand Customer’s connection to the Distribution System.

**DNO Demand Customer**

A person to whom electrical Energy is provided by means of a direct connection to the Distribution System.

**DSU Short-term Synchronous Operating Mode**

The operation of Generating Unit(s) at an Individual Demand Site of a Demand Side Unit where the Generating Unit(s) supplies Demand Customer’s or DSO Demand Customer’s Load while not Synchronised to the Transmission System or Distribution System. The Generating Unit(s) is (are) Synchronised to the Transmission System or Distribution System for short periods of time at Start-Up and Shutdown of the Generating Unit(s) to facilitate a smooth transfer of power.

**Dwell Time Down**

The duration for which the Generating Unit must remain at the Dwell Time Down Trigger Point during a change in its MW Output while ramping down between instructed MW Output and Minimum Generation.

**Dwell Time Down Trigger Point**

A constant MW level at which a Generating Unit must remain while ramping down between instructed MW Output and Minimum Generation. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Dwell Time Up**

The duration for which the Generating Unit must remain at the Dwell Time Up Trigger Point during a change in its MW Output while ramping up between Minimum Generation and instructed MW Output.

**Dwell Time Up Trigger Point**

A constant MW level at which a Generating Unit must remain while ramping up between Minimum Generation and instructed MW Output. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

GD14
**Earthing**
A way of providing a connection between conductors and earth by an **Earthing Device**.

**Earthing Device**
A means of providing a connection between a conductor and earth being of adequate strength and capability.

**Electronic Interface**
A system, in accordance with the requirements of the TSO’s data system, at the Control Facility, providing an electronic interface between the TSO and a User, for issuing and receiving instructions, including Dispatch Instructions, as provided for in the Grid Code and established pursuant to an agreement between the TSO and the User.

**Emergency Manual Disconnection**
Load shedding carried out at short notice or no notice when a **Regulating Margin** cannot otherwise be achieved.

**End of Restricted Range**
The end point in MW of a **Forbidden Zone**. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**End Point of Start Up Period**
The time after which the rate of change of the **Generating Unit Output** is not dependent upon the initial **Warmth** of the **Generating Unit**.

**Energy**
The electrical energy produced, flowing or supplied by an electrical circuit during a time interval and being the integral with respect to time of the instantaneous power, measured in units of watt-hours or standard multiples thereof, for example:

\[
1000 \text{Wh} = 1 \text{kWh} \\
1000 \text{kWh} = 1 \text{MWh} \\
1000 \text{MWh} = 1 \text{GWh}
\]

**Energy Allowance**
Has the meaning ascribed to that term in the relevant **Generator's Generating Unit Agreement**.

**Energy Limit**
The target forecasted maximum amount of **Energy** that can be generated by an **Energy Limited Generating Unit** within the **Trading Day**.

**Energy Limit Factor**
A factor between zero and one, which is applied to the **Energy Limit** for use in calculating the **scheduled Energy** of **Energy Limited Generating Units** in the period between the end of the **Trading Day** and the end of the **Optimisation Time Horizon** period.
<table>
<thead>
<tr>
<th><strong>Energy Limit Period</strong></th>
<th>The period during which an <strong>Energy Limited Generating Unit</strong> will be <strong>Available</strong> to generate.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Limit Start</strong></td>
<td><strong>06:00</strong> hours on the <strong>Trading Day</strong>.</td>
</tr>
<tr>
<td><strong>Energy Limit Stop</strong></td>
<td><strong>06:00</strong> hours on the day following the <strong>Trading Day</strong>.</td>
</tr>
<tr>
<td><strong>Energy Limited Generating Unit</strong></td>
<td>A <strong>Hydro Unit</strong> with a limit on the <strong>Energy</strong> it can deliver in a specified time period.</td>
</tr>
<tr>
<td><strong>Event</strong></td>
<td>Has the meaning set out in OC5.4.2.</td>
</tr>
<tr>
<td><strong>Event Recorder</strong></td>
<td>An electronic device that measures and records data at locations on the <strong>NI System</strong>.</td>
</tr>
<tr>
<td><strong>Externally Interconnected Party</strong></td>
<td>The operator of an electrical transmission or distribution system outside Northern Ireland which is connected to the <strong>Transmission System</strong> by an <strong>Interconnector</strong>.</td>
</tr>
<tr>
<td><strong>Failure to Follow Notice to Synchronise Instruction</strong></td>
<td>An instruction given by the <strong>TSO</strong> to a <strong>Generator</strong> in respect of its <strong>CDGU</strong> confirming that it has failed to <strong>Synchronise</strong> more than 5 minutes after the time specified in the <strong>Notice to Synchronise</strong>.</td>
</tr>
<tr>
<td><strong>Failure to Reach Minimum Generation Instruction</strong></td>
<td>An instruction given by the <strong>TSO</strong> to a <strong>Generator</strong> in respect of its <strong>CDGU</strong> confirming that it has <strong>De-Synchronised</strong> where it has tripped before reaching <strong>Minimum Generation</strong>.</td>
</tr>
<tr>
<td><strong>Fast Acting</strong></td>
<td>As specified in the relevant section of the <strong>WFPS Settings Schedule</strong>.</td>
</tr>
<tr>
<td><strong>Final Outage Programme</strong></td>
<td>The final <strong>Outage</strong> programme in respect of <strong>CDGUs</strong> and/or <strong>Power Station Equipment</strong> prepared by the <strong>TSO</strong> for Year 1 pursuant to OC2.6.3.</td>
</tr>
<tr>
<td><strong>Final Physical Notification</strong></td>
<td><strong>In respect of an Imbalance Settlement Period</strong>, the last <strong>Physical Notification</strong> received for that <strong>Imbalance Settlement Period</strong> before <strong>Gate Closure 2</strong> for that <strong>Imbalance Settlement Period</strong>.</td>
</tr>
<tr>
<td><strong>Final Report</strong></td>
<td>Has the meaning set out in OC10.A.4.</td>
</tr>
<tr>
<td><strong>Flexible Planned Outage</strong></td>
<td>A <strong>Planned Outage</strong> which can at the request of the <strong>TSO</strong> be deferred by a period or advanced by a period (and the period for which it is planned (and therefore excluding any overrun), including the periods for which it may be advanced or deferred, shall be known as the <strong>Flexible Planned Outage Period</strong>).</td>
</tr>
<tr>
<td><strong>Forbidden Zone</strong></td>
<td>A MW range within which a <strong>Generator</strong> cannot operate in a stable manner due to an inherent technical limitation of the machine.</td>
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<tr>
<td>--------------------------</td>
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</tr>
<tr>
<td><strong>Force Majeure</strong></td>
<td>Has the meaning ascribed to that term in the relevant <strong>Generating Unit Agreement</strong>.</td>
</tr>
<tr>
<td><strong>Forced Outage</strong></td>
<td>An <strong>Outage</strong> of a CDGU (including, in the case of a CCGT <strong>Installation</strong>, one or more CCGT <strong>Modules</strong> within it) as provided in OC2 or item of <strong>Power Station Equipment</strong> of which no notice can be given by the <strong>Generator</strong> to the TSO.</td>
</tr>
<tr>
<td><strong>Forecast Minimum Generation Profile</strong></td>
<td>The User’s forecast of the average level of <strong>Minimum Generation</strong> for the User’s Plant for each <strong>Trading Period Imbalance Settlement Period</strong> in the <strong>Trading Day Optimisation Time Horizon</strong>.</td>
</tr>
<tr>
<td><strong>Forecast Minimum Output Profile</strong></td>
<td>The User’s forecast of the average level of minimum MW <strong>Output</strong> for a <strong>Pumped Storage Plant</strong> for each <strong>Trading Period Imbalance Settlement Period</strong> in the <strong>Trading Day Optimisation Time Horizon</strong>.</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>The number of alternating current cycles per second (expressed in Hertz) at which a <strong>System</strong> is running.</td>
</tr>
<tr>
<td><strong>Frequency Control</strong></td>
<td>The control of the <strong>Frequency</strong> on the <strong>Total System</strong></td>
</tr>
<tr>
<td><strong>Frequency Response Ramp Rate</strong></td>
<td>The minimum rate of increase or decrease of <strong>Active Power Output</strong> of a WFPS when providing <strong>Frequency Control</strong>, as specified by the TSO from time to time in the <strong>WFPS Settings Schedule</strong> published on the SONI website (or such other place or by such other means as may be notified to the <strong>Generator</strong> from time to time).</td>
</tr>
<tr>
<td><strong>Frequency Sensitive Mode</strong></td>
<td>The operation of a <strong>Generating Unit</strong> whereby its generation level is varied automatically to compensate for variations in the <strong>Frequency</strong> of the <strong>System</strong>.</td>
</tr>
<tr>
<td><strong>Frequency Transient</strong></td>
<td>For the purposes of OC11 and the <strong>Metering Code</strong>, a period when the <strong>NI System Frequency</strong> is at or below 49.5 Hz.</td>
</tr>
<tr>
<td><strong>Fuel Rate</strong></td>
<td>Has the meaning ascribed to that term in the relevant <strong>Generator's Generating Unit Agreement</strong>.</td>
</tr>
</tbody>
</table>
The Northern Ireland Fuel Security Code designated by the Department as a condition of licences granted under Article 10 of the Order.

**Fuel Security Code**

**Full Load**

Maximum electrical output of a Generating Unit or CCGT Installation measured at the Connection Point or, in the case of a Wind Farm Power Station, the maximum electrical output of the Wind Farm Power Station at the power factor stated in the relevant Connection Agreement measured as at the Connection Point of the Wind Farm Power Station and depending, in the case of a Generating Unit which is capable of firing on two different Designated Fuels, on which Designated Fuel is being used to operate the Generating Unit but excluding Maximum Generation. In respect of a PPA CDGU, the TSO may take into account the Conversion Factors when Dispatching such a CDGU.

**Fully Available**

In relation to a CDGU, Controllable WFPS or Dispatchable WFPS (as the case may be) means Available to the CDGU’s Contracted Capacity / Registered Capacity (PPA plant / non-PPA plant respectively) (or full output in the case of a Controllable WFPS or Dispatchable WFPS) In relation to a PPA Open Cycle Gas Turbine CDGU, means Available to the CDGU’s Contracted Capacity (Peak).

**Gas**

The gas to be delivered in accordance with arrangements agreed between the TSO and the Generator from time to time or where there are no such arrangements, gas to fuel a CCGT Installation.

**Gas Turbine Unit**

A Generating Unit fuelled by Gas or distillate.

| Gate Closure | 10.00 hours on the day preceding the relevant Trading Day to which a notice relates. |
| Gate Closure 1 | In respect of a Trading Day, 13.30 hours on the Trading Day prior to that Trading Day. |
| Gate Closure 2 | In respect of an Imbalance Settlement Period, one hour before that Imbalance Settlement Period. |

**Gate Window**

The period of time within which data transactions may be submitted and accepted for use in the associated market scheduling and pricing software run, as set out in the TSC. There are three Gate Windows and three corresponding Trading Windows associated with each Trading Day.

31 July 2015
denoted EA1 (Ex-Ante 1), EA2 (Ex-Ante 2), and WD1 (Within-day 1).

**Gate Window Closure**

The time prior to which data transactions may be submitted and accepted for use in the associated market scheduling and pricing software run, as set out in the TSC.

**Gate Window Opening**

The time after which data transactions may be submitted and accepted for use in the associated market scheduling and pricing software run, as set out in the TSC.

**General Conditions or GC**

The part of the Grid Code which is identified as the General Conditions.

**Generating Plant**

A Power Station subject to Central Dispatch

**Generating Unit**

Other than in the case of Wind Farm Power Stations, a turbine generator within a Power Station, together with all Plant and Apparatus at that Power Station up to the high voltage bushings at the Generator Transformer which relate exclusively to the operation of that turbine generator (which in the case of a steam turbine will include the boiler and heat exchanger and in the case of a gas turbine will include the gas generator/combustion turbine). In the case of Wind Farm Power Stations, a wind turbine generator within a Wind Farm Power Station, together with all Plant and Apparatus (including any step-up transformer) which relates exclusively to the operation of that wind turbine generator. It will be either a Synchronous Generating Unit or a Non-Synchronous Generating Unit.

**Generating Unit Agreement**

An agreement between a Generator and NIE Energy pursuant to which NIE Energy amongst other matters, agrees to purchase from the Generator electricity generated by a CDGU.

**Generation Licence**

A licence to generate electricity granted pursuant to Article 10(1)(a) of the Order.

**Generation Planning Parameters**

Those parameters listed in Appendix 2 of OC2.

**Generator**

A person who generates electricity under a Licence or exemption under the Order and who is subject to the Grid Code either by virtue of a Licence or exemption or pursuant to any agreement with the TSO or otherwise.

**Generator Aggregator**

A person who represents several Generating Units, each of which does not have a Registered Capacity/Contracted Capacity greater than 10 MWMW and the combined Registered
Capacity/Contracted Capacity of which is equal to or greater than 4 MW, by in particular preparing notices under SDC1, in relation to those Generating Units and receiving Dispatch Instructions in relation to those Generating Units under SDC2. For the avoidance of doubt, a Generator Aggregator cannot aggregate a Generating Unit with an output equal to or above 10 MW.

**Generator Performance Chart**
A diagram which shows the MW and Mvar capability limits within which a CDGU or a CCGT Module within a CCGT Installation or a Controllable WFPS or Dispatchable WFPS will be expected to operate under steady state conditions in the formats set out in Appendix 1 to OC2, and which shows in addition, for a Controllable WFPS or Dispatchable WFPS, wind speed and direction against electrical output in MW, in “rose” format.

**Generator Terminal**
The stator terminals of a Generating Unit.

**Generator Transformer**
The main transformer for a CDGU through which that power passes from the Generator Terminals to the NI System.

**Governor Droop**
In relation to the operation of the governor of a Generating Unit, the percentage drop in NI System Frequency which would cause the Generating Unit under free governor action to change its output from zero to Full Load.

**Governor Droop Test**
In relation to a CDGU or CCGT Module within a CCGT Installation, a test of the Governor Droop.

**Grid Code**
The Grid Code prepared pursuant to the TSO’s Licence, as from time to time revised in accordance with the TSO’s Licence.

**Grid Code Compliance Agreement**
An agreement that a User whose Plant and Apparatus is connected to the Distribution System is required to enter into with the TSO pursuant to its connection agreement with the DNO, such agreement being in the form set out in Schedule 4 of the Transmission Interface Agreement.

**Grid Code Review Panel**
The panel with the functions set out in GC6.

**High Voltage** or HV
A voltage exceeding 650 volts.

**Hot Cooling Boundary**
The period of time, following De-Synchronisation of a Generating Unit after
which the Warmth State transfers from being hot to being warm.

**Hot Standby**

In relation to a Generating Unit, a condition of readiness of the Generating Unit's boiler to enable the Generating Unit to be Synchronised to the NI System and attain an instructed output in a specified timescale.

**Hot Start**

Any Synchronisation of a Generating Unit that has previously not been Synchronised for a period of time shorter than or equal to its submitted Hot Cooling Boundary.

**HV Apparatus**

High Voltage electrical circuits forming part of a System.

**Hydro Unit**

A Unit which generates electricity from the movement of water excluding Pumped Storage.

**Imbalance Settlement Period**

A thirty minute period beginning on each hour or half hour.

**Implementing Safety Co-ordinator**

Has the meaning set out in OC6.4.2.6.

**Incident Room**

The focal point in the TSO or the User, as the case may be, for the communication of information between the TSO and the senior management representatives of Users relating to a Joint System Incident.

**Incremental Price**

The marginal price at a particular MW Output, for increasing Energy output (or reducing demand) by 1 MWh, once that unit has started to generate Energy (or reduce Demand, as the case may be).

**Incremental Price Quantity Pairs**

Incremental Prices and their respective quantity ranges for Generating Units, Demand Side Units and Aggregated Generating Units as part of Commercial Offer Data.

**Independent Generating Plant**

A Power Station which is not subject to Central Dispatch and is not a Controllable WFPS.

**Indicative Market Schedule**

The schedule prepared by the Market Operator pursuant to the TSC.

**Indicative Operations Schedule**

The schedule prepared by the TSO in conjunction with the Other TSO pursuant to SDC1.4.8.1.

**Individual Demand Site**

A single premises of a Customer connected to the Transmission System or Distribution System with a Demand Side Unit MW Capacity.

GD21
**Inflexible Planned Outage**

A Planned Outage the Start Date and Start Time of which cannot be moved by the TSO under OC2.6.4(d) and which accordingly is designated as an Inflexible Planned Outage in the relevant Outage programme produced pursuant to OC2 (and the period for which it is planned (and therefore excluding any overrun) shall be known as the Inflexible Planned Outage Period).

**Interconnector**

Electric lines and electric Plant used for conveying electricity or provision of Reserves from outside both of Northern Ireland and the Republic of Ireland directly to or from a substation or converter station in either Northern Ireland or the Republic of Ireland.

**Interconnector Filter**

A device within an HVDC Interconnector which prevents the transmission of harmonics to the Transmission System to which that Interconnector is connected and which also provides a means of controlling the Mvar flow to and from that HVDC Interconnector.

**Interconnector Owner**

A person who owns an Interconnector.

**Interconnector User**

A User importing or exporting electricity through the Interconnector, but excluding a residual capacity holder as defined in the TSC.

**Interested User**

As defined in the Metering Code.

**Inter-jurisdictional Tie Line**

The lines, facilities and equipment that connect the transmission system of the Republic of Ireland to the transmission system of Northern Ireland.

**Intermediary**

The person representing a Generating Unit for the purposes provided for in the TSC.

**Intertripping**

A method of tripping a circuit breaker on receipt of a signal initiated from protection at another location.

**Intra-Day Trading**

The facilitation of trading of unallocated capacity on the Interconnectors within the Trading Day by means of additional Gate Windows.

**Investigation**

An investigation carried out by the TSO pursuant to OC11.7 in relation to a Power Station containing PPA CDGUs or an investigation carried out by the TSO pursuant to OC11.12 in relation to any other User Sites (as the context may require).
Isolating Device

A device for the purpose of rendering Plant and HV Apparatus either Isolated or disabled so that electrical energy cannot pass from the Apparatus (or, in the case of Plant, from the associated Apparatus) to the HV Apparatus.

Isolation

The disconnection of HV Apparatus from the remainder of the System in which that HV Apparatus is situated by means either of an Isolating Device(s) in the isolating position or adequate physical separation or sufficient gap or the disablement (by means of switching or dismantling) of Plant and/or Apparatus so that electrical energy cannot pass from the Apparatus (or, in the case of Plant, from the associated Apparatus) to the HV Apparatus, other than by an Isolating Device and "Isolated" shall be construed accordingly.

Joint Grid Code Review Panel

The Panel with the functions set out in GC7.

Joint System Incident

Has the meaning set out in OC7.6.1.

Large Demand Customer

A Customer which is connected to the Transmission System.

Lease

A lease entered into between the TO and a Generator with PPA CDGUs in respect of a Power Station containing such CDGUs.

Licence

A licence granted under the Order.

Licence Standards

The standards set out or referred to in Condition 20 of the TSO Licence.

Load

The Active Power or Reactive Power, as the context requires, generated, transmitted or distributed and all like terms shall be construed accordingly.

Load Management Arrangements

Arrangements made by agreement between a Customer and its Supplier whereby the Customer agrees to reduce the level of its Demand in accordance with that agreement.

Load Up Break Point Cold

The break point which defines the shared MW boundary between the two Loading Rates Cold. The first Loading Rate Cold applies from Block Load to the first Load Up Break Point Cold, the second Loading Rate Cold applies from the first Load Up Break Point Cold to the second Load Up Break Point Cold, the third Loading Rate Cold applies from the second Load Up Break Point Cold to the end point of the Start-Up period, which should be set equal to the Minimum Generation.
**Load Up Break Point Hot**

The break point which defines the shared MW boundary between the **Loading Rates Hot**. The first **Loading Rate Hot** applies from **Block Load** to the first **Load Up Break Point Hot**, the second **Loading Rate Hot** applies from the first **Load Up Break Point Hot** to the second **Load Up Break Point Hot**, the third **Loading Rate Hot** applies from the second **Load Up Break Point Hot** to the end point of the **Start-Up** period, which should be set equal to the **Minimum Generation**.

**Load Up Break Point Warm**

The break point which defines the shared MW boundary between the **Loading Rates Warm**. The first **Loading rate** applies from **Block Load** to the first **Load Up Break Point Warm**, the second **Loading Rate Hot** applies from the first **Load Up Break Point Warm** to the second **Load Up Break Point Warm**, the third **Loading Rate Warm** applies from the second **Load Up Break Point Warm** to the end point of the **Start-Up** period, which should be set equal to the **Minimum Generation**.

**Loading Rate**

The **Loading Rate Cold**, **Loading Rate Hot** or **Loading Rate Warm** as the case may be.

**Loading Rate Cold**

The rate at which a **Generating Unit** increases **Output** from **Block Load** to **Minimum Generation** when it is instructed to **Cold Start**. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Loading Rate Hot**

The rate at which a **Generating Unit** increases **Output** from **Block Load** to **Minimum Generation** when it is instructed to **Hot Start**. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Loading Rate Warm**

The rate at which a **Generating Unit** increases **Output** from **Block Load** to **Minimum Generation** when it is instructed to **Warm Start**. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Local Safety Instructions**

Instructions relating to each **TO Site** and each **User Site** approved by the relevant **TO** or **User's Manager** in accordance with OC6.4.1, setting down the methods of achieving the objectives of the **TO's** or the **User's** (as the case may be) **Safety**
Rules to ensure the safety of personnel carrying out work or testing on Plant and/or Apparatus to which his Safety Rules apply and in the case of a User, any other document(s) on a User Site which contains rules with regard to maintaining or securing the isolating position of an Isolating Device, or maintaining a physical separation or sufficient gap, or the disablement (by means of switching or dismantling) of Plant and/or Apparatus so that electrical energy cannot pass from the Apparatus (or, in the case of Plant, from the associated Apparatus) to the HV Apparatus, other than by an Isolating Device or maintaining or securing the position of an Earthing Device.

Location
The electrical location on a System.

Low Frequency Relay
An electrical measuring relay intended to operate when its characteristic quantity (Frequency) reaches the relay settings by decrease in Frequency.

Low Voltage or LV
A voltage not exceeding 250 volts.

Margin
An appropriate Operational Planning margin, set by the TSO, of generating capacity over that required to meet Demand.

Market Operator
Shall have the meaning set out in the TSC.

Maximisation
An increase in MW Output above the Contracted Capacity (for CDGUs other than Open Cycle Gas Turbines) or Contracted Capacity (Peak) (for PPA Open Cycle Gas Turbines) or Registered Capacity (for non-PPA plant) up to the level of the Short Term Maximisation Capability, and the terms “Maximise” and “Maximised” shall be construed accordingly.

Maximisation Instruction
A Dispatch instruction issued by the TSO to the Generator to Maximise the MW Output of a Generating Unit.

Maximum Down Time
The maximum period of time during which Demand Side Unit MW Response at a Demand Side Unit can be greater than zero.

Maximum Export Capacity
The value (in MW, MVA, kW and/or kVA) provided in accordance with the User’s Connection Agreement or DNO Demand Customer’s DNO Connection Agreement.

Maximum Generation
The operation of a CDGU to provide an output in excess of Contracted Capacity (for CDGUs

31 July 2015

GD25
other than Open Cycle Gas Turbines) or Contracted Capacity (Peak) (for Open Cycle Gas Turbines and PPA CCGTs) or Registered Capacity (for non-PPA plant).

Maximum Import Capacity
The values (kW and/or kVA) provided in accordance with the User’s Connection Agreement or DNO Demand Customer’s DNO Connection Agreement.

Maximum On Time
The maximum time that a Generating Unit can run following Start Up.

Maximum Ramp Down Rate
The maximum Ramp Down Rate of a Demand Side Unit. In the case of a Demand Side Unit which consists of an Aggregated Demand Site this shall be the aggregated maximum Ramp Down Rate of the Individual Demand Sites.

Maximum Ramp Up Rate
The maximum Ramp Up Rate of a Demand Side Unit. In the case of a Demand Side Unit which consists of an Aggregated Demand Site this shall be the aggregated maximum Ramp Up Rate of the Individual Demand Sites.

Maximum Storage Capacity
The maximum amount of Energy that can be produced from the reservoir of a Pumped Storage Generator for a Trading Day.

Medium Voltage or MV
A voltage exceeding 250 volts but not exceeding 650 volts.

Merit Order
An order, compiled by the TSO in conjunction with the Other TSO pursuant to SDC 1, of CDGUs, Controllable WFPSs, Demand Side Units, Pumped Storage Plant Demand and Aggregated Generating Units Price Sets and/or Interconnector Price Quantity Pairs or Price Quantity Pairs of equivalent units in the Republic of Ireland Commercial Offer Data sorted in price order.

Metering Code or MC
That part of the Grid Code identified as the Metering Code.

Minimum Demand Regulation (MDR)
That minimum margin of Active Power to provide a sufficient regulating margin for adequate Frequency Control.

Minimum Down Time
The minimum period of time during which Demand Side Unit MW Response at a Demand Side Unit can be greater than zero.


**Minimum Off Time**

The minimum time that must elapse from the time of a Generating Unit Shut Down before it can be instructed to Start-Up. In the case of Demand Side Units, the time that must elapse while the Demand Side Unit MW Response is at zero until the next delivery of Demand Side Unit MW Response.

**Minimum On Time**

The minimum time that must elapse from the time of a Generating Unit Start-Up before it can be instructed to Shut Down.

**Minimum Storage Capacity**

The minimum amount of Energy that must be produced from the reservoir of a Pumped Storage Generator for a Trading Day.

**Minimum Generation**

The minimum MW Output which a Generating Unit can generate continuously, registered with the TSO under SDC1 as a Technical Parameter.

**Minor Test**

An Operational Test with a total duration of less than 6 hours in any Trading Day or were the active energy produced during the total duration of the test is less than:

(i) 3 times the Active Energy which would be produced by the Test Proposer’s Plant during 1 hour of operation at the Plant’s Registered Capacity; and

(ii) 500 MWh.

**Monitoring**

Monitoring of PPA CDGUs carried out by the TSO pursuant to OC11.5 or monitoring of other User’s Equipment carried out by the TSO pursuant to OC11.10 (as the context requires).

**Monitoring Notice**

A notice issued by the TSO to a Generator in respect of a PPA CDGU pursuant to OC11.5.3, informing the Generator that the TSO is Monitoring one of its CDGUs or a notice issued by the TSO to a User pursuant to OC11.10.2.3 informing the User that the TSO is Monitoring its Relevant Plant.

**Narrow Tolerance Bands**

Those tolerance bands referred to in Column 4 of the relevant Table in the Appendix to Part A of OC11 or the Appendix to Part B of OC11 (as the context requires).
NFL Capacity

The normal Full Load capability of a CDGU (expressed in MW and stated, where relevant, in relation to a Designated Fuel) to generate electricity (using, where relevant, that Designated Fuel), determined as at the Connection Point.

NI Demand

The Demand on the NI System less the output of Independent Generating Plant.

NI System

Together, the Transmission System and the Distribution System.

NIE Energy

NIE Energy Limited, a company incorporated under the laws of Northern Ireland with registered number NI 27394 whose registered office is situated at 120 Malone Road, Belfast and its successors and permitted assigns;

NIE plc

In relation to the period prior to 1 November 2007 in its then capacity as Transmission and Distribution System operator

No Load Cost

A price which forms part of Commercial Offer Data expressed in € or £/hour and which is invariant in the level of MW Output and which applies at all times when the level of MW Output is greater than zero.

Nominated Generating Unit Agreement

One of the following Generating Unit Agreements entered into between NIE plc (and subsequently transferred to NIE Energy) and the relevant Generator on the Transfer Date (which date was 1 April 1992), as amended from time to time:

Agreements in respect of Kilroot Power Station:
Gas Turbine Generating Unit GT1
Gas Turbine Generating Unit GT2

Agreements in respect of Ballylumford Power Station:
Generating Unit No 4
CCGT Unit 10
CCGT Unit 20
Gas Turbine Generating Unit GT1
Gas Turbine Generating Unit GT2

Agreements in respect of Coolkeeragh Power Station:
Gas Turbine Generating Unit GT8

Nominated Power Station Agreement

One of the following Power Station Agreements entered into between NIE plc (and subsequently transferred to NIE Energy) and the relevant
GD29

31 July 2015

Generator on the Transfer Date (which date was 1 April 1992), as amended from time to time:

Kilroot Power Station Agreement
Ballylumford Power Station Agreement
Coolkeeragh Power Station Agreement

Nomination Profile
The profile of the MW Output intended for a Generating Unit in respect of each Trading Period in the Trading Day as submitted under the TSC.

Non-Centrally Dispatched Generating Units
A Generating Unit not subject to Central Dispatch.

Non-Synchronous Generating Unit
A Generating Unit which is connected but not Synchronised to the NI System with or without electronic converters either direct or through a rectifier/inverter link.

Notice to Synchronise
A Dispatch Instruction given by the TSO to a Generator requiring a CDGU to Synchronise to the NI System.

Notified Unplanned Outage
An Outage which has not been planned in advance under OC2, but of which some notice can be given by the Generator to the TSO.

Open Cycle Gas Turbine Unit
A Generating Unit driven by a gas turbine other than a CCGT Installation or CCGT Module.

Open Cycle Mode
The mode of operation of a CCGT Installation where only the Gas Turbine Unit is operational (i.e. without operation of any associated Steam Turbine Units).

Operating Code or OC
That part of the Grid Code which is identified as the Operating Code.

Operating Margin
Contingency Reserve and Operating Reserve.

Operating Mode
An Operating Mode of a Generating Unit is a pre-defined method of operating that Generating Unit, as agreed between the TSO and the User.

Operating Reserve
The additional output from Generating Plant and/or the reduction in Demand which must be realisable in real time operation to respond in order to contribute to containing and correcting any NI System Frequency deviation to an acceptable level in the event of a loss of generation or a loss of import from an Interconnector or mismatch between generating output and Demand.
**Operating Security Standard**

The standard referred to in Condition 21 of the TSO Licence.

**Operation**

Has the meaning set out in OC5.4.1.

**Operational Effect**

Has the meaning set out in OC5.4.3.

**Operational Metering**

Has the meaning ascribed to it in the MC.

**Operational Planning**

The process carried out by the TSO in accordance with OC2 which involves planning through various timescales, the matching of generating capacity with forecast NI Demand together with a reserve of generation to provide the Margin taking into account Outages of CDGUs and Power Station Equipment and Outages of and constraints on parts of the NI System, and taking into account the output of Independent Generating Plant and Interconnectors, in order to maintain the security and integrity of the NI System.

**Operational Planning Phase**

The period from 1 week to the end of the third year ahead of real time operation.

**Operational Procedures**

Management instructions and procedures, both in support of the Safety Rules and for the local and remote operation of Plant and/or Apparatus at or from a Connection Site.

**Optimisation Time Horizon**

The time period from and including 06:00 hours on the relevant Trading Day up to but not including 12:00 hours on the subsequent Trading Day.

**Order**


**Other Authority**

The Commission for Energy Regulation in the Republic of Ireland.

**Other Grid Code**

The code prepared by the Other TSO pursuant to section 33 of the Electricity Regulation Act 1999 of the Republic of Ireland, and approved by the relevant regulatory authority, as from time to time revised, amended, supplemented or replaced with the approval of or at the instance of the relevant regulatory authority.

**Other Relevant Data**

The data from a User referred to in SDC1.4.4.4.

**Other Transmission System**

The transmission system operated by the Other TSO in the Republic of Ireland.

**Other TSO**

The holder of a licence granted pursuant to Section 14 of the Electricity Regulation Act 1999 in the Republic of Ireland to operate a Transmission System.

GD30
Outage

In relation to a Generating Unit, a total or partial reduction in Availability in connection with the repair or maintenance of the Generating Unit or any associated Power Station Equipment, or resulting from a breakdown or failure of the Generating Unit or any associated Power Station Equipment. In relation to a Demand Side Unit or a Large Demand Customer’s site, a total or partial change in Demand Side Unit MW Capacity in connection with the repair or maintenance of the Demand Side Unit or Large Demand Customer’s unit or any associated equipment or resulting from a breakdown or failure of the Demand Side Unit or Large Demand Customer’s site or any associated equipment. In relation to the TSO, the removal for repair or maintenance, or as a result of failure or breakdown, of any part of the Transmission System. In relation to the DNO, the construction, the removal for repair or maintenance, or as a result of failure or breakdown, of any part of the distribution lines at 33kV on the Distribution System.

Outage Notice

A notice submitted by a User under OC2 notifying the TSO of an Unplanned Notified Outage.

Output

The actual Active Power output in MW of a Generating Unit as at the Connection Point derived from data measured pursuant to the Metering Code. In respect of a PPA CDGU, the TSO may take into account the Conversion Factors when Dispatching such a CDGU.

Overburn Contracted Capacity

In relation to a CDGU which is capable of firing on two different Designated Fuels, the figure (expressed in MW, measured as at the Connection Point) identified in schedule 1 to the relevant Generating Unit Agreement as "Overburn Contracted Capacity".

Ownership Diagram

A diagram created pursuant to CC9.1.4 and prepared following the principles set out in Appendix 2 to the CC.

Partial Shutdown

The same as a Total Shutdown except that all generation has ceased in a separate part of the Total System and there is no electricity supply across any Interconnector or Inter-jurisdictional Tie Line or other parts of the Total System to that part of the Total System and, therefore, that part of the Total System is shutdown, with the result that it is not possible for

31 July 2015
that part of the **Total System** to begin to function again without the **TSO's** directions relating to a **Black Start**.

**Physical Notifications**

A declaration submitted by certain **Users** in accordance with **SDC1.4.4.6** and the **TSC** indicating expected **MW Output profile** or **Active Power Demand profile**. **Physical Notifications** shall not take account of any **Dispatch Instructions** already issued to the **User**.

**Planned Manual Disconnection**

Load shedding carried out when it is known in advance that a **Regulating Margin** cannot otherwise be achieved.

**Planned Outage**

An **Outage** which has been planned in advance of the year in which it is to be taken under **OC2** (and which does not therefore include any overrun of the **Outage**), which may be either a **Flexible Planned Outage** or an **Inflexible Planned Outage**.

**Planning Code** or **PC**

That part of the **Grid Code** which is identified as the **Planning Code**.

**Plant**

Fixed and movable items other than **Apparatus**.

**Post Event Notice**

A notice issued by the **TSO** pursuant to **OC11**, re-declaring the **Availability** or **Technical Parameters** of a **CDGU**.

**Power Islands**

Has the meaning set out in **OC7.4.6.2**.

**Power Procurement Manager**

**NIE Energy** in its role as **Power Procurement Manager** in accordance with its **Supply Licence**.

**Power Station**

An installation comprising one or more **Generating Units** (even where sited separately) owned and/or controlled by the same **Generator**, which may reasonably be considered as being managed as one power station or, as the case may be, one **Wind Farm Power Station**.

**Power Station Agreement**

An agreement so entitled between a **Generator** and **NIE Energy** relating to a **Power Station** of the **Generator** as a whole.

**Power Station Equipment**

Items of **Plant** in a **Power Station** which are integral to the operation of a **CDGU**, **Controllable WFPS** and/or **Dispatchable WFPS** but which are not used exclusively in the operation of such **CDGU**. **Controllable WFPS** and/or **Dispatchable WFPS**, the **Outage** of which will, or is likely to (when, for example, taken together with other **Power Station Equipment Outages**), reduce the level of **Availability** of a **CDGU**, **Controllable WFPS** and/or **Dispatchable WFPS**.
**PPA CCGT Installation**

A CCGT Installation which is subject to a Nominated Generating Unit Agreement which is an amendment to that at the Transfer Date to the extent it continues to be so subject, which agreement being made between NIE Energy on the one hand and Premier Power Limited on the other.

**PPA CDGU**

A CDGU which is subject to a Nominated Generating Unit Agreement as at the Transfer Date to the extent it continues to be so subject, which agreement being made between NIE Energy on the one hand and Kilroot Power Limited, Premier Power Limited or Coolkeeragh ESB Limited on the other.

**PPA Generation**

Includes PPA CDGUs and PPA CCGT Installations.

**Preliminary Notice**

Has the meaning ascribed to it in OC10.A.1.2.

**Preliminary Project Planning Data**

Has the meaning set out in PC6.4.2.

**Price Quantity Pairs**

Incremental Prices and their respective quantity ranges for Generating Units, Demand Side Units, Aggregated Generating Units and Interconnector tranches as part of Commercial Offer Data.

**Price Sets**

The Incremental Price Quantity Pairs, Decremental Price Quantity Pairs, Start-up Costs, Shutdown Costs and No Load Costs submitted by a User under SDC1.

**Primary Operating Reserve**

The automatic response to NI System Frequency changes released increasingly from the time of Frequency change and fully available by 5 seconds, and, subject to the agreed Unit Load Controller adjustment where applicable, must be sustainable until at least 15 seconds from the time of Frequency change.

**Priority Dispatch**

The Dispatch given priority, as afforded under governing legislation in either jurisdiction.

**Programming Phase**

The period between the Operational Planning Phase and the Control Phase.

**Proposal Notice**

Has the meaning ascribed to it in OC10.4.1.2.

**Protected Customer**

A Customer other than a Contract Customer in relation to whom, in accordance with guidelines prepared by its Supplier and approved by the Authority, Load Shedding shall, so far as possible, not be exercised.

GD33

31 July 2015
<table>
<thead>
<tr>
<th><strong>Protection</strong></th>
<th>Equipment for detecting abnormal conditions on a System and initiating fault clearance and activating alarms and indications.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provisional Outage Programme</strong></td>
<td>The provisional Outage programme in respect of CDGUs and/or Power Station Equipment prepared by the TSO for Years 2 and 3 pursuant to OC2.6.2.</td>
</tr>
<tr>
<td><strong>Prudent Operating Practice</strong></td>
<td>In relation to a User or the TSO, the standard of practice attained by exercising that degree of skill, diligence, prudence and foresight which could reasonably be expected from a skilled and experienced operator engaged in the same type of undertaking under the same or similar circumstances.</td>
</tr>
<tr>
<td><strong>Pumped Storage Generation</strong></td>
<td>A Pumped Storage Plant in its operation of producing Energy by releasing water from an upper reservoir.</td>
</tr>
<tr>
<td><strong>Pumped Storage Generator</strong></td>
<td>A Generator which owns and/or operates any Pumped Storage Plant.</td>
</tr>
<tr>
<td><strong>Pumped Storage Plant</strong></td>
<td>A Generation Plant that produces Active Energy using water from an upper reservoir and consumes Energy by pumping water up to the same reservoir.</td>
</tr>
<tr>
<td><strong>Pumped Storage Plant Demand</strong></td>
<td>A Pumped Storage Plant in its operation of consuming Energy by pumping water to an upper reservoir.</td>
</tr>
<tr>
<td><strong>Ramp Down Break Point</strong></td>
<td>The MW level at which the Ramp Down Rate changes. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Ramp Down Rate</strong></td>
<td>The maximum rate of decrease in a Generating Unit’s Output. The Ramp Down Rate applies over the output range from its Contracted Capacity (for PPA CDGUs other than PPA Open Cycle Gas Turbines) or Contracted Capacity (Peak) (for PPA Open Cycle Gas Turbines) or Registered Capacity (for non-PPA plant) to Minimum Generation. The rate of change may not depend upon the initial Warmth of the plant but may depend on the MW Output. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Ramp Up Break Point</strong></td>
<td>The MW level at which the Ramp Up Rate changes. There may be circumstances where more</td>
</tr>
</tbody>
</table>
than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Ramp Up Rate**

The maximum rate of increase in a Generating Unit’s Output. This rate of increase continues until the Generating Unit reaches the level of output instructed by the control room operator of its Contracted Capacity (for PPA CDGU's other than PPA Open Cycle Gas Turbines) or Contracted Capacity (Peak) (for PPA Open Cycle Gas Turbines) or Registered Capacity (for non-PPA plant). The rate of increase may not depend upon the initial Warmth of the plant but may depend on the MW Output. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.

**Reactive Power or Mvar**

The product of voltage and current and the sine of the phase angle between them measured in units of volt-amperes reactive and standard multiples thereof, i.e.:

\[
1000 \text{ var} = 1 \text{ kvar} \\
1000 \text{ kvar} = 1 \text{ Mvar}
\]

**Record of Inter-System Safety Precautions or RISSP**

The procedures set out in OC6.4.3.

**Re-declaration**

Notification to the TSO by the User of any revisions to data, pursuant to SDC1.4.5.

**Registered Capacity**

The normal Full Load capacity of a Generating Unit in MW measured as at the Connection Point and in relation to a Wind Farm Power Station, the normal Full Load capacity of the collection of one or more wind turbines, each being a Generating Unit, in MW measured as at the Connection Point of the Wind Farm Power Station.

**Registered Project Planning Data**

Has the meaning set out in PC6.4.4.

**Regulating Margin**

The margin of generating capacity that is Synchronised over Demand which is required in order to maintain Frequency Control.

**Replacement Reserve**

The additional MW output (and/or reduction in Demand required compared to the pre-Event output (or Demand) which is fully available and sustainable from 20 minutes to 4 hours following an Event.

**Requesting Safety Coordinator**

Has the meaning set out in OC6.4.2.5.
Reserve Characteristics

The MW level of reserve available at any given MW Output of a CDGU as set out in the Sustained Load Diagram.

Responsible Engineer/Operator

A person nominated by a User to be responsible for control of the User's System.

Responsible Manager

A manager who has been duly authorised by a User or the TSO to sign Site Responsibility Schedules on behalf of that User or the TSO, as the case may be.

Re-Synchronisation

The act of achieving the state where the Frequencies and phase relationships of parts of the Total System are identical.

RISSP-A and RISSP-B

Have the meanings set out in OC6.4.3.2.

Rota Load Shedding

Planned Disconnection of Customers on a rota basis during circumstances when there is a significant shortfall of generation required to meet the total Demand for a protracted period.

RTS Notice

Has the meaning ascribed to it in OC2.6.8.1.

Safety Co-ordinator

Has the meaning set out in OC6.4.2.

Safety from the System

That condition which safeguards persons working or testing HV Apparatus from the dangers which are inherent in working on items of HV Apparatus.

Safety Precautions

Has the meaning set out in OC6.5.1.

Safety Rules

The rules and procedures (as amended or re-stated from time to time) of the TSO or a User to ensure Safety From The System.

Schedule Day

The period from 0000 hours until 2400 hours on the same day.

Schedule Week

The period from 0000 hours on Saturday of any week until 2400 hours on the next following Friday.

Scheduling

The process of compiling an Indicative Operations Schedule as set out in SDC1, and the term "Scheduled" and like terms shall be construed accordingly.

Scheduling and Dispatch Code (SDC)

The parts of the Grid Code which specify the Scheduling and Dispatch process.
<p>| <strong>Secondary Operating Reserve</strong> | The additional <strong>MW Output</strong> (and/or reduction in Demand) compared to the pre-incident <strong>Output</strong> (or <strong>Demand</strong>) which is fully available and sustainable over the period from 15 to 90 seconds following an <strong>Event</strong>. |
| <strong>Secretary of State</strong> | The Secretary of State for Business, Enterprise and Regulatory Reform. |
| <strong>Sections Under Common Governance</strong> | In order to support the efficient running of the <strong>Single Electricity Market</strong> certain sections of the <strong>Grid Code</strong> and the <strong>Other Grid Code</strong> are under common governance. Modifications and derogations to these sections of the <strong>Grid Code</strong> will effectively require agreement and direction from the <strong>Authority</strong> and the <strong>Other Authority</strong> and the <strong>TSOs</strong>. SDC1 and SDC2 are <strong>Sections Under Common Governance</strong>. |
| <strong>Shipping Agent</strong> | In relation to an <strong>Interconnector</strong>, a person appointed by the Regulatory Authorities to perform the role of the shipping agent (within the meaning of the EU Guideline on Capacity Allocation and Congestion Management in respect of the <strong>Interconnector</strong>). |
| <strong>Short Notice Re-declaration</strong> | A <strong>Re-declaration</strong> where changes apply to values relating to <strong>Trading Period Imbalance Settlement Periods</strong> occurring within 4 hours of receipt by the <strong>TSO</strong> of the <strong>Re-declaration</strong>. |
| <strong>Short Term Maximisation Capability</strong> | The capability of a <strong>Generating Unit</strong> to deliver, for a limited duration of time, <strong>MW Output</strong> greater than its <strong>Contracted Capacity</strong> (for PPA CDGUs other than Open Cycle Gas Turbines or CCGTs) or <strong>Contracted Capacity (Peak)</strong> (for PPA Open Cycle Gas Turbines and PPA CCGTs) or <strong>Registered Capacity</strong> (for non-PPA plant). |
| <strong>Short Term Maximisation Time</strong> | The time that the <strong>Short-Term Maximisation Capability</strong> could be maintained. |
| <strong>Short Term Planned Maintenance Outage</strong> | An <strong>Outage</strong> designated as an STPM Outage in or accordance with OC2.6.4(e) (the duration of which shall not, unless the TSO in its absolute discretion agrees, exceed 72 hours) but not including any overrun of such Outage. |
| <strong>STPM Outage</strong> | |
| <strong>Shutdown</strong> | The condition of a Generating Unit where the generator rotor is at rest or on barring. |
| <strong>Shutdown Cost or Shut Down Cost</strong> | The costs associated with shutting down a Demand Side Unit. |
| <strong>Significant Incident</strong> | Has the meaning set out in OC5.4.6.3. |
| <strong>Significant Test</strong> | A Test with a total duration of equal to or greater than 6 hours, or where the Active Energy produced during the total duration of the test is equal to or greater than: |
| | (i) 3 times the Active Energy which would be produced by the Test Proposer’s Plant during 1 hour of operation at the Plant’s Registered Capacity; or |
| | (ii) 500 MWh |
| <strong>Single Electricity Market (SEM)</strong> | The wholesale all-island single electricity market established and governed pursuant to the relevant legislation and the TSC. |
| <strong>Site</strong> | A User Site, a TSO Site or a TO Site, as the case may be. |
| <strong>Site Responsibility Schedule</strong> | A schedule prepared by the TSO and the TO and signed by both parties detailing the division of responsibilities at Connection Sites towards the ownership, control, operation and maintenance of Plant and Apparatus and the safety of personnel at the Connection Site. The format, principles and basic procedure to be used in the preparation of Site Responsibility Schedules are set down in Appendix 1 to the CC. |
| <strong>Soak Time Cold</strong> | The duration of time for which the Generating Unit must remain at the Soak Time Trigger Point Cold during a Cold Start. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter. |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soak Time Hot</strong></td>
<td>The duration of time for which the <em>Generating Unit</em> must remain at the <strong>Soak Time Trigger Point Hot</strong> during a <strong>Hot Start</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Soak Time Trigger Point Cold</strong></td>
<td>A constant MW level at which a <em>Generating Unit</em> must remain while loading up between <strong>Block Load</strong> and <strong>Minimum Generation</strong> after a <strong>Cold Start</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Soak Time Trigger Point Hot</strong></td>
<td>A constant MW level at which a <em>Generating Unit</em> must remain while loading up between <strong>Block Load</strong> and <strong>Minimum Generation</strong> after a <strong>Hot Start</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Soak Time Trigger Point Warm</strong></td>
<td>A constant MW level at which a <em>Generating Unit</em> must remain while loading up between <strong>Block Load</strong> and <strong>Minimum Generation</strong> after a <strong>Warm Start</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Soak Time Warm</strong></td>
<td>The duration of time for which the <em>Generating Unit</em> must remain at that <strong>Soak Time Trigger Point Warm</strong> during a <strong>Warm Start</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Special Actions</strong></td>
<td>Those actions referred to in SDC2.4.3.</td>
</tr>
<tr>
<td><strong>Special Protection Scheme</strong></td>
<td>A control or protection scheme to facilitate system operation by the intertripping of circuit breakers or other control actions.</td>
</tr>
<tr>
<td><strong>Spinning Reserve</strong></td>
<td>The operation of a <em>CDGU</em> whereby it lifts <strong>Load</strong> during and sustains it following a <strong>Frequency Transient</strong>.</td>
</tr>
<tr>
<td><strong>Spinning Reserve Capability</strong></td>
<td>The ability of a <em>CDGU</em> to provide <strong>Spinning Reserve</strong>.</td>
</tr>
<tr>
<td><strong>Spinning Reserve Monitor</strong></td>
<td>An on-line monitor which predicts the <strong>Spinning Reserve Capability</strong> of a <em>CDGU</em>.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Spinning Reserve Response</strong></td>
<td>The increase in <strong>MW Output</strong> of a machine, with time, that results from its response to a decrease in <strong>System Frequency</strong>.</td>
</tr>
<tr>
<td><strong>Standard Planning Data</strong></td>
<td>Data specified in Part I of the Appendix to the <strong>Planning Code</strong>.</td>
</tr>
<tr>
<td><strong>Standard Time</strong></td>
<td>The time derived from the Caesium Atomic Clock at Anthorn, England.</td>
</tr>
<tr>
<td><strong>Standing Instruction</strong></td>
<td>An instruction for a specified action notified to a <strong>Generator</strong> in advance by the <strong>TSO</strong> whereby, when the specified circumstances arise (which will be capable of being known by the <strong>Generator</strong>), the <strong>Generator</strong> will take the specified action as though a valid instruction had been issued by the <strong>TSO</strong>.</td>
</tr>
<tr>
<td><strong>Standing Technical Offer Data</strong></td>
<td>Technical offer data provided on registration to the <strong>TSC</strong>, and updated in accordance with the <strong>TSC</strong>, by a <strong>User</strong> of each of its <strong>Units</strong> in accordance with the <strong>TSC</strong>.</td>
</tr>
<tr>
<td><strong>Start Date</strong></td>
<td>The date on which an <strong>Outage</strong> is to begin.</td>
</tr>
<tr>
<td><strong>Start of Restricted Range</strong></td>
<td>The start point in <strong>MW</strong> of a <strong>Forbidden Zone</strong>. There may be circumstances where more than one parameter applies and this is indicated by adding a number at the end of the parameter.</td>
</tr>
<tr>
<td><strong>Start-Up</strong></td>
<td>The action of bringing a <strong>Generating Unit</strong> from <strong>Shutdown</strong> to the speed required by the <strong>Generating Unit</strong> to enable it to be <strong>Synchronised</strong> to a <strong>System</strong>.</td>
</tr>
<tr>
<td><strong>Start-Up Cost</strong></td>
<td>The costs associated with <strong>Start-Ups</strong>.</td>
</tr>
<tr>
<td><strong>Start Time</strong></td>
<td>The time at which an <strong>Outage</strong> is to begin.</td>
</tr>
<tr>
<td><strong>Steam Turbine Unit</strong></td>
<td>A <strong>Generating Unit</strong> driven by a Steam Turbine.</td>
</tr>
<tr>
<td><strong>Substation</strong></td>
<td>An assemblage of equipment including any necessary housing for the conversion, transformation or control of electrical power.</td>
</tr>
<tr>
<td><strong>Substitute Reserve</strong></td>
<td>The additional <strong>MW</strong> output (and/or reduction in <strong>Demand</strong>) required compared to the pre-<strong>Event</strong> output (or <strong>Demand</strong>) which is fully available and sustainable from 4 hours to 24 hours following an <strong>Event</strong>.</td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>A holder of a <strong>Supply Licence</strong>.</td>
</tr>
<tr>
<td><strong>Sustained Load Diagram</strong></td>
<td>The diagram(s) setting out the reserve capability of a CDGU submitted to the <strong>TSO</strong> pursuant to the <strong>GD40</strong>.</td>
</tr>
</tbody>
</table>
PC and, in the case of a PPA CDGU annexed to schedule 8 of the Generating Unit Agreement for that CDGU and, in the case of a non-PPA CDGU annexed to the System Support Services Agreement for that CDGU.

**Sustained Response**

Has the meaning set out in OC11.5.5.

**Sustained Response Capability**

Has the meaning set out in OC11.5.5.

**Sustained Response Test**

A test carried out by the TSO pursuant to the provisions of OC11.6.2.

**Synchronised**

The condition where an incoming Generating Unit or System is connected to another System so that the Frequencies and phase relationships of that Generating Unit or System, as the case may be, and the System to which it is connected are identical and all like terms shall be construed accordingly.

**Synchronous Compensation**

The operation of rotating synchronous Apparatus for the specific purpose of either the generation or absorption of Reactive Power.

**Synchronous Generating Unit**

A Generating Unit which is connected and Synchronised to the NI System.

**Synchronous Start-Up Time Cold**

The time taken to bring a Generating Unit to a Synchronised state from a Cold (De-Synchronised) state.

**Synchronous Start-Up Time Hot**

The time taken to bring a Generating Unit to a Synchronised state from a Hot (De-Synchronised) state.

**Synchronous Start-Up Time Warm**

The time taken to bring a Generating Unit to a Synchronised state from a Warm (De-Synchronised) state.

**System**

Any User System and/or the NI System as the case may be.

**System Operator Agreement (SOA)**

The agreement of the same name entered into by the TSO and the Other TSO.

**System Outage Plan**

As defined in OC2.8.

**System Support Services**

Has the meaning set out in Condition 1 of the TSO Licence.

**System Support Services Agreement**

An agreement between the TSO and a Generator,
and in the case of PPA CDGUs between the TSO and NIE Energy, for the provision by a Generator of System Support Services, which includes Ancillary Services.

System Tests
Has the meaning set out in OC10.1.1.

Target Frequency
That Frequency determined by the TSO, in its reasonable opinion, as the desired operating Frequency of the Total System. This will normally be 50.00Hz plus or minus 0.05Hz, except in exceptional circumstances as determined by the TSO, in its reasonable opinion when this may be 49.90 or 50.10Hz.

Target Reservoir Level Percentage
As defined in the TSC.

Target Reservoir Levels
Part of the Commercial Offer Data for a Pumped Storage Generating Unit and means the target level of the reservoir for the end of the Trading Day.

Technical Parameters
Those parameters listed in Appendix A to SDC1.

Technical Parameters Notice
A notification as submitted under SDC1.4.4.1.

Tertiary Operating Reserve band 1
The additional MW output required compared to the pre-Event output which is fully available and sustainable from 90 seconds to 5 minutes following an Event.

Tertiary Operating Reserve band 2
The additional MW output required compared to the pre-Event output which is fully available and sustainable from 5 minutes to 20 minutes following an Event.

Test Co-ordinator
Has the meaning set out in OC10.A.1.1.

Test Panel
A panel, whose composition is detailed in the Appendix to OC10, which is responsible for various matters including considering a proposed System Test and preparing a Test Programme.

Test Programme
Has the meaning set out in OC10.4.4.1.

Test Proposer
Has the meaning set out in OC10.4.1.4.

Testing
Testing of PPA CDGUs carried out by the TSO pursuant to OC11.6 or testing of User’s Equipment other than PPA CDGUs pursuant to OC11.11 (as the context requires) and the term "Test" shall be construed accordingly.
**Thermal Plant**

A *Generating Unit* that uses any source of thermal *Energy*.

**TO Site**

A site owned (or occupied pursuant to a lease, licence or other agreement) by the TO in which there is a *Connection Point*. For the avoidance of doubt a site owned by a *User* but occupied by the TO as aforesaid, is a *TO Site*.

**Tolerance Band**

The relevant tolerance allowed in *Monitoring* of PPA CDGUs under OC11.5 or the relevant tolerance allowed in *Monitoring* non-PPA CDGUs under OC11.10.2 (as the context requires) when determining whether *Dispatch Instructions* are being complied with, being either a *Wide Tolerance Band* or a *Narrow Tolerance Band*.

**Total Shutdown**

The situation existing when all generation has ceased and there is no electricity supply across any *Interconnector* and, therefore, the *Total System* has shutdown with the result that it is not possible for the *Total System* to begin to function again without the TSO’s directions relating to a *Black Start*.

**Total System**

Together, the *NI System* and all *User Systems* in Northern Ireland.

**Trading and Settlement Code (TSC)**

The Single Electricity Market Trading and Settlement Code adopted by the *Market Operator* and approved by the *Authority* and the *Other Authority*.

**Trading Day**

A 24-hour period combining forty-eight 30 minute *Trading Periods* (except on the clock change days in spring and autumn when the period will be 23 and 25 hours respectively with forty-six and fifty 30 minute *Trading Periods*). Each Trading Day commences at 23.00 hours. For PPA CDGUs references to *Trading Day* in the *Scheduling and Dispatch Code* shall be read as if they were references to *Schedule Day* for the purposes of the *Power Station Agreements* and *Generating Unit Agreements*.

**Trading Period**

A thirty minute period beginning on each hour or half-hour.

**Trading Window**

This is the contiguous number of *Trading Periods*, excluding the starting overlap optimisation period and ending overlap optimisation period.
optimisation period, for which the relevant market scheduling and pricing software run will determine the market schedule quantities.

**Transfer Date**

Such date as may be appointed by the Department of Enterprise Trade and Investment by order under Article 69(3) of the Order.

**Transmission System Capacity Statement**

The statement in respect of the Transmission System which the TSO is required to prepare pursuant to paragraph 1, Condition 33, of the TSO Licence.

**Transmission Interface Agreement (TIA)**

The agreement of the same name entered into by the TO and the TSO.

**Transmission Owner (TO)**

Northern Ireland Electricity plc in its capacity as the owner of the NI System.

**Transmission System**

The System consisting (wholly or mainly) of high voltage electric lines and cables operated by the TSO for the purposes of transmission of electricity from one Power Station to a sub-station or to another Power Station or between sub-stations or to or from any Interconnector including any Plant and Apparatus and meters owned or operated by the TSO or TO in connection with the transmission of electricity.

**Transmission System Operator (TSO)**

The holder of the Licence granted pursuant to Article 10(1)(b) of the Electricity (Northern Ireland) Order 1992 to operate a Transmission System.

**Transmission Use of System Agreement**

An agreement between the TSO and a User setting out the terms relating to use of the All Island Transmission Networks.

**TSO Control Centre**

A location used for the purpose of control and operation of the Transmission System which, as at the Transfer Date, is at Castlereagh House, but which may be moved. Notice will be given to relevant Users if a move should take place.

**TSO Financial Year**

For the purposes of OC1.4.1, means the period from 1st October in each year to 30th September in the next following year.

**TSO Licence**

A Licence authorising a TSO to carry out electricity transmission activities, granted either pursuant to Article 10(1)(b) of the Electricity (Northern Ireland) Order 1992 in Northern Ireland.
or pursuant to section 14 of the Electricity Regulation Act 1999 in the Republic of Ireland.

### 24 Hour Recall

An agreement between the TSO and a Generator whereby a CDGU subject to a Notified Unplanned Outage may be recalled by the TSO upon giving 24 hours notice to the Generator.

### Under Test Flag

The flag indicating the under test status accorded to certain Generating Units by the TSO in accordance with the relevant Grid Code. Under test in accordance with the TSC is subject to the requirements both that the Market Operator has verified the status with the TSO and that the relevant Unit is so permitted as set out in the TSC.

### Unit Load Controller

A device which regulates the generation level when the Generating Unit is operating in Frequency Sensitive Mode to ensure (as far as possible) that it does not exceed or fall short of previously set limits.

### Use of System Charges

The TSO’s charges to users for use of the All Island Transmission Networks.

### User

A term utilised in various sections of the Grid Code to refer to the persons having to comply with a particular section of the Grid Code.

### User Site

A site owned (or occupied pursuant to a lease, licence or other agreement) by a User (which in the case of an Aggregator, means the combination of the individual Aggregated Generating Unit or Aggregated Demand Side Unit sites as the case may be) in which there is a Connection Point or, where relevant, a connection to the Distribution System. For the avoidance of doubt, a site owned by TSO but occupied by a User as aforesaid, is a User Site.

### User System

The Distribution System or a system owned or operated by a User comprising Generating Units together with Plant and/or Apparatus connecting Generating Units and/or Large Demand Customers’ equipment to the NI System.

### User’s Equipment

The Plant and/or Apparatus owned and/or operated by a User.

### Var

A single unit of Reactive Power.

### Voltage Control

The retention of the voltage on the System within acceptable limits.

31 July 2015
**Warm Cooling Boundary**

The period of time, which must be greater than that defined by the [Hot Cooling Boundary](#), post [De-Synchronisation](#) of a [Generating Unit](#) after which the [Generating Unit’s Warmth State](#) transfers from being warm to cold.

**Warm Start**

Any [Synchronisation](#) of a [Generating Unit](#) that has previously not been [Synchronised](#) for a period of time equal to or longer than its submitted [Hot Cooling Boundary](#) and shorter than or equal to its submitted [Warm Cooling Boundary](#).

**Warmth**

The temperature related condition of a [CDGU](#) which changes according to the length of time since the [CDGU](#) was last [De-Synchronised](#), expressed as various levels of warmth (for example "hot", "warm" and "cold") as may be specified (dependent upon the design of the [CDGU](#)) in the [Generating Unit Agreement](#) relating to that [CDGU](#).

**Warmth State**

Either cold, warm or hot, as defined under the timeframes since last [De-Synchronisations](#) for [Cold Start](#), [Warm Start](#) or [Hot Start](#) respectively.

**Warning Notice**

A notice issued by the [TSO](#) to a [Generator](#) in respect of a [PPA CDGU](#) pursuant to OC11.5.3, informing the [Generator](#) that it has failed to comply with a [Dispatch Instruction](#) or a notice issued by the [TSO](#) to a [User](#) pursuant to OC11.10.2.3 informing the [User](#) that it has failed to comply with a [Dispatch Instruction](#) (as the context requires).

**Wide Tolerance Bands**

Those tolerance bands referred to in Column 2 of the relevant Table in the Appendix to Part A of OC11 or the Appendix to Part B of OC11 (as the context requires).

**Willans Line**

For a throttle governed steam turbine [Generating Unit](#) the [Willans Line](#) is the straight line relationship between heat consumption and electrical output with its origin at the no load consumption.

For a [CCGT Installation](#) the [Willans Line](#) is the composite of the heat consumption and electrical outputs of the several [CCGT Modules](#) dependent at any time on the operating mode of the [CCGT Installation](#).
### Wind Farm Power Station or WFPS
A collection of one or more wind turbines owned and/or operated by the same Generator and joined together by a System with a single Connection Point or connection to the Distribution System.

### Wind Farm Power Station Settings
The document of that name setting out in accordance with CC.7.2 certain technical criteria that Generators must comply with in respect of their Wind Farm Power Stations.

### Wind Following Ramp Rate
The maximum rate of increase of Active Power Output of a WFPS in response to an increase in wind speed or removal of any TSO action via SCADA which limits Active Power Output of the WFPS, as specified by the TSO from time to time in the WFPS Settings Schedule published on the SONI website (or such other place or by such other means as may be notified to the Generator from time to time).

### Within-Day Test
A Test with a total duration of less than 6 hours in any Trading Day, where the Active Power produced during the total duration of the test is less than:

1. 3 times the Active Power which would be produced by the Plant undergoing a Test during 1 hour of operation at the Plant’s Registered Capacity; or
2. 500MW
GD2. CONSTRUCTION OF REFERENCES

In the Grid Code:

(i) the table of contents and headings are inserted for convenience only and shall be ignored in construing the Grid Code;

(ii) unless the context otherwise requires, all references to a particular paragraph, sub-paragraph, Appendix or Schedule shall be a reference to that paragraph, sub-paragraph Appendix or Schedule in or to that part of the Grid Code in which the reference is made;

(iii) unless the context otherwise requires, the singular shall include the plural and vice versa, references to any gender shall include all other genders and references to persons shall include any individual, body corporate, corporation, joint venture, trust, unincorporated association, organisation, firm or partnership and any other entity, in each case whether or not having a separate legal personality;

(iv) references to the words "include" or "including" are to be construed without limitation to the generality of the preceding words;

(v) unless there is something in the subject matter or the context which is inconsistent therewith, any reference to an Order in Council or an Act of Parliament or any section of or schedule to, or other provision of an Order in Council or an Act of Parliament shall be construed at the particular time, as including a reference to any modification, extension or re-enactment thereof then in force and to all instruments, orders and regulations then in force and made or deriving from the relevant Order in Council or Act of Parliament;

(vi) references to "in writing" or "written" include typewriting, printing, lithography and other modes of reproducing words in a legible and non-transitory form;

(vii) where the Glossary and Definitions refers to any word or term which is more particularly defined in a part of the Grid Code, the definition of that part of the Grid Code will prevail over the definition in the Glossary & Definitions in the event of any inconsistency;

(viii) a cross-reference to another document or part of the Grid Code shall not of itself impose any additional or further or co-existent obligation or confer any additional or further or co-existent right in the part of the text where such cross-reference is contained;

(ix) nothing in the Grid Code is intended to or shall derogate from the TSO’s statutory or licence obligations;

(x) a "holding company" means, in relation to any person, a holding company of such person within the meaning of Section 736, 736A and 736B of the Companies Act 1985 as substituted by Section 144 of the Companies Act 1989;

(xi) a "subsidiary" means, in relation to any person, a subsidiary of such person within the meaning of Section 736, 736A and 736B of the Companies Act 1985 as substituted by Section 144 of the Companies Act 1989;

(xii) references to time are to Belfast time; and
(xiii) if any item (including any technical or operational parameter) is defined or determined by reference to a **Generating Unit Agreement**, then for the purposes of applying this **Grid Code** to a **CDGU** that is not the subject of a **Generating Unit Agreement**, the value of the item shall be taken to be:

(a) as set out in or determined under the **SSS Agreement** (for that **CDGU**);

(b) if paragraph (a) above does not apply, and where the **CDGU** was subject to any **Generating Unit Agreement** which is no longer in force, then as set out in or determined under that **Generating Unit Agreement** as if it were still in effect; and

(c) if paragraph (a) and (b) do not apply, then as agreed between the **TSO** and the **Generator** (both acting reasonably).
OPERATING CODE NO. 10

SYSTEM TESTS

OC10.1 INTRODUCTION

OC10.1.1 Operating Code No. 10 ("OC10") relates to the following types of test (all of which are referred to as "System Tests"):

(a) tests to be carried out by a User or the TSO which involve or may involve simulating conditions or the controlled application of irregular, unusual or extreme conditions on the User's System or the Transmission System (as the case may be) which may have a material effect on the Total System, beyond the User's System or the Transmission System (as the case may be); and

(b) Commissioning/Acceptance Tests of Plant and Apparatus to be carried out by a User or the TSO which involve or may involve the application of irregular, unusual or extreme conditions and which may have a material effect on the Total System, beyond the User's System or the Transmission System (as the case may be).

OC10.2 OBJECTIVE

The overall objectives of OC10 are:

(a) to ensure, so far as possible, that tests proposed to be carried out either by:

(i) a User which may have a material effect on the Total System or any part of the Total System (in addition to that User's System) including the Transmission System; or

OC10-50

31 July 2015
(ii) the TSO which may have a material effect on the Total System or any part of the Total System (in addition to the Transmission System);

do not threaten the safety of personnel or threaten to damage Plant and/or Apparatus and cause minimum detriment to the TSO and Users; and

(b) to set out the procedures to be followed for establishing and where appropriate reporting such tests and to set out guidelines for which tests need to be notified to the TSO prior to the test being carried out.

OC10.3 SCOPE

OC10 applies to the TSO and to Users which, in this OC10 means:

(a) with the exception only of OC10.5, Generators (in respect only of all Generating Units connected to the Transmission System), Interconnector Owners, Large Demand Customers and Aggregators; and

(b) with the exception of OC10.4.1 only, the DNO.

OC10.4 PROCEDURE

OC10.4.1 Proposal Notice

OC10.4.1.1 The level of Demand on the NI System varies substantially according to the time of day and time of year and, consequently, certain System Tests which may have a significant impact on the NI System (for example, tests of the Full Load capability of a Generating Unit over a period of several hours) can only be undertaken at certain times of the day and year. Other System Tests, for example, those involving substantial Mvar generation or valve tests, may also be subject to timing constraints. It therefore follows that notice of System Tests should be given as far in advance of the date on which they are proposed to be carried out as reasonably practicable.

OC10.4.1.2 Where a User wishes to carry out a System Test it shall submit a notice (a "Proposal Notice") to the TSO as far in advance of the date it would like to undertake the proposed System Test as is reasonably practicable. In the event that a User submits to the TSO a programme for proposed Commissioning/Acceptance Testing pursuant to CC10.1.4 which the TSO considers may involve the application of irregular, unusual or extreme conditions and which may have a material effect on the Total System, beyond the User's System, such programme shall be treated as a Proposal Notice for the purposes of this OC10. Notwithstanding the other requirements in this OC10.4.1.2, in the case of Significant Tests, Users shall submit proposals to the TSO at least five Business Days before the test start date or, with the agreement of the TSO, no later than 09:00 two Business Days before the test start date.
The Proposal Notice shall be in writing, or in such other form as the TSO and the relevant User may otherwise agree (such agreement not to be unreasonably withheld), and shall contain details of the nature and purpose of the proposed System Test and shall indicate the identity and situation of the Plant and/or Apparatus involved. In the case of a System Test (other than an on-Load valve test) involving a CDGU, the User shall state in the Proposal Notice the level of Availability and the values for Technical Parameters which will be declared for the CDGU for the period of the test in accordance with SDC1 and shall also include details of the Dispatch Instructions which the User wishes the TSO to issue to it for the purposes of the test which may be outside the Availability and Technical Parameters to be so declared.

If the TSO is reasonably of the view that the information set out in the Proposal Notice is insufficient, it will contact the person who submitted the Proposal Notice (the "Test Proposer") as soon as reasonably practicable, with a written request for further information. The TSO shall not be required to do anything under this OC10 until it is satisfied with the details supplied in the Proposal Notice or pursuant to a request for further information.

If the TSO wishes to undertake a System Test, the TSO shall be deemed to have received a Proposal Notice for that System Test.

The TSO will use all reasonable endeavours to accommodate requests for System Tests but has absolute discretion as to the timing of such tests (which discretion will be exercised reasonably consistently with previous practice) to ensure the proper operation of the Transmission System and so as to ensure that the Licence Standards are not breached.

Without prejudice to the general description of the types of System Tests which have to be dealt with under this OC10, as set out in OC10.1.1 above, each Generator must submit a Proposal Notice to the TSO if it proposes to carry out any of the following tests, each of which is therefore a System Test:

(a) Var limiter tests;
(b) main steam valve tests; and
(c) Load rejection tests.

Establishment of Test Panel

Using the information supplied (or deemed to have been supplied) to it under OC10.4.1, the TSO will determine, in its reasonable estimation, which Users, other than the Test Proposer, may be materially affected by the proposed System Test and will notify such Users accordingly.

The TSO will then determine, in its reasonable opinion, whether a Test Panel is required taking into account the degree of severity of its possible effect on the Systems of the TSO and Users. A Test Panel will not generally be needed for a routine test and, since the majority of System Tests are routine, the establishment of a Test Panel will be the exception rather than the rule. If the TSO, in its reasonable discretion, decides that a Test Panel is necessary, the provisions set out in the Appendix to this OC10 will apply.

OC10-52
OC10.4.3 The TSO Supervision

OC10.4.3.1 If the TSO determines that no Test Panel is required, it will determine, acting reasonably, whether and, where appropriate, when the proposed System Test can take place and it will consider:

(a) the details of the nature, technical reasons for and timing of the proposed System Test and other matters set out in the Proposal Notice (together with any further information requested by the TSO under OC10.4.1.4);

(b) the economic, operational and risk implications of the proposed System Test; and

(c) the possibility of combining the proposed System Test with any other tests and with Plant and/or Apparatus Outages which arise pursuant to the Operational Planning requirements of the TSO and Users.

If the TSO determines that the proposed System Test cannot take place, it will, insofar as it is able to do so without breaching any obligations regarding confidentiality contained either in the TSO Licence or in any agreement, notify the Test Proposer of the reasons for such decision in such degree of detail as the TSO considers reasonable in the circumstances.

OC10.4.3.2 Users identified by the TSO under OC10.4.2.1 (and the Test Proposer) shall be obliged to supply the TSO, upon written request, with such details as the TSO reasonably requires in order to consider the proposed System Test.

OC10.4.3.3 The TSO will consult with each User identified by it under OC10.4.2.1 regarding the proposed System Test including, in particular, the effects which such test is likely to have on such User's System.

OC10.4.4 The TSO Test Programme

OC10.4.4.1 As soon as practicable the TSO shall, if it approves of the proposed System Test taking place (of which it will notify the Test Proposer), taking into account the factors specified in OC10.4.3.1, prepare a programme (the "Test Programme"), in such detail as the TSO considers, in its reasonable opinion, to be appropriate for the test, which will include:

(a) the procedure to be adopted for carrying out the System Test, including the switching sequence and proposed timings of the switching sequence;

(b) the manner in which the System Test is to be monitored;

(c) a list of those members of staff to be involved in carrying out the System Test, including those who will be responsible for site safety; and

(d) such other matters as the TSO considers appropriate including (without limitation) matters suggested by Users identified by the TSO pursuant to OC10.4.2.1.
OC10.4.2 The TSO, the Test Proposer and each User identified by the TSO under OC10.4.2.1 will determine by agreement the basis on which the costs of the System Test (including unanticipated costs, for example, costs arising from modifications etc) shall be borne as between the affected parties (the general principle being that the Test Proposer will bear such costs). If agreement cannot be reached (each party having acted in good faith), the System Test will be cancelled.

OC10.4.3 Without prejudice to the provisions of OC10.4.1, the TSO shall be entitled to require the proposed System Test to be modified, delayed or cancelled if, in its reasonable opinion, it considers that such test would impose unacceptable effects on the Transmission System or any User System.

OC10.4.4 If the TSO requires the proposed System Test to be cancelled or if it requires such test to be delayed or modified but the Test Proposer considers that such delay or modification is not possible, the proposed System Test shall not take place.

OC10.4.5 The Test Programme will, subject to OC10.4.6, bind the Test Proposer to act in accordance with the provisions of the Test Programme in relation to the proposed System Test.

OC10.4.6 Any problems with the proposed System Test perceived by the Test Proposer or any affected User or the TSO which arise or are anticipated after the issue of the Test Programme and prior to the day of the proposed System Test must be notified by the Test Proposer or affected User or the TSO (as the case may be) to the others as soon as possible in writing. If, in any such case, the TSO decides that these anticipated problems merit an amendment to, or postponement of, the System Test, it shall notify the Test Proposer and affected Users accordingly.

OC10.4.7 If, on the day of the proposed System Test, operating conditions on the Total System are such that any of the TSO, the Test Proposer or an affected User wishes to delay or cancel the start or continuance of the System Test, they shall immediately inform the others of this decision and the reasons for it. The TSO shall then postpone or cancel, as the case may be, the System Test and another suitable time and date shall be arranged in accordance with this OC10.4.4.

OC10.5 Interaction with the DNO

OC10.5.1 In circumstances where the DNO receives the equivalent of a Proposal Notice from a user whose Plant and Apparatus is connected to the Distribution System, the DNO shall inform the TSO as soon as reasonably practicable if it has reason to believe that the proposed System Test may have a material effect on the Transmission System. Following such notification, the DNO shall provide such information as the TSO may reasonably require.

OC10.5.2 Where the DNO intends to carry out a System Test on the Distribution System, it shall notify the TSO as soon as reasonably practicable if it has reason to believe that such System Test may have a material effect on the Transmission System. Following such notification, the DNO shall provide such information as the TSO may reasonably require.
Appendix

OC10.A.1  Test Panel Supervision

OC10.A.1.1 If the TSO determines pursuant to OC10.4.2.2 that a Test Panel is required, it will appoint a representative to co-ordinate the System Test (the "Test Co-ordinator") as soon as reasonably practicable after it has, or is deemed to have, received a Proposal Notice and in any event prior to the distribution of the Preliminary Notice referred to below. The Test Co-ordinator shall act as Chairman of the Test Panel and shall be a full member of the Test Panel.

OC10.A.1.2 The TSO will notify all Users identified by it under OC10.4.2.1 of the proposed System Test by a notice in writing (a "Preliminary Notice") and will send a copy of the Preliminary Notice to the Test Proposer. The Preliminary Notice will contain:

(a) the details of the nature and purpose of the proposed System Test, the identity and situation of the Plant and/or Apparatus involved, the identities of the Users identified by the TSO under OC10.4.2.1 and the identity of the Test Proposer;

(b) an invitation to nominate within one month a suitably qualified representative (or representatives if the Test Co-ordinator considers that it is appropriate for a particular User to nominate more than one representative) to be a member of the Test Panel for the proposed System Test; and

(c) the name of the TSO representative whom the TSO has appointed as the Test Coordinator and who will be a member of the Test Panel for the proposed System Test together with the names of any other representatives whom the TSO has nominated to be members of the Test Panel.

OC10.A.1.3 The Preliminary Notice will be sent within one month of the later of either the receipt by the TSO of the Proposal Notice, or of the receipt of any further information requested by the TSO under OC10.4.1.3. Where the TSO is the proposer of the System Test, the Preliminary Notice will be sent within one month of the proposed System Test being fully formulated.

OC10.A.1.4 Replies to the invitation in the Preliminary Notice to nominate a representative to be a member of the Test Panel must be received by the TSO within one month of the date on which the Preliminary Notice was sent to the User by the TSO. Any User which has not replied within that period will not be entitled to be represented on the Test Panel. If the Test Proposer does not reply within that period, the proposed System Test will not take place and the TSO will notify all Users identified by it under OC10.4.2.1 accordingly.

OC10.A.1.5 The TSO will, as soon as possible after the expiry of that one month period, appoint the nominated persons to the Test Panel and notify all Users identified by it under OC10.4.2.1 and the Test Proposer, of the composition of the Test Panel.

OC10.A.2  Test Panel

OC10.A.2.1 A meeting of the Test Panel will take place as soon as possible after the TSO has notified all Users identified by it under OC10.4.2.1 and the Test Proposer of the
composition of the Test Panel, and in any event within one month of the appointment of the test panel.

OC10.A.2.2 The Test Panel shall consider:

(a) the details of the nature, technical reasons for and timing of the proposed System Test and other matters set out in the Proposal Notice (together with any further information requested by the TSO under OC10.4.1.3);

(b) the economic, operational and risk implications of the proposed System Test;

(c) the possibility of combining the proposed System Test with any other tests and with Plant and/or Apparatus Outages which arise pursuant to the Operational Planning requirements of the TSO and Users; and

(d) whether, at the conclusion of the System Test, the Test Proposer should be required to prepare a written report on the System Test (a "Final Report") in accordance with OC10.A.4 and, if so, the period within which the Final Report must be prepared.

OC10.A.2.3 Users identified by the TSO under OC10.4.2.1, the Test Proposer (whether or not they are represented on the Test Panel) and the TSO shall be obliged to supply the Test Panel, upon written request, with such details as the Test Panel reasonably requires in order to consider the proposed System Test.

OC10.A.2.4 The Test Panel shall be convened by the Test Co-ordinator as often as he considers necessary to conduct its business.

OC10.A.3 Test Panel Test Programme

OC10.A.3.1 As soon as practicable after its first meeting, the Test Panel shall, taking into account the factors specified in OC10.A.2.2, prepare a programme (the "Test Programme") which will include:

(a) the procedure to be adopted for carrying out the System Test, including the switching sequence and proposed timings of the switching sequence;

(b) the manner in which the System Test is to be monitored;

(c) a list of those members of staff to be involved in carrying out the System Test, including those who will be responsible for site safety; and

(d) such other matters as the Test Panel considers to be appropriate.

OC10.A.3.2 The Test Panel shall also determine the basis on which the costs of the System Test (including unanticipated costs) shall be borne as between the affected parties (the general principle being that the Test Proposer will bear such costs). If the Test Panel cannot agree on this (each party having acted in good faith), the System Test will be cancelled.
OC10.A.3.3 The Test Co-ordinator shall be entitled to require the proposed System Test to be modified, delayed or cancelled if, in his reasonable opinion, he considers that such test would impose unacceptable effects on the NI System or on any User System.

OC10.A.3.4 If the Test Co-ordinator requires the proposed System Test to be cancelled or if he requires such test to be delayed or modified but the Test Proposer considers that such delay or modification is not possible, the proposed System Test shall not take place and the Test Panel will disband automatically.

OC10.A.3.5 If the Test Co-ordinator requires the proposed System Test to be modified or delayed and such modification or delay is possible, the Test Panel shall, as soon as practicable, revise the Test Programme accordingly.

OC10.A.3.6 The Test Programme will, subject to OC10.A.3.7, bind all recipients to act in accordance with the provisions of the Test Programme in relation to the proposed System Test.

OC10.A.3.7 Any problems with the proposed System Test which arise or are anticipated after the issue of the Test Programme and prior to the day of the proposed System Test must be notified to the Test Co-ordinator as soon as possible in writing. If the Test Co-ordinator decides that these anticipated problems merit an amendment to, or postponement of, the System Test, he shall notify the Test Proposer (unless the test was proposed by the TSO) and each User identified by the TSO under OC10.4.2.1 accordingly.

OC10.A.3.8 If, on the day of the proposed System Test, operating conditions on the Total System are such that any party involved in the proposed System Test wishes to delay or cancel the start or continuance of the System Test, they shall immediately inform the Test Co-ordinator of this decision and the reasons for it. The Test Co-ordinator shall then postpone or cancel, as the case may be, the System Test and shall, if possible, agree with the Test Proposer (unless the test was proposed by the TSO) and all Users identified by the TSO under OC10.4.2.1 another suitable time and date. If he cannot reach such agreement, the Test Co-ordinator shall reconvene the Test Panel as soon as practicable, which will endeavour to arrange another suitable time and date for the System Test, in which case the relevant provisions of this OC10 shall apply.

OC10.A.4 Test Panel Final Report

OC10.A.4.1 At the conclusion of the System Test, the Test Proposer shall, if so decided by the Test Panel pursuant to OC10.A.2.2(d), prepare a Final Report for submission to the TSO and the other members of the Test Panel. The Final Report shall be submitted within the period agreed by the Test Panel pursuant to OC10.2.2(d).

OC10.A.4.2 The Test Proposer may omit from the Final Report matters which, in its reasonable opinion, are confidential to it and the Final Report shall not be submitted to any person who is not a member of the Test Panel unless the Test Panel, having considered the confidentiality issues arising, shall have unanimously approved such submission.

OC10.A.4.3 The Final Report shall include a description of the Plant and/or Apparatus tested and a description of the System Test carried out, together with the results and, where appropriate, the conclusions and recommendations of the Test Panel.
OC10.A.4.4 When the Final Report has been prepared and submitted in accordance with OC10.A.4.1, the Test Panel will disband automatically. If a Final Report is not required by the Test Panel then it will disband automatically upon the conclusion of the System Test.
OPERATING CODE NO. 11
TESTING, MONITORING AND INVESTIGATION

OC11.1 INTRODUCTION

OC11.1.1 To enable it to comply with its Licence and statutory obligations, the TSO will carry out certain Monitoring, Testing and Investigation in respect of the performance of User’s Equipment. Operating Code No. 11 (“OC11”) specifies the procedures to be followed.

OC11.1.2 It should be noted that the text in OC11.1, OC11.2 and OC11.3 is generic and is applicable to all Users. The remainder of OC11 is separated into two sections. Part A (and its Appendix) is applicable to PPA CDGUs only as these units have specific terminology and processes due to the terms of the Nominated Generating Unit Agreements. Part B (and its Appendix) is applicable to all User’s Equipment other than PPA CDGUs.

OC11.1.3 Monitoring, Testing and Investigation under this OC11 are separate procedures. In general terms, TSO representatives likely to be present at the Power Station or User Site for a Test or an Investigation, but not for Monitoring. It should also be noted that Testing under OC11 includes Within-Day Tests.

OC11.1.4 The detailed procedures and methodologies for conducting certain Tests and undertaking certain Monitoring are set out in Agreed Testing and Monitoring Procedures each of which forms part of the Grid Code.

OC11.2 OBJECTIVES

The objective of OC11 is to establish whether User’s Equipment is operating within its Design and Operating Requirements and is operated (to the extent subject to Central Dispatch) in compliance with Dispatch Instructions. OC11 also specifies the procedures to be followed by the TSO and Users in carrying out Monitoring, Testing and Investigations. In particular, this facilitates adequate assessment of each of the following:

(a) whether PPA CDGUs, Demand Side Units and Relevant Plant (as defined in OC11.10.2.1) comply with Dispatch Instructions;

(b) whether CDGUs, Controllable WFPSs, Aggregated Generating Units, Demand Side Units and other items of User’s Equipment are (to the extent applicable) in compliance with declarations of Availability, System Support Services capabilities, Design and Operating Requirements and any other data required to be registered for those CDGUs, Controllable WFPSs, Aggregated Generating Units, Demand Side Units and other items of User’s Equipment under the Grid Code;
whether User’s Equipment conforms with power quality requirements of the Connection Conditions;

(d) whether Users are in compliance with protection requirements and protection settings under the Grid Code, Users’ Connection Agreements and System Support Services Agreements between Users and the TSO;

(e) whether Users are in compliance with their obligations to provide Operating Reserve under System Support Services Agreements and the Grid Code or, in the case of PPA CDGUs, in compliance with their obligations to provide Spinning Reserve under Nominated Generating Unit Agreements and the Grid Code;

(f) whether a Black Start Station has the ability to Black Start; and

(g) whether CDGUs that have the ability to generate on more than one fuel are capable of switching from operation on one fuel to operation on another fuel in compliance with a Dispatched Fuel Notice in accordance with the requirements of SDC2.

OC11.3 SCOPE

OC11 applies to the TSO and to Users which in this OC11 means Generators (in respect of their Black Start Stations, all other Generating Units connected to the Transmission System and in respect of CDGUs and Controllable WFPSs connected to the Distribution System), Generator Aggregators, Interconnector Owners, Demand Side Units and Large Demand Customers.
PART A – PPA CDGUS ONLY

OC11.4 Not Used

OC11.5 PROCEDURE FOR MONITORING

OC11.5.1 Monitoring may be carried out at any time by the TSO and involves the analysis of the output of Monitoring equipment (as required or permitted under the CC and/or relevant Connection Agreements and/or the MC), which is relayed to the TSO, which shows the output and/or performance of the CDGU, and associated Equipment in order to see whether the CDGU, is complying with its Dispatch Instructions.

OC11.5.2 In determining whether a CDGU has complied, or is complying, with a Dispatch Instruction, the TSO shall in each case give due regard to operating conditions on the NI System. The TSO shall also apply the Tolerance Bands set out in the relevant table in the Appendix to this OC11 Part A to the Monitoring of the relevant Dispatch Characteristic, as indicated in the relevant paragraphs of this OC11 Part A, and shall also apply the Conversion Factors and Additional Conversion Factors where appropriate. The TSO shall, when Monitoring Active Power or Reactive Power, select either the Wide Tolerance Band (for Monitoring sustained performance) or the Narrow Tolerance Band (for Monitoring stability over a short period). When Monitoring on the Narrow Tolerance Band, the TSO will select either the Maximum Tolerance Band or the Minimum Tolerance Band. In the event of a Frequency Transient occurring whilst the TSO is Monitoring the compliance by a CDGU with a Dispatch Characteristic (regardless of which Tolerance Band is being applied by the TSO at the time) to which the CDGU responds in accordance with the relevant User’s obligations to provide Spinning Reserve Response, the CDGU shall not fail the Monitoring by reason of such response.

OC11.5.3 (a) If, having applied the relevant Tolerance Band, and, where appropriate, Conversion Factors and Additional Conversion Factors the TSO suspects that a CDGU has not complied, or is not complying, with a Dispatch Instruction, the TSO will, if it wishes to continue with the Monitoring inform the relevant User by submitting a Warning Notice (either orally or in writing) and, subject to the requirements of System security (which may require the Dispatch Instruction to be cancelled in which case the Warning Notice will be deemed to have been withdrawn), the TSO will allow the User 10 minutes after such notice to comply with the Dispatch Instruction.

(b) If in that 10 minute period the User still fails to comply with the Dispatch Instruction, the TSO may give notice to the User by submitting a Monitoring Notice (either orally or in writing) that the CDGU is being Monitored.

(c) The Monitoring Notice will:

(i) identify the Dispatch Characteristic(s) which is being Monitored and the underlying Technical Parameter(s);
(ii) specify, if relevant, whether the Tolerance Band to be used is the Wide Tolerance Band or the Narrow Tolerance Band; and

(iii) specify, if relevant, whether the Narrow Tolerance Band is to apply as a Maximum Tolerance Band or as a Minimum Tolerance Band.

(d) The User has the right, before the issue of the Monitoring Notice, or at any time thereafter by submitting to the TSO an Availability Notice, a Technical Parameters Notice or a Technical Parameters Revision Notice (as the case may be), to re-declare Availability or the Technical Parameters (in accordance with the provisions of SDC1) in respect of the Dispatch Characteristic(s) to be Monitored, such re-declaration to take effect from the time of receipt of the Warning Notice by the User. In the event that the User submits to the TSO an Availability Notice or a Technical Parameters Notice or a Technical Parameters Revision Notice at or about the same time as the TSO submits to the User a Post Event Notice (or Interim Post Event Notice) pursuant to OC11.5.4 or OC11.5.5 seeking to re-register the Availability or the same Technical Parameter (as the case may be) of the CDGU in question to a different value, then the value of Availability or the value of the relevant Technical Parameter shall be deemed to be redeclared to the inferior of the values specified in the two notices.

(e) The period of Monitoring shall not exceed the period set out in the relevant table in the Appendix to this OC11 Part A for the relevant Dispatch Characteristic(s) and the selected Tolerance Band.

OC11.5.4 Consequences of Monitoring and Post Event Notices

(a) At the end of the period of Monitoring, if the User has achieved each Dispatch Instruction for the period of the Monitoring within the relevant Tolerance Band, the CDGU will be deemed to have complied with each Dispatch Instruction.

(b) If the average value of the Dispatch Characteristic(s) in any 5 minute period during the period of Monitoring falls outside the relevant Tolerance Band the TSO may by submitting a Post Event Notice to the Generator re-register the value of Availability or of the relevant Technical Parameter corresponding to that Dispatch Characteristic to the most inferior value outside the Tolerance Band for any 5 minute period during the period of Monitoring (with effect from the Trading Period Imbalance Settlement Period in which the Monitoring Notice was issued) and the TSO may also notify the Generator not later than 10 minutes before the end of the period of Monitoring that it will continue to Monitor the CDGU for a further period not exceeding that shown in the relevant Table in the Appendix to this OC11 Part A in respect of the particular Dispatch Characteristic and with reference to the relevant or selected Tolerance Band.

(c) If at the end of the further period of Monitoring the average value of the Dispatch Characteristic(s) in any 5 minute period during the Monitoring falls outside the relevant Tolerance Band, the TSO may re-register the value of the Availability or of the relevant Technical Parameter corresponding to that Dispatch Characteristic to the most inferior value for any 5 minute period
during the period of Monitoring (with effect from the Trading Period Imbalance Settlement Period in which the Monitoring Notice was issued). Further periods of Monitoring may also take place, in accordance with the procedure set out in paragraph (b) above and the provisions of this paragraph (c) will apply to such further periods of Monitoring.

(d) (i) If (other than pursuant to a Dispatch Instruction to De-Load) the average value of Output for any 5 minute period is less than 80% of the average Output for either of the two immediately preceding 5 minute periods, the TSO may issue a Post Event Notice re-registering the Availability of the CDGU at the level consistent with its average value for that 5 minute period with effect from the beginning of the Trading Period Imbalance Settlement Period in which such 5 minute period commenced.

(ii) If (following a Dispatch Instruction to De-Load) the average value of Active Power for any 5 minute period is less than 80% of the average value of Active Power which would have been generated by the CDGU for such 5 minute period had it been De-Loaded at its maximum De-Loading rate (registered as a Technical Parameter), the TSO may issue a Post Event Notice re-registering the Availability of the CDGU at the level consistent with the average value for that 5 minute period with effect from the beginning of the Trading Period Imbalance Settlement Period in which such 5 minute period commenced.

(e) Prior to submitting a Post Event Notice, the TSO may deliver an Interim Post Event Notice to the User not later than 2 hours after:

(i) in the case of an event of the type specified in (d) (i) or (ii) above the end of the Trading Period Imbalance Settlement Period during which the event occurred; or

(ii) in the case of instances of Monitoring, the end of the relevant period of Monitoring;

if it is not reasonably practicable for the TSO to deliver a Post Event Notice to the User within that time.

(f) An Interim Post Event Notice shall specify:

(i) the Trading Period Imbalance Settlement Period during which the event of the type specified in (d) (i) or (ii) above occurred and, in the instance of Monitoring, the Trading Period Imbalance Settlement Period during which the relevant Warning Notice was issued; and

(ii) the matters or values which the TSO intends to redeclare in a Post Event Notice as a result of what happened.

(g) Each Generating Unit Agreement contains provisions on the validity of Post Event Notices which shall apply to the Grid Code.
**Spinning Reserve Monitoring (including Governor Droop Monitoring)**

(a) In the case of CDGUs, the following provisions of this OC11.5.5 shall apply to the Monitoring of Spinning Reserve and Governor Droop unless Schedule 8 of the relevant Nominated Generating Unit Agreement otherwise requires. For the purposes of this OC11.5, in the event of any conflict between the provisions of this OC11.5 and the provisions of Schedule 8 of the relevant Nominated Generating Unit Agreement, the provisions of Schedule 8 shall apply. Monitoring of Governor Droop in relation to Open Cycle Gas Turbine CDGUs may be undertaken pursuant to the provisions of this OC11.5 set out above.

(b) For the purposes of this OC11 Part A:

(i) in respect of any Frequency Transient:

(aa) "Pretransient Load" means instantaneous Load level (in MW) of the CDGU at 5 seconds before the Frequency Transient commenced;

(bb) the response of the CDGU to such Frequency Transient, in terms of Load lift (in MW) above Pretransient Load, continuously over the period of 5 minutes starting when the Frequency Transient commenced, is referred to as "Spinning Reserve Response" and comprises Initial Response and Sustained Response;

(cc) the Spinning Reserve Response achieved by the CDGU in response to such Frequency Transient is referred to as the "Achieved" response;

(c) **Spinning Reserve Response**

For the purposes of this OC11 Part A:

(i) the Spinning Reserve Response for the period from 10 seconds to 5 minutes after the commencement of a Frequency Transient is referred to as "Sustained Response";

(ii) a CDGU is required to attain and maintain at all times in this period a Sustained Response not less than the instantaneous value determined under (d) below (the "Contracted" response);

(iii) without prejudice to the relevant Contracted Technical Parameter (or to the requirement to attain Contracted Sustained Response), there is no specific requirement under this OC11.5.5(c) as to Spinning Reserve Response in the period from 0 to 10 seconds ("Initial Response");
(d) **Contracted Response**

For the purposes of this OC11 Part A, for any **Frequency Transient**, the **Contracted Sustained Response** (in MW) is whichever is the least of:

(i) the unconstrained response, which is the value for **Spinning Reserve** corresponding to the **Pretransient Load** on the **Sustained Load Diagram**. If the **Pretransient Load** is less than **Minimum Generation** for the CDGU, the unconstrained response shall be zero;

(ii) the **Availability** constrained response, which is:

\[
A - PTL
\]

where:

\[
A = \text{the Availability of the CDGU at the time at which the Frequency Transient commenced; and}
\]

\[
PTL = \text{Pretransient Load (MW)};
\]

(iii) the **Governor Droop** constrained response (SRG), determined as follows:

\[
SRG = CC/Fg \times \{ (F_p - F_t) - 2A/3 \}
\]

where:

\[
CC = \text{Contracted Capacity (MW)};
\]

\[
F_g = \text{determined as:}
\]

\[
50Hz \times D/100
\]

where D is specified **Governor Droop (%)** notified in the most recent relevant **Technical Parameters Notice**;

\[
F_p = \text{NI System Frequency (Hz) at the time 5 seconds before the Frequency Transient commenced;}
\]

\[
F_t = \text{the instantaneous NI System Frequency (Hz) at any time during the Frequency Transient;}
\]

\[
A = \text{determined as:}
\]

\[
(F_p - F_t) - (Fg \times B)
\]

except where this term has a negative value, in which case A is 0;

where B is determined as:

OC11-66
except where this term has a negative value, in which case B is 0;
where PTL is Pretransient Load.

(c) OC3, "Operating Margin", specifies the timescales within which the Operating Reserve from CDGUs must be provided (and which are further described in SDC3, "Frequency Control"), as follows:

(i) **Primary Operating Reserve**: from the time of a Frequency change, which must be fully available by 5 seconds, and which must be sustainable (subject to the Unit Load Controller adjustment, where applicable) for at least 15 seconds. For the period from 0 to 5 seconds, Primary Operating Reserve therefore falls within the category of Initial Response. Thereafter (from 5 seconds to 15 seconds) Primary Operating Reserve falls within the category of Sustained Response;

(ii) **Secondary Operating Reserve**: which is fully available and sustainable over the period from 15 to 90 seconds following an Event. Secondary Operating Reserve therefore falls within the category of Sustained Response;

(iii) **Tertiary Operating Reserve band 1**: which is fully available and sustainable for a period from 90 seconds to 5 minutes following an Event. Where Tertiary Operating Reserve band 1 is provided by a steam turbine CDGU already Synchronised to the NI System, this will, to the extent it is provided within 5 minutes from the time of a Frequency change, fall within the category of Sustained Response. Tertiary Operating Reserve band 1 provided by gas turbine Units does not fall within the category of Sustained Response because gas turbine Units do not have a Spinning Reserve Capability;

(iv) **Tertiary Operating Reserve band 2**: which is fully available and sustainable for a period from 5 minutes to 20 minutes following an Event. Tertiary Operating Reserve band 2 therefore does not fall within the category of Sustained Response (which is not Monitored after 5 minutes from the time of the Frequency change);

(v) **Replacement Reserve**: which is fully available and sustainable for a period from 20 minutes to 4 hours following an Event; and

(vi) **Substitute Reserve**: which is fully available and sustainable for a period from 4 hours to 24 hours following an Event.

(f) Not used
(g) **Achieved Response**

(i) The event recorders described in Sub-Code 3 of the MC will capture (at 0.1 second intervals), and upon the occurrence of a **Frequency Transient**, the **Frequency** logging equipment constituting part of **Operational Metering** will record (from not less than 5 seconds before the **Frequency Transient** commenced) and retain, the instantaneous **Load** level of the CDGU.

(ii) The **Spinning Reserve Response Achieved** by the CDGU will be determined from the data referred to in (i) above and will be compared with the **Contracted** response.

(h) **Sustained Response Capability**

(i) For the purposes of the Grid Code the "**Sustained Response Capability**" is a factor (not greater than one) which represents actual or anticipated **Achieved Sustained Response** as a fraction of (where less than) **Contracted Sustained Response**. **Sustained Response Capability** may be:

(aa) declared by the **Generator** by submitting a **Technical Parameters Notice** or a **Technical Parameters Revision Notice** on the basis of anticipated response (generically, for all possible **Frequency Transients** and sets of relevant circumstances);

(bb) determined by the **TSO** (and notified to the **Generator** in a **Post Event Notice**) following the occurrence of a **Frequency Transient**, based on the instantaneous values of the **Contracted Sustained Response** and **Achieved Sustained Response** for which the **Sustained Response Deviation** (as defined below) was determined; or

(cc) determined on the basis of the result of a **Test** as described in **OC11.6.2**.

(ii) For the purposes of this OC11 Part A, in respect of any **Frequency Transient**, the "**Adjusted Contracted Sustained Response**" (ACSR) is the Contracted Sustained Response (CSR) adjusted by the prevailing **Sustained Response Capability** (SRC), determined as follows:

\[ ACSR = CSR \times SRC \]

(i) **Spinning Reserve Deviation**

For the purposes of this OC11 Part A:

(aa) the "**Sustained Response Deviation**" is the greatest amount (in **MW**) by which, following a **Frequency Transient**, at any time
over the relevant period, the instantaneous value of Sustained Response Achieved deviated below the Adjusted Contracted Sustained Response;

(bb) the Spinning Reserve Deviation is the Sustained Response Deviation; and

(cc) the Spinning Reserve Deviation shall be zero if it would otherwise be negative.

(j) Spinning Reserve Failure

For the purposes of this OC11 Part A, there is a "Spinning Reserve Failure" whenever following a Frequency Transient, the Spinning Reserve Response Achieved deviated (as described in (g) above) below the Contracted response and the Spinning Reserve Deviation is the amount of such deviation (determined in accordance with (g) above).

(k) Successive Frequency Transients

Where a Frequency Transient has occurred while the CDGU was Synchronised, the CDGU will not be required to respond to any further Frequency Transient for 5 minutes after the end of the first Frequency Transient; and the provisions of this OC11 Part A shall apply accordingly.

(l) The Generator shall be entitled at any time, by submitting a Technical Parameters Notice or a Technical Parameters Revision Notice to the TSO, to re-declare the Sustained Response Capability or the Governor Droop value of a CDGU. Within 48 hours of receiving the Technical Parameters Notice or the Technical Parameters Revision Notice from the Generator, the TSO may require the Generator to carry out a Sustained Response Test or a Governor Droop Test and if the test is failed, the TSO may by issuing a Post Event Notice to the Generator, re-register the Spinning Reserve Capability or the Governor Droop value for that CDGU, such re-registration to take effect from the beginning of the Trading Period/Imbalance Settlement Period in which the Technical Parameters Notice or the Technical Parameters Revision Notice took effect.

OC11.5.6 In addition to the provisions set out in OC11.5.5, a Generator shall, having redeclared or having had a Technical Parameter of one of its CDGUs re-registered as a result of non-compliance, notify the TSO when it has rectified the fault which caused that non-compliance or believes reasonably that the CDGU is no longer so failing to comply by submitting a Technical Parameters Notice or a Technical Parameters Revision Notice to the TSO under SD1. Upon the TSO receiving such notification, the relevant Technical Parameter will be deemed to be re-declared to either its original value or to the value specified in the Technical Parameters Notice or the Technical Parameters Revision Notice (which may be a lesser value which is an improved value to that to which it had been re-registered). The re-declared value will be regarded for all purposes as the applicable value for that Technical Parameter.
The TSO may then, of course, Monitor that re-declared value in accordance with the provisions of this OC11 Part A and may, if the CDGU fails to comply with the re-registered Technical Parameter, follow the procedures set out in OC11.5.

PROCEDURE FOR TESTING

Testing (other than relating to Spinning Reserve)

(a) In circumstances where the TSO reasonably considers that, in relation to a CDGU or item of User’s Equipment, a Generator might be failing to comply or might in the foreseeable future fail to comply with the relevant Design and Operating Requirements, the TSO may, upon giving reasonable notice identifying the Design and Operating Requirement concerned, send representatives to the relevant Power Station in order to verify by Testing or inspection (in the case of Testing, conducted by the Generator) whether in relation to the CDGU or item of User’s Equipment, as the case may be, the Design and Operating Requirement is being complied with. The Test or inspection may involve the giving of specific Dispatch Instructions within the provisions of SDC2, including instructions in connection with Black Starts and Dispatched Fuel Notices. The period of notice which is reasonable will depend upon all the circumstances, including the Design and Operating Requirement in question.

(b) A Generator must allow the TSO representative’s access to all relevant parts of its Power Station for the purposes of this OC11 Part A.

(c) Where a Test falls within the scope of an Agreed Testing and Monitoring Procedure, the procedure for conducting the Test and the criteria for passing the Test will be as set out in the applicable Agreed Testing and Monitoring Procedure. Where a Test falls outside the scope of the Agreed Testing and Monitoring Procedures, the procedure for the Test, and the criteria for passing the Test, will, if not agreed between the TSO and the Generator, be as determined by the TSO acting reasonably and as notified to the Generator at the time. In all cases, the Generator must comply with all reasonable instructions of the TSO in carrying out the Test.

(d) If the procedure for the Test, and the criteria for passing the Test, are determined by the TSO under OC11.6.1(c) and, within 48 hours after completion of the Test, the Generator notifies the TSO in writing that it objects to the procedure and/or the criteria which were used for the Test, then the question of whether the Test procedure and/or the criteria were valid shall:

(i) in the case of a Design and Operating Requirement contained in the Generator’s relevant Nominated Generating Unit Agreement (or Nominated Power Station Agreement), be decided by the Expert in accordance with the relevant dispute resolution procedure set out in that Agreement; or

(ii) in the case of a Design and Operating Requirement contained in the Grid Code, be decided in accordance with the relevant dispute
resolution procedure set out in the Generator's relevant Connection Agreement; or

(iii) in the case of a Design and Operating Requirement contained in the Generator's relevant Connection Agreement, be decided in accordance with the relevant dispute resolution procedure set out in the Generator's relevant Connection Agreement;

and, in any such case, the effects of the Test shall be suspended until such time as it has been determined that the procedure for the Test or the criteria for passing the Test were valid. If it is determined that the procedure for the Test or the criteria for passing the Test were not valid, then the Test shall not be effective for the purposes of the relevant Agreement or the Grid Code, as the case may be. The TSO may, however, conduct a further Test in accordance with this OC11.6 (including this OC11.6(d)), taking into account any relevant recommendations of the Expert, in determining the procedure and/or criteria for such further Test.

(e) (i) In determining whether the CDGU or item of User's Equipment, as the case may be, has passed a Test, due regard will be given by the TSO to operating conditions on the NI System and (where applicable) the relevant Tolerance Bands will be applied to the relevant matters being Tested as set out in the Appendix to this OC11 Part A and the Conversion Factors and the Additional Conversion Factors shall also be applied where appropriate.

(ii) If, within 48 hours after completion of the Test, the Generator notifies the TSO in writing that it disagrees that the results show that the CDGU or item of User's Equipment, has failed the Test, then the question of whether the Test has been passed or failed shall:

(aa) in the case of a Design and Operating Requirement contained in the Generator's relevant Nominated Generating Unit Agreement (or Nominated Power Station Agreement), be decided by the Expert in accordance with the relevant dispute resolution procedure set out in that Agreement; or

(bb) in the case of a Design and Operating Requirement contained in the Grid Code, be decided in accordance with the relevant dispute resolution procedure set out in the Generator's relevant Connection Agreement; or

(cc) in the case of a Design and Operating Requirement contained in the Generator's relevant Connection Agreement, be decided in accordance with the relevant dispute resolution procedure set out in the Generator's relevant Connection Agreement;

and, in any such event, the effects of the Test shall be suspended until such time as it has been determined that the CDGU or item of User's Equipment has failed the Test.
(f) If in relation to the CDGU or item of User's Equipment, as the case may be, the Generator fails the Test then:

(i) if the Design and Operating Requirement is one under the Grid Code, the TSO may, in the case of those Design and Operating Requirements where a parameter or other data item can be registered (that is, those other than CC parameters), re-register the value of the relevant Design and Operating Requirement to reflect the lower level of compliance shown by the Test;

(ii) the Generator will, if the Design and Operating Requirement is one under a Nominated Generating Unit Agreement to which it is a party, be subject to such consequences (if any) as may arise under that agreement; or

(iii) the Generator will, if the Design and Operating Requirement is one under a Connection Agreement to which it is a party, be subject to such consequences (if any) as may arise under that agreement.

OC11.6.2 Testing relating to Spinning Reserve

(a) In certain circumstances and in relation to steam turbine CDGUs in relation to their Steam Turbine Units only, Sustained Response Capability and Governor Droop may, unless Schedule 8 of the relevant Generating Unit Agreement otherwise requires, be tested as described in this OC11.6.2. For the purposes of this OC11.6.2, in the event of any conflict between the provisions of this OC11.6.2 and the provisions of Schedule 8 of the relevant Generating Unit Agreement, the provisions of Schedule 8 shall apply.

(b) The following provisions apply as to Testing of Sustained Response Capability for steam turbine CDGUs in relation to their Steam Turbine Units:

(i) A Test ("Sustained Response Test") in respect of Sustained Response Capability may be requested in the following circumstances:

   (aa) by the Generator, at any time; in which case the TSO will by the same time on the second Business Day thereafter specify the time (within 3 days) for the Test which shall be as soon as reasonably practicable having regard to System constraints (but in any event within 3 days); and

   (bb) by the TSO, on not less than 24 hours' notice of the start of the Test:

      (i) at any time, if the TSO has reasonable grounds to believe that the Sustained Response Capability is impaired; or

      (ii) within 48 hours (the Test to start within 72 hours) after the Generator redeclared up the value of the Sustained Response Capability either:

          OC11-72
(1) where the **Sustained Response Capability** had earlier been declared down following a **Frequency Transient**; or

(2) where following a previous **Test** under this paragraph OC11.6.2.(b)(i) (bb) (ii) **Sustained Response Capability** had been determined at a level lower than previously declared by the **Generator**.

(ii) If the TSO requests a test pursuant to OC11.6.2(b)(i)(bb)(ii) above and the **Sustained Response Capability** determined pursuant to such **Test** is lower than the value which had been redeclared (as described in (1) or (2) thereof) by the TSO, the value determined pursuant to such test shall be applied retrospectively (from the **Trading Period Imbalance Settlement Period** in which the TSO's redeclaration was made) in calculating the value of the "Sustained Response Inflexibility Factor" (as such term is defined in the relevant **Nominated Generating Unit Agreement**) under paragraph 10.9 of Schedule 2 to each **Nominated Generating Unit Agreement** relating to steam turbine CDGUs in relation to their **Steam Turbine Units**.

(iii) The **Sustained Response Test** is a **Test** of sustained **Load** increases at particular initial **Load** levels, in comparison with expected values shown on the diagram included in the relevant **Nominated Generating Unit Agreement** (the "**Sustained Load Diagram**"). The **Test** is carried out using turbine speeder input and involves fast **Load** increases of various magnitudes (up to the applicable value on the **Sustained Load Diagram**) at up to 3 different initial **Loads** nominated by the party which called for the **Test**. During the **Test** the event recorder is used to monitor relevant parameters.

(iv) For each initial **Load** level, the maximum **Load** increase which was sustained for 5 minutes will set the value (of **Load** increase) at which the **Test** was passed ("the achieved sustained increase"). If for any initial **Load** level the achieved sustained increase deviated from (and below) the relevant expected value on the **Sustained Load Diagram** by more than the greater of 2MW and 5% (the "test tolerance"), the party which called for the **Test** may redeclare the value of the **Sustained Response Capability (SRC)** (but subject to the right of the **Generator** subsequently to redeclare), determined as:

\[
SRC = \frac{V_a}{(1-T) * V_e}
\]

where:

\[V_a = \text{the value (in MW) of the Achieved Sustained Response;}
\]

\[V_e = \text{the relevant expected value (in MW) on the Sustained Load Diagram; and}
\]

OC11-73
\[ T = \text{the Test tolerance, which shall be 5\%, and expressed as a decimal fraction of one for the purposes of the above equation.} \]

(c) The following provisions apply as to Testing of Governor Droop in relation to steam turbine CDGUs in relation to their Steam Turbine Units (Governor Droop may be tested in relation to gas turbine CDGUs under OC11.6.1):

(i) For the purposes of this OC11 Part A, "Specified Governor Droop" means the highest incremental Governor Droop at any Load below 90\% of Contracted Capacity. For a given Specified Governor Droop (SGD):

   (aa) the lowest incremental Governor Droop at any Load between zero and 90\% of Contracted Capacity shall be:

   \[ 0.4 \times \text{SGD} \]

   (bb) the highest incremental Governor Droop at any Load above 90\% of Contracted Capacity shall be:

   \[ 3 \times \text{SGD} \]

(ii) A Test of Governor Droop may be requested by the TSO, on not less than 24 hours' notice, at any time if the TSO has reasonable grounds to believe that the Specified Governor Droop of the CDGU in relation to its Steam Turbine Units is higher than its declared value. The Test is carried out with the turbine at speed but with the CDGU not Synchronised, and determines the relationship between governor hydraulic output and turbine speed, as turbine speed is decreased, from several speeder set points. Incremental Governor Droop values are calculated for the turbine Load range from the recorded results of the Test.

(iii) The TSO may then redeclare the value of Specified Governor Droop to the value determined according to such Test (to the extent that it is higher than the value previously declared by the Generator).

(d) (i) To the extent that the TSO and a Generator are unable to agree on any further details or procedures for carrying out the Sustained Response Test or testing of Governor Droop, an Expert may be requested, pursuant to the relevant Nominated Generating Unit Agreement, to determine such details or procedures, which will then be adopted and thereafter applied in any further Testing by the parties.

(ii) In the event of a dispute as to the result of a Sustained Response Test or a Test of Governor Droop, the matter shall be referred to an Expert for determination pursuant to the relevant Nominated Generating Unit Agreement.

OC11-74

31 July 2015
OC11.7 INVESTIGATIONS
(a) The TSO may, upon giving reasonable notice (in any event not less than 2 Business Days), send representatives to a Power Station in order to investigate any equipment or operational procedure.
(b) An Investigation may take place only for the purposes of enabling the TSO to fulfil its obligations relating to the operation of the Transmission System (and where in the reasonable opinion of the TSO in the absence of an Investigation it would be unable properly to fulfil such obligations).
(c) An Investigation shall not take place during or less than 2 days before or after a period of Monitoring (carried out following the issue of a Warning Notice) or Test in respect of Plant or equipment at the relevant Power Station.
(d) The TSO's notice under (a) shall specify:
   (i) the nature and purpose of the Investigation and the reasons therefor;
   (ii) the equipment or operational procedure subject to the Investigation; and
   (iii) the procedure (as reasonably determined by the TSO) for the Investigation.
(e) The scope of an Investigation and the information and parts of the Power Station to which the TSO shall be entitled to access shall be limited to that required for the purposes of the Investigation as specified in the TSO's notice under (d).
(f) The Generator shall comply with the reasonable requests of the TSO in carrying out the Investigation, and allow the TSO representative access to all relevant parts of the Power Station to conduct the Investigation.
(g) An Investigation shall not of itself result in consequences for the Generator under the Grid Code or any Nominated Generating Unit Agreement, Nominated Power Station Agreement or Connection Agreement.
(h) These provisions shall be without prejudice to TSO's rights of access under any other document or agreement.

OC11.8 TESTING AT THE REQUEST OF A GENERATOR
OC11.8.1 A Generator shall, subject to OC11.8.2, be entitled, by notice in writing setting out the desired procedure (or, if the TSO acting reasonably so agrees, taking into account the nature of the test being requested, by oral request specifying the desired procedure, such oral request to be confirmed in writing as soon as reasonably practicable thereafter), to request the TSO to assist it (by Dispatch) in carrying out a test on any of its CDGUs, as such Generator, acting reasonably in accordance with Prudent Operating Practice, may request. In the case of a test (other than an on-Load valve test) on a CDGU, the
procedure set out in the notice or specified in the oral request (as the case may be) shall include the level of **Availability** and the values for **Technical Parameters** which will be declared for the **CDGU** for the period of the test in accordance with SDC1 and shall also include details of the **Dispatch Instructions** which the **Generator** wishes the **TSO** to issue to it for the purposes of the test which may be outside the **Availability** and **Technical Parameters** to be so declared. **Notwithstanding the other requirements in this OC11.8.2, in the case Significant Tests, Generators shall submit proposals to the TSO at least five Business Days before the test start date or, with the agreement of the TSO, no later than 09:00 two Business Days before the test start date.**

**OC11.8.2**

The **TSO** shall be entitled to refuse to conduct any test requested under OC11.8.1 (or refuse to conduct it in accordance with the procedure or at the time requested) if, in the **TSO's** reasonable opinion, it is unsafe for the **NI System** to conduct such a test or if it is otherwise not practicable to do so (or to do so in accordance with the procedure or at the time requested) for **System** or any other reasons, including if all reasonable costs and expenses of the **TSO** are not, in the **TSO's** reasonable view, adequately covered by the **User**. The **TSO** may only continue to refuse to conduct the test (or to conduct it in accordance with the procedure) for so long as these reasons continue.

**OC11.8.3**

(a) If the **TSO** refuses to conduct the test, either at all or in accordance with the procedure or at the time requested, the **TSO** and the **Generator** may discuss an alternative form of test or procedure for conducting the test or timing of the test to see whether agreement can be reached.

(b) If the **TSO** agrees to the test taking place, to the procedure for conducting the test and to the time of the test, either in response to the original request or following the discussion referred to in (a) above, it will notify the **Generator** accordingly.

(c) If the **TSO** does not (following the discussion referred to in (a)) agree to the test taking place, then it will not take place, provided that as indicated in OC11.8.2 above, the **TSO** may only continue to refuse to conduct the test for so long as the reasons set out in that paragraph continue to apply.

(d) If the **TSO** does not (following such discussion) agree to the procedure for conducting the test, then if the test is to go ahead, the **TSO's** requirements relating to the procedure will prevail, unless the reasons set out in OC11.8.2 above no longer continue.

(e) If the **TSO** does not (following such discussion) agree to the timing of the test, then if the test is to go ahead, the **TSO's** requirements relating to timing will prevail.

**OC11.8.4**

(a) The **TSO** may then, in accordance with the agreed (or otherwise settled) procedure and timing and if agreed by the **Generator**, send representatives to the **Power Station** in order to witness the test.

(b) The **Generator** must, if agreed under (a) above, allow the **TSO** witnesses access to all relevant parts of its **Power Station** in order to witness such a test.

(c) The **TSO** shall take all reasonable steps to ensure that any representatives that it sends to the **Power Station** pursuant to (a) above comply at all times with all

31 July 2015

OC11-76
relevant safety requirements of the **Generator** of which they are made aware and with all reasonable directions of the **Generator** and (but subject to (b) above) any reasonable restrictions on access whilst at the **Power Station** in question.

**OC11.9 COMMISSIONING/ACCEPTANCE TESTING**

The CC reflects the **Commissioning/Acceptance Testing** which will be required under each **Connection Agreement** for User’s **Equipment** prior to being certified as acceptable to be and remain connected (or to be reconnected) to the **Transmission System** and for modifications to existing User’s **Equipment**.
## TABLE A

### TABLE OF TOLERANCE BANDS FOR DISPATCH INSTRUCTIONS

<table>
<thead>
<tr>
<th>DISPATCH CHARACTERISTIC</th>
<th>Wide Tolerance Band</th>
<th>Maximum period of Monitoring at Wide Tolerance Band</th>
<th>Narrow Tolerance Band</th>
<th>Max. period of Monitoring at Narrow Tolerance Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Power (MW)</td>
<td>±5MW or ±5% of Dispatched Load whichever is greater</td>
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<td>30 minutes</td>
</tr>
<tr>
<td>Reactive Power (Mvar)</td>
<td>±10 Mvar</td>
<td>2 hours</td>
<td>±5 Mvar</td>
<td>1 hour</td>
</tr>
<tr>
<td>Loading Rate (MW/min)</td>
<td>±5% or ±2 minutes for period to achieve Load whichever is longer</td>
<td>period to achieve Load</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Synchronising Time</td>
<td>±5 minutes</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Governor Droop</td>
<td>3.5-5.5%</td>
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<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
### TABLE B

**TABLE OF TOLERANCE BANDS FOR DISPATCH INSTRUCTIONS: GAS TURBINE UNITS**

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<thead>
<tr>
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<td>Active Power (MW)</td>
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Maximum Tolerance Band: +1MW and -5MW
Minimum Tolerance Band: -1MW and +5MW
PART B – ALL USER’S EQUIPMENT OTHER THAN PPA CDGUS

OC11.10 MONITORING

OC11.10.1 Procedure for Monitoring

OC11.10.1.1 Monitoring of User’s Equipment is normally continuous or continuous for periods of time, and involves the analysis of the output of Monitoring equipment (as required or permitted under the CC and/or relevant Connection Agreements and/or SSS Agreements and/or the MC, Generator Aggregator System Operator Agreement(SOA) or by such other methods as the TSO shall reasonably determine are appropriate in the circumstances. It does not require advance notification from the TSO to Users.

OC11.10.2 Compliance with Dispatch Instructions

OC11.10.2.1 The TSO will Monitor CDGUs, Aggregated Generating Units, Demand Side Units and Interconnectors (referred to in the following paragraphs of this OC11.10 as “Relevant Plant”) in accordance with the following provisions of this OC11.10.2 when it wishes to determine whether they are being operated in compliance with Dispatch Instructions.

OC11.10.2.2 In determining whether Relevant Plant has complied, or is complying, with a Dispatch Instruction, the TSO shall in each case give due regard to operating conditions on the NI System. The TSO shall also apply the Tolerance Bands set out in the relevant table in the Appendix to this OC11 Part B to the Monitoring of the relevant Dispatch Characteristic, as indicated in the relevant paragraphs of this OC11 Part B, and shall also apply the Conversion Factors and Additional Conversion Factors where appropriate. The TSO shall, when Monitoring Active Power or Reactive Power, select either the Wide Tolerance Band (for Monitoring sustained performance) or the Narrow Tolerance Band (for Monitoring stability over a short period). When Monitoring on the Narrow Tolerance Band, the TSO will select either the Maximum Tolerance Band or the Minimum Tolerance Band. In the event of a Frequency Transient occurring whilst the TSO is Monitoring the compliance by Relevant Plant (regardless of which Tolerance Band is being applied by the TSO at the time) to which the CDGU responds in accordance with the relevant User’s obligations to provide Operating Reserve, the CDGU shall not fail the Monitoring by reason of such response.

OC11.10.2.3 (a) If, having applied the relevant Tolerance Band, and, where appropriate, Conversion Factors and Additional Conversion Factors the TSO suspects that any Relevant Plant has not complied, or is not complying, with a Dispatch Instruction, the TSO will, if it wishes to continue with the Monitoring inform the relevant User by submitting a Warning Notice (either orally or in writing) and, subject to the requirements of System security (which may require the OC11-80
Dispatch Instruction to be cancelled in which case the Warning Notice will be deemed to have been withdrawn), the TSO will allow the User 10 minutes after such notice to comply with the Dispatch Instruction.

(b) If in that 10 minute period the User still fails to comply with the Dispatch Instruction, the TSO may give notice to the User by submitting a Monitoring Notice (either orally or in writing) that the Relevant Plant is being Monitored.

(c) The Monitoring Notice will:

(i) identify the Dispatch Characteristic(s) which is being Monitored and the underlying Technical Parameter(s);

(ii) specify, if relevant, whether the Tolerance Band to be used is the Wide Tolerance Band or the Narrow Tolerance Band; and

(iii) specify, if relevant, whether the Narrow Tolerance Band is to apply as a Maximum Tolerance Band or as a Minimum Tolerance Band.

(d) The User has the right, before the issue of the Monitoring Notice, or at any time thereafter by submitting to the TSO an Availability Notice, a Technical Parameters Notice or a Technical Parameters Revision Notice (as the case may be), to re-declare Availability or the Technical Parameters (in accordance with the provisions of SDC1) in respect of the Dispatch Characteristic(s) to be Monitored, such re-declaration to take effect from the time of receipt of the Warning Notice by the User. In the event that the User submits to the TSO an Availability Notice or a Technical Parameters Notice or a Technical Parameters Revision Notice at or about the same time as the TSO submits to the User a Post Event Notice (or Interim Post Event Notice) pursuant to the following provisions of this OC11.10.2 seeking to re-register the Availability or the same Technical Parameter (as the case may be) of the Relevant Plant in question to a different value, then the value of Availability or the value of the relevant Technical Parameter shall be deemed to be redeclared to the inferior of the values specified in the two notices.

(e) The period of Monitoring shall not exceed the period set out in the relevant table in the Appendix to this OC11 Part B for the relevant Dispatch Characteristic(s) and the selected Tolerance Band.

OC11.10.2.4 At the end of the period of Monitoring, if the User has achieved each Dispatch Instruction for the period of the Monitoring within the relevant Tolerance Band, the Relevant Plant will be deemed to have complied with each Dispatch Instruction.

OC11.10.2.5 If the average value of the Dispatch Characteristic(s) in any 5 minute period during the period of Monitoring falls outside the relevant Tolerance Band the TSO may by submitting a Post Event Notice to the Generator or Demand Side Unit Operator, re-register the value of Availability or the value of the relevant Technical Parameter corresponding to that Dispatch Characteristic to the most inferior value outside the Tolerance Band for any 5 minute period during the period of Monitoring (with effect from the Trading Period Imbalance Settlement Period in which the Monitoring Notice was issued) and the TSO may also notify the Generator or Demand Side Unit
Operator, not later than 10 minutes before the end of the period of Monitoring that it will continue to Monitor the Relevant Plant for a further period not exceeding that shown in the relevant Table in the Appendix to this OC11 Part B in respect of the particular Dispatch Characteristic and with reference to the relevant or selected Tolerance Band.

OC11.10.2.6 If at the end of the further period of Monitoring the average value of the Dispatch Characteristic(s) in any 5 minute period during the Monitoring falls outside the relevant Tolerance Band, the TSO may re-register the value of the Availability or the value of the relevant Technical Parameter corresponding to that Dispatch Characteristic to the most inferior value for any 5 minute period during the period of Monitoring (with effect from the Trading Period Imbalance Settlement Period in which the Monitoring Notice was issued). Further periods of Monitoring may also take place, in accordance with the procedure set out in OC11.10.2.5 and the provisions of this OC11.10.2.6 will apply to such further periods of Monitoring.

OC11.10.2.7 (a) If (other than pursuant to a Dispatch Instruction to De-Load) the average value of Output for any 5 minute period is less than 80% of the average Output for either of the two immediately preceding 5 minute periods, the TSO may issue a Post Event Notice re-registering the Availability of the Relevant Plant at the level consistent with its average value for that 5 minute period with effect from the beginning of the Trading Period Imbalance Settlement Period in which such 5 minute period commenced.

(b) If (following a Dispatch Instruction to De-Load) the average value of Active Power for any 5 minute period is less than 80% of the average value of Active Power which would have been generated by the Relevant Plant for such 5 minute period had it been De-Loaded at its maximum De-Loading rate (registered as a Technical Parameter), the TSO may issue a Post Event Notice re-registering the Availability of the CDGU at the level consistent with the average value for that 5 minute period with effect from the beginning of the Trading Period Imbalance Settlement Period in which such 5 minute period commenced.

OC11.10.2.8 Prior to submitting a Post Event Notice, the TSO may deliver an Interim Post Event Notice to the User not later than 2 hours after:

(a) in the case of an event of the type specified in OC11.10.2.7 (a) or (b) the end of the Trading Period Imbalance Settlement Period during which the event occurred; or

(b) in the case of instances of Monitoring, the end of the relevant period of Monitoring,

if it is not reasonably practicable for the TSO to deliver a Post Event Notice to the User within that time.

OC11.10.2.9 An Interim Post Event Notice shall specify:

(a) the Trading Period Imbalance Settlement Period during which the event of the type specified in OC11.10.2.7 (a) or (b) occurred and, in the instance of
Monitoring, the Trading Period Imbalance Settlement Period during which the relevant Warning Notice was issued; and

(b) the matters or values which the TSO intends to redeclare in a Post Event Notice as a result of what happened.

OC11.10.2.10 A Post Event Notice shall not be validly issued:

(a) if submitted to the User under OC11.10.2.5 later than 5pm on the 5th Business Day following the day on which the Monitoring was undertaken or, in the case of an event of the type specified in OC11.10.2.7(a) or (b), later than 5pm on the 5th Business Day following the day on which the event occurred;

(b) if submitted to the User under OC11.10.2.5 later than 2 hours after the end of the relevant period of Monitoring or, in the case of an event of the type specified in OC11.10.2.7 (a) or (b), later than 2 hours after the Trading Period Imbalance Settlement Period in which the event occurred and no Interim Post Event Notice was issued in accordance with OC11.10.2.9; or

(c) to the extent that the Post Event Notice re-registers matters or values that were not specified in an Interim Post Event Notice issued in accordance with OC11.10.2.9.

OC11.10.3 Operating Reserve capability

OC11.10.3.1 Monitoring to determine whether a Relevant Plant is able to achieve its Primary Operating Reserve, Secondary Operating Reserve and/or Tertiary Operating Reserve band 1 (for the purposes of this OC11 Part B, “Relevant Operating Reserve”) capability will be undertaken by the TSO in accordance with the applicable Agreed Testing and Monitoring Procedure.

OC11.10.4.2 If a Relevant Plant is found by the TSO to be non-compliant pursuant to OC11.10.4.1 the TSO may re-register the value of the Generator’s declared Relevant Operating Reserve in accordance with the provisions of the applicable Agreed Testing and Monitoring Procedure.

OC11.11 TESTING

OC11.11.1 Procedure for Testing

OC11.11.1.1 In circumstances where the TSO reasonably considers that, in relation to a CDGU, Controllable WFPS, Demand Side Unit or item of User’s Equipment, a User might be failing to comply or might in the foreseeable future fail to comply with the relevant Design and Operating Requirements (or the requirements of the SSS Agreement, as the case may be), the TSO may, upon giving reasonable notice identifying the Design and Operating Requirement concerned, send representatives to the relevant Power Station or User Site in order to verify by Testing or inspection (in the case of Testing conducted by the User) whether in relation to the CDGU, Controllable WFPS, Demand Side Unit or item of User’s Equipment, as the case may be, the Design and

OC11-83
Operating Requirement (or SSS Agreement requirement, and the case may be) is being complied with. The Test or inspection may involve the giving of specific Dispatch Instructions within the provisions of SDC2, including instructions in connection with Black Starts and Dispatched Fuel Notices. The period of notice which is reasonable will depend upon all the circumstances, including the Design and Operating Requirement (or SSS Agreement requirement, as the case may be) in question.

OC11.11.1.2 A Generator, Demand Side Unit Operator or other User, as the case may be, must allow the TSO representatives access to all relevant parts of its Power Station or User Site for the purposes of this OC11.11.

OC11.11.1.3 In the case of a Test of Relevant Operating Reserve capability or any other Test that falls within the scope of an Agreed Testing and Monitoring Procedure, the procedure for conducting the Test and the criteria for passing the Test will be as set out in the applicable Agreed Testing and Monitoring Procedure. If a Test falls outside the scope of the Agreed Testing and Monitoring Procedures, the procedure for the Test, and the criteria for passing the Test will, if not agreed between the TSO and the Generator, Demand Side Unit Operator or other User, be as determined by the TSO acting reasonably and as notified to the Generator, Demand Side Unit Operator or other User, as the case may be, will comply with all reasonable instructions of the TSO in carrying out the Test.

OC11.11.1.4 If the procedure for the Test, and the criteria for passing the Test, are determined by the TSO under OC11.11.1.3 and, within 48 hours after completion of the Test, the User notifies the TSO in writing that it objects to the procedure and/or the criteria which were used for the Test, then the question of whether the Test procedure and/or the criteria were valid shall:

(a) in the case of a Design and Operating Requirement contained in the Grid Code, be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement; or

(b) in the case of a Design and Operating Requirement contained in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement; or

(c) in the case of a requirement contained in the User's relevant SSS Agreement, be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant SSS Agreement,

and, in any such case, the effects of the Test shall be suspended until such time as it has been determined that the procedure for the Test or the criteria for passing the Test were valid. If it is determined that the procedure for the Test or the criteria for passing the Test were not valid, then the Test shall not be effective for the purposes of the relevant
Agreement or the Grid Code, as the case may be. The TSO may, however, conduct a further Test in accordance with this OC11.11 (including this OC11.11.1.4).

OC11.11.5 (a) In determining whether the CDGU, Controllable WFPS, Demand Side Units or item of User's Equipment, as the case may be, has passed a Test, due regard will be given by the TSO to operating conditions on the NI System and (where applicable) the relevant Tolerance Bands will be applied to the relevant matters being Tested as set out in the Appendix to this OC11 Part B and the Conversion Factors and the Additional Conversion Factors shall also be applied where appropriate.

(b) If, within 48 hours after completion of the Test, the User notifies the TSO in writing that it disagrees that the results show that the CDGU, Controllable WFPS, Demand Side Unit or item of User's Equipment has failed the Test, then the question of whether the Test has been passed or failed shall:

(i) in the case of a Design and Operating Requirement contained in the Grid Code, be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement; or

(ii) in the case of a Design and Operating Requirement contained in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement, be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant Connection Agreement, Transmission Use of System Agreement or Grid Code Compliance Agreement; or

(iii) in the case of a requirement contained in the Users relevant SSS Agreement, be decided in accordance with the relevant dispute resolution procedure set out in the User's relevant SSS Agreement.

and, in any such event, the effects of the Test shall be suspended until such time as it has been determined that the CDGU, Demand Side Unit or item of User's Equipment has failed the Test.

OC11.11.2 Consequences of failing a Test

OC11.11.2.1 If in relation to the CDGU, Demand Side Unit or item of User's Equipment, as the case may be, the Generator or Demand Side Unit fails the Test then:

(a) if the Design and Operating Requirement is one under the Grid Code, the TSO may, in the case of those Design and Operating Requirements where a parameter or other data item can be registered (that is, those other than CC parameters), re-register the value of the relevant Design and Operating Requirement to reflect the lower level of compliance shown by the Test;

(b) the User will, if the Design and Operating Requirement is one under a Connection Agreement, Transmission Use of System Agreement or Grid
Code Compliance Agreement to which it is a party, be subject to such consequences (if any) as may arise under that agreement; and

(c) the User will, if it is a SSS Agreement requirement, be subject to such consequences as may arise under that agreement.

OC11.12 INVESTIGATION

OC11.12.1 The TSO may, if it reasonably considers that there may be an issue of non-compliance by the User, carry out an Investigation to acquire or verify information relevant to User’s Equipment design, operation or connection requirements under the Grid Code, Connection Agreements, Generator Aggregator System Operator Agreement (SOA) and System Support Service Agreements between Users and the TSO.

OC11.12.2 Investigation by the TSO usually applies to information not collected on a regular basis by means of Monitoring and Testing. The TSO may, having given not less than 2 Business Days’ notice, send a representative or subcontractor to a User’s Site in order to investigate any equipment or operational procedure on or applicable to the User Site insofar as the condition of that equipment or operational procedure is relevant to compliance with the Grid Code, Connection Agreements, and/or other agreements between Users and the TSO. A site visit by the TSO or his representative, as part of an Investigation will, generally not take place less than 2 days before or after Testing.

OC11.12.3 An Investigation shall not of itself result in consequences for the User under the Grid Code or Connection Agreement.

OC11.12.4 These provisions shall be without prejudice to the TSO’s rights of access under any other document or agreement.

OC11.13 TESTING AT THE REQUEST OF A GENERATOR OR USER

OC11.13.1 A Generator, Demand Side Unit Operator or other User, as the case may be, shall, subject to OC11.13.2, be entitled, by notice in writing setting out the desired procedure (or, if the TSO acting reasonably so agrees, taking into account the nature of the test being requested, by oral request specifying the desired procedure, such oral request to be confirmed in writing as soon as reasonably practicable thereafter), to request the TSO to assist it (by Dispatch) in carrying out a test on any of its CDGUs, Demand Side Unit or User’s Equipment, as the case may be, as such Generator, Demand Side Unit Operator or other User, acting reasonably in accordance with Prudent Operating Practice, may request. In the case of a test (other than an on-Load valve test) on a CDGU or Demand Side Unit Operator the procedure set out in the notice or specified in the oral request (as the case may be) shall include the level of Availability and the values for Technical Parameters which will be declared for the CDGU, Demand Side Unit, Aggregated Generating Unit or Interconnector for the period of the test in accordance with SDC1 and shall also include details of the Dispatch Instructions which the Generator wishes the TSO to issue to it for the purposes of the test which may be outside the Availability and Technical Parameters to be so declared.

OC11.13.2 The TSO shall be entitled to refuse to conduct any test requested under OC11.13.1 (or refuse to conduct it in accordance with the procedure or at the time requested) if, in the

OC11-86

31 July 2015
TSO’s reasonable opinion, it is unsafe for the **NI System** to conduct such a test or if it is otherwise not practicable to do so (or to do so in accordance with the procedure or at the time requested) for **System** or any other reasons, including if all reasonable costs and expenses of the TSO are not, in the TSO’s reasonable view, adequately covered by the **User**. The TSO may only continue to refuse to conduct the test (or to conduct it in accordance with the procedure) for so long as these reasons continue.

**OC11.13.3**  
(a) If the TSO refuses to conduct the test, either at all or in accordance with the procedure or at the time requested, the TSO and the **Generator, Demand Side Unit Operator** or other **User**, as the case may be, may discuss an alternative form of test or procedure for conducting the test or timing of the test to see whether agreement can be reached.

(b) If the TSO agrees to the test taking place, to the procedure for conducting the test and to the time of the test, either in response to the original request or following the discussion referred to in (a) above, it will notify the **Generator, Demand Side Unit Operator** or other **User**, as the case may be, accordingly.

(c) If the TSO does not (following the discussion referred to in (a)) agree to the test taking place, then it will not take place, provided that as indicated in OC11.13.2 above, the TSO may only continue to refuse to conduct the test for so long as the reasons set out in that paragraph continue to apply.

(d) If the TSO does not (following such discussion) agree to the procedure for conducting the test, then if the test is to go ahead, the TSO’s requirements relating to the procedure will prevail, unless the reasons set out in OC11.13.2 above no longer continue.

(e) If the TSO does not (following such discussion) agree to the timing of the test, then if the test is to go ahead, the TSO’s requirements relating to timing will prevail.

**OC11.13.4**  
(a) The TSO may then, in accordance with the agreed (or otherwise settled) procedure and timing and if agreed by the **User**, send representatives to the **Power Station** or **User Site**, as the case may be, in order to witness the test.

(b) The **Generator, Demand Side Unit Operator** or other **User**, as the case may be, must, if agreed under (a) above, allow the TSO witnesses access to all relevant parts of its **Power Station** or **User Site** in order to witness such a test.

(c) The TSO shall take all reasonable steps to ensure that any representatives that it sends to the **Power Station** or **User Site** pursuant to (a) above comply at all times with all relevant safety requirements of the **Generator, Demand Side Unit Operator** or other **User** (as the case may be) of which they are made aware and with all reasonable directions of the **Generator** or **Demand Side Unit Operator** and (but subject to (b) above) any reasonable restrictions on access whilst at the **Power Station** or **User Site** in question.
COMMISSIONING/ACCEPTANCE TESTING

The CC reflects the Commissioning/Acceptance Testing which will be required under each Connection Agreement for User’s Equipment prior to being certified as acceptable to be and remain connected (or to be reconnected) to the Transmission System and for modifications to existing User’s Equipment.
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**DISPATCH CHARACTERISTIC**

<table>
<thead>
<tr>
<th>Tolerance Band</th>
</tr>
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<tbody>
<tr>
<td>4% of the Dispatch Instruction</td>
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<tr>
<th>Tolerance Band</th>
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<tbody>
<tr>
<td>&lt; 5% of the Demand Side Unit Energy Profile</td>
</tr>
<tr>
<td>Demand Side Units not Dispatched but declared Available in an Availability Notice</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Demand Side Unit Energy Profile – metered Demand</td>
</tr>
</tbody>
</table>

31 July 2015
SCHEDULING AND DISPATCH CODE NO.1

UNIT SCHEDULING

SDC1.1 INTRODUCTION

SDC1.1.1 SEM Provisions

(a) This Scheduling and Dispatch Code No. 1 ("SDC1") forms part of the Sections under Common Governance of the Grid Code. The Sections under Common Governance are those parts of the Grid Code which are under common governance in both the Grid Code and the Other Grid Code.

(b) The form of this SDC1 is similar to the SDC1 in the Other Grid Code. Differences relate to references to relevant power systems and related terms. Where there is a difference between a provision in this Grid Code and an equivalent provision in the Other Grid Code, the wording in question is shaded in grey. In addition, those parts of this SDC1 that are not part of the Other Grid Code are shaded in grey in this SDC1. Differences between the form of this SDC1 and the SDC1 in the Other Grid Code are summarised in Annex 1 to this SDC1.

(c) This SDC1 is intended to work in conjunction with other documents, including the Trading and Settlement Code ("TSC"). The provisions of the Grid Code and the Other Grid Code will take precedence over the TSC. The TSC is the document under which the principal elements of the market for electricity operate. Every User which trades in electricity above certain minimum thresholds or their Intermediary shall be a party to the TSC. The Market Operator is a party to the TSC, as is the TSO and the Other TSO.

(d) Where stated in this SDC1, the obligation to submit data in relation to some of the information required to be provided to the TSO by this SDC1 may be fulfilled by Users where such information submitted under the TSC by a User or by an Intermediary on behalf of Users is then provided to the TSO by the Market Operator under the provisions of in accordance with the TSC, as further provided in this SDC1. The TSO may require Users to verify or provide revisions to data received by it via the Market Operator.

(e) Further provisions dealing with the Sections under Common Governance are contained in the General Conditions.

SDC1.1.2 SDC1 sets out the procedure for used by the TSO to develop unit commitment Schedules in respect of CDGU’s, Controllable WFPSs and Demand Side Units including the requirements for Users to submit data to support this procedure:

(a) Availability: the daily—submission by a User to the TSO of an Availability Notice in respect of any each of its:

SDC1-92
(i) CDGUs (which for the avoidance of doubt comprise, Generating Units subject to Central Dispatch, CCGT Installations, Hydro Units, Pumped Storage Generation (but not Pumped Storage Plant Demand) and Dispatchable WFPSs);

(ii) Pumped Storage Plant Demand;

(iii) Interconnector Availability (in the case of the Interconnector Owner) and Price (in the case of an Interconnector User);

(iv) Demand Side Units;

(v) in the case of Generator Aggregators, its Aggregated Generating Units; and

(vi) Controllable WFPSs.

(b) Technical Parameters: the daily notification to the TSO of the Technical Parameters, in respect of the following Trading Day, by each User in a Technical Parameters Notice, notification of Other Relevant Data and notification of other technical data including System Support capability;

(c) Commercial Offer Data: the daily notification of Commercial Offer Data in accordance with the TSC;

(d) Physical Notifications: the declaration by a User to the TSO of Physical Notifications data in accordance with the TSC;

(e) Revisions/Re-declarations: revisions / Re-declarations by Electronic Interface or by other form as the TSO may reasonably notify to each User from time to time of any real time changes in the information (other than Commercial Offer Data after Gate Closure)—submitted in an Availability Notice, Additional Grid Code Availability Notice, Technical Parameters Notice, and Additional Grid Code Characteristics Notice, Commercial Offer Data notification and Physical Notifications as provided for this in SDC1

(e) Indicative Operations Schedules: the periodic production and issuing by the TSO of Indicative Operations Schedules as required under SDC1.4.8.9 as a statement of which: the production and issuing by the TSO of two Indicative Operations Schedules, one for the present Trading Day and one for the following Trading Day as a statement of which:

(i) CDGUs;

(ii) Pumped Storage Plant Demand;

(iii) Interconnectors;
(iv) Demand Side Units;
(v) Aggregated Generating Units; and/or
(vii) Controllable WFPSs may be required.

SDC1.1.3 The TSO (in conjunction with the Other TSO) shall develop, maintain and publish the process describing the methodology and parameters to be used by the TSO (and the Other TSO) in discharging their role under this SDC1 and SDC2. In this SDC1, the term "Gate Closure" shall mean 10.00 hours on the day preceding the relevant Trading Day to which the notice relates (D-1).

SDC1.1.4 In respect of PPA Generation the provisions of Appendix B prevail and replace, as stated, the other parts of this SDC1 in relation to such PPA Generation.

SDC1.1.5 Intra-day Trading: There are three Gate Windows, denoted EA1 (Ex-Ante 1), EA2 (Ex-Ante 2) and WD1 (1), and three associated Trading Windows. The rules for Users to submit new or revised data related to the three associated Trading Windows are set out in the TSC.

The timings of the key events for Intra-Day Trading are set out in the table below.

<table>
<thead>
<tr>
<th>Gate Window</th>
<th>EA1</th>
<th>EA2</th>
<th>WD1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gate Window Opening</td>
<td>06:00 on D-29</td>
<td>09:30 on D-1</td>
<td>11:30 on D-1</td>
</tr>
<tr>
<td>Gate Window Closing</td>
<td>09:30 on D-1</td>
<td>11:30 on D-1</td>
<td>08:00 on D</td>
</tr>
<tr>
<td>Start of Trading Window</td>
<td>Start of Trading Day (Trading Period starting 06:00)</td>
<td>Start of Trading Day (Trading Period starting 05:30)</td>
<td>Trading Period starting 18:00</td>
</tr>
<tr>
<td>End of Trading Window</td>
<td>End of Trading Day (Trading Period starting 05:30)</td>
<td>End of Trading Day (Trading Period starting 05:30)</td>
<td>End of Trading Day (Trading Period starting 05:30)</td>
</tr>
</tbody>
</table>

SDC1.2 OBJECTIVE

The objectives of SDC1 are:

(a) to enable the TSO, in conjunction with the Other TSO, to prepare two Indicative Operations Schedules (utilising, amongst other things, a Merit Order) one for the present Trading Day and one for the following Trading Day to be used in the Scheduling and Dispatch process for these Trading Days;

(b) to thereby ensure (so far as possible) the integrity of the Transmission System and to ensure that the TSO acts in conjunction with the Other TSO so that the Other TSO can ensure the integrity of the Other Transmission System (with the Other TSO having a similar objective);
(e) to ensure the security and quality of supply in relation to the Transmission System and to ensure that the TSO acts in conjunction with the Other TSO so that the Other TSO can ensure the security and quality of supply in relation to the Other Transmission System (with the Other TSO having a similar objective);

(d) to ensure that there is sufficient available capacity is Scheduled to meet the electrical power Demand, and thereby in conjunction with the Other TSO to ensure that there is sufficient capacity to meet the Demand on the Island of Ireland at all times and in both cases together with an appropriate margin of reserve;

(d) to enable the TSO, in conjunction with the Other TSO, to prepare Indicative Operations Schedules to be used in the Scheduling and Dispatch process;

(e) to ensure that publish an Indicative Operations Schedules are published as provided for in this SDC1;

and, subject to delivering the objectives in SDC1.2 (a), SDC1.2(b), and SDC1.2(c) and taking account of the factors set out in [SDC1.4.8.3],

(f) minimise the cost of Scheduled deviations from the Physical Notifications in accordance with Merit Order, subject to SDC1.2(g);

(g) In fulfilling the objective in SDC1.2(c), minimise the requirement to issue Notices to Synchronise before Gate Closure 2.

SDC1.3 SCOPE

SDC1 applies to the TSO and to the following Users:

(a) Generators with regard to their: CDGUs; and Controllable WFPSs.

(b) Pumped Storage Generators with regard to their Pumped Storage Plant Demand;

(c) In respect of the submission of Availability Notices under SDC1.4.1 and Technical Parameters Notices under SDC1.4.4.1, Interconnector Owners with regard to their Interconnectors;

(d) In respect of the submission of Commercial Offer Data under SDC1.4.4.5, only Physical Notifications under SDC1.4.4.6, Interconnector Users Shipping Agents in respect of their Interconnector imports and exports Units;

(e) Demand Side Unit Operators in relation to their Demand Side Units; and

SDC1-95

31 July 2015
(f) **Generator Aggregators** in respect of their **Aggregated Generating Units**.

Each of which (other than the **TSO**) is a “**User**” under this SDC1.

SDC1.3.2 **In this SDC1, the term “User” shall include users of the Distribution System that fall under one of the above categories and are subject to Central Dispatch.**

SDC1.3.3 **The TSO shall inform the DNO as soon as reasonably practicable after it becomes aware that a User that is connected to the Distribution System is required to comply with the Grid Code.**

SDC1.4 **PROCEDURE**

SDC1.4.1 **Availability Notice**

SDC1.4.1.1 **Requirement**

(a) Each User shall, by not later than the **EA1 Gate Window Closures** each day, notify the **TSO** by means of an **Availability Notice** (in such form as the **TSO** may reasonably notify from time to time or in the form published on the **TSO** website) of changes to the Availability, available transfer capacity and/or **Demand Side Unit MW Availability** (as the case may be) of each of its:

(i) **CDGUs**;

(ii) **Controllable WFPSs**;

(iii) **Pumped Storage Plant Demand**;

(iv) **Interconnectors** (to be submitted by the **Interconnector Owner**);

(v) **Demand Side Units**; or

(vi) **Aggregated Generating Units** as the case may be.

(b) A **User** may satisfy this obligation by submitting the data under the **TSC**, unless the **TSO** requires, by notice to the **User**, the data to be submitted to it directly under the **Grid Code**.

(c) A **Generator Aggregator** will satisfy the obligation in this SDC1.4.1.1 by notifying to the **TSO** in an **Availability Notice** in the form described in paragraph (a) above the **Availability** of its **Aggregated Generating Units** as the case may be.

(d) **As a general requirement, the User shall ensure that the data in any Availability Notice or any revision thereto is consistent with its obligations under SDC1.4.3.2 and SDC1.4.3.4.**
(a) The Availability Notice shall state the Availability of the relevant CDGU, Controllable WFPS, Interconnector, Demand Side Unit or Pumped Storage Plant Demand as the case may be, (including, in the case of a CCGT Installation, the Availability of each of the CCGT Modules within it) for each Trading Period Imbalance Settlement Period in the time up to an including the end of the relevant Trading Day (subject to revision under SDC1.4.3.6). A new Availability Notice will supersede the previous one in relation to Availability for Trading Period Imbalance Settlement Periods which are covered by the new one.

- (i) Availability of the relevant:
  - CDGU; or
  - Controllable WFPSs; or
- (ii) the Demand Side Unit MW Availability of the Demand Side Unit or Pumped Storage Plant Demand; or
- (iii) the available transfer capacity as defined in the TSC in respect of an Interconnector;

- (b) In respect of Interconnectors, the Availability Notice shall state the physical capability of the Interconnector, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any licence in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System or an External System. A new Availability Notice submitted in relation to an Optimisation Time Horizon will supersede the previous one in relation to that part of the previous Optimisation Time Horizon which is covered by the new one.

- (c) In the case of a Generator Aggregator, the Availability Notice shall state the Availability of its Aggregated Generating Units as a whole.

SDC1.4.1.3 Whole Numbers: The MW figure stated in the Availability Notice shall be a whole number.

SDC1.4.1.4 Atmospheric Conditions: In the case of CDGUs and Controllable WFPSs which are affected by ambient conditions, an Availability Notice submitted by a Generator shall be stated as being the User’s best estimate of the prevailing atmospheric conditions for the Trading Period Imbalance Settlement Period to which each part of the Availability Notice relates.
SDC1.4.2 Additional Grid Code Availability Notice

The following items are required to be submitted by each User by no later than the EA1 Gate Window—Closure 1 each day, with the exception of Aggregators and Demand Side Unit Operators, direct to the TSO, regardless of whether these have to be submitted under the TSC. The requirements in SDC1.4.1 in relation to data apply to this SDC1.4.2 as if repeated here.

SDC1.4.2.1 Fuels: In the case where a CDGU is capable of firing on different fuels, then the Generator shall submit an Availability Notice setting out the information in SDC1.4.1 above for each fuel for the CDGU. The provisions of this SDC1.4.2.1 shall, with respect to PPA Generation, be read in conjunction with the provisions of SDC1.B.3.1

SDC1.4.2.2 CCGT Availability

(a) The Availability of each CCGT Module within each CCGT Installation;

(b) In the case of a CCGT Installation, the CCGT Installation Matrix submitted by the Generator under PCA2.3.4 of the Planning Code (as may be revised as therein provided is used and relied upon by the TSO as a ‘look up table’ to determine the number of CCGT Modules within a CCGT Installation which will be synchronised to achieve the MW Output specified in a Dispatch Instruction. When using a CCGT Installation Matrix for Scheduling purposes, the TSO will take account of any updated information on the individual Availability of each CCGT Module contained in an Availability Notice submitted by a Generator pursuant to this SDC1. The individual Availability figures submitted under this SDC1.4.2.2 must be consistent with the Generator’s submission under the TSC.

(c) It is accepted that in cases of change in MW Output in response to Dispatch instructions issued by the TSO, there may be a transitional variance to the conditions reflected in the CCGT Installation Matrix. Each Generator shall notify the TSO as soon as practicable after the event of any such variance.

(d) In achieving a Dispatch Instruction the range or number of CCGT Modules envisaged in moving from one MW Output level to the other should not be departed from.

(e) There is a provision in SDC1.4.5 for the Generator to revise the individual Availability of each CCGT Module within each CCGT Installation, subject always to the provisions of this SDC1.4.2.2;

(f) The CCGT Installation Matrix can only be amended such that the CCGT Installation comprises different CCGT Modules in accordance with PCA2.3.5.
SDC1.4.2.3 **Constraints:** Fuel constraints, emission constraints or any other technical related constraint which may affect the **Output** or **Demand Reduction** of a **Plant** as the case may be both immediately and in the longer term.

SDC1.4.3 **General Availability Requirements**

The provisions at SDC1.4.3.1, SDC1.4.3.2 and SDC1.4.3.3 do not apply to **PPA Generation** which is dealt with in Appendix B.1.

SDC1.4.3.1 **Availability of Generating Units**

Each **Generator** and **Generator Aggregator** shall in relation to its CDGUs, **Controllable WFPS** or **Aggregated Generating Units** maintain, repair, operate and fuel the CDGU and/or **Controllable WFPS** and/or **Aggregated Generating Unit** as required by **Prudent Operating Practice** and any legal requirements applicable to its jurisdiction, with a view to providing the required **System Support Services** as provided for in a **System Support Services Agreement**.

SDC1.4.3.2 Each **Generator**, and where relevant each **Generator Aggregator**, shall, subject to the exceptions in SDC1.4.3.3, 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 Generating Unit** could achieve at the relevant time. The **TSO** can reject declarations to the extent that they do not meet these requirements.

SDC1.4.3.3 SDC1.4.3.2 shall not apply to the extent:

(a) it would require the **Generator** or, where relevant, the **Generator Aggregator** to declare levels or values better than the **Registered Capacity** and **Technical Parameters** as submitted under the **Planning Code** in respect of a CDGU, a **Controllable WFPS** and/or an **Aggregated Generating Unit**;

(b) necessary during periods of **Planned Outage** or **Planned Maintenance Outage** or otherwise with the consent of the **TSO**;

(c) necessary while repairing or maintaining the CDGU, the **Controllable WFPS** and/or the **Aggregated Generating Unit** or equipment necessary to the operation of the CDGU, the **Controllable WFPS** and/or the **Aggregated Generating Unit** where such repair or maintenance cannot reasonably, in accordance with **Prudent Operating Practice** be deferred to a period of **Planned Outage** or **Planned Maintenance Outage**;

(d) necessary to avoid an imminent risk of injury to persons or material damage to property (including the CDGU, the **Controllable WFPS** and/or the **Aggregated Generating Unit**); or

(e) it is not lawful for the **Generator** to operate the CDGU, the **Controllable WFPS** and/or the **Aggregated Generating Units**.

SDC1-99

31 July 2015
SDC1.4.3.4 **Availability of Demand Side Units**

Each Demand Side Unit Operator shall, subject to the exceptions in SDC1.4.3.5, 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.

SDC1.4.3.5 SDC1.4.3.4 shall not apply to the extent:

(a) it would require the Demand Side Unit Operator to declare levels or values better than Demand Side Unit MW Capacity and Technical Parameters as submitted under the Planning Code in respect of a Demand Side Unit;

(b) necessary during periods of Planned Outage or Planned Maintenance Outage or otherwise with the consent of the TSO;

(c) necessary while repairing or maintaining the Demand Side Unit or equipment necessary to the operation of the Demand Side Unit where such repair or maintenance cannot reasonably, in accordance with Prudent Operating Practice, be deferred to a period of Planned Outage or Planned Maintenance Outage.

(d) necessary to avoid an imminent risk of injury to persons or material damage to property (including the Demand Side Unit);

(e) it is not lawful for the Demand Side Unit Operator to change its Demand Side Unit MW Response or to operate its Demand Side Unit.

SDC1.4.3.6 **Changes in Availability:**

(a) 

(i) A User must, as soon as reasonably practicable after it becomes aware of a change in its Availability in real time, submit, via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time, a declaration of its actual real time Availability.

(ii) A User must, as soon as reasonably practicable after it becomes aware of a change to the information in the Availability Notice submitted to the TSO under SDC1.4.1.1 and as provided in this SDC1, submit a Re-declaration to such Availability Notice in accordance with its obligations to make the Unit Available under SDC1.4.3 and Appendix B to this SDC1, such Re-declaration to be submitted via Electronic Interface or in such other form as the TSO may reasonably notify to each User from time to time.

(b) In the event that the TSO submits a Post Event Notice under OC11 in relation to any part of the period covered by the Availability Notice at any
time after submission of the Availability Notice, the User shall be deemed to have submitted a revised Availability Notice consistent with such Post Event Notice.

(c) The revisions to the Availability Notice may include revisions of the levels of Availability in the CCGT Installation Matrix reflecting the revised Availability.

(d) Additional Availability Notice: A User must, as soon as reasonably practicable after it becomes aware of a change to the information in the Additional Grid Code Availability Notice submitted to the TSO under SDC1.4.2 and as provided in this SDC1, submit a Re-declaration to such Additional Grid Code Availability Notice in accordance with its obligations to make the Unit Available under SDC1.4.3 and Appendix B to this SDC1, such Re-declaration to be submitted via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time.

(ga) Increasing Availability: If a Generator, a Generator Aggregator or a Demand Side Unit Operator in respect of a CDGU, an Aggregated Generating Unit, a Demand Side Unit or Pumped Storage Plant in relation to Demand, issues an Availability Notice or a Re-declaration increasing (from zero or otherwise) the level of Availability or Demand Side Unit MW Availability from a specified time, such notice shall be construed as meaning that:

(i) in the case of a CDGU and/or Aggregated Generating Unit, the CDGU and/or Aggregated Generating Unit is capable of being synchronised to the Transmission System or Distribution System at that specified time or increasing its MW Output at that specified time as the case may be;

(ii) in the case of a CDGU which is an Open Cycle Gas Turbine, the CDGU is capable of being started at that specified time; or

(iii) in the case of a Demand Side Unit, the Demand Side Unit is capable of delivering a greater Demand Side Unit MW Response at that specified time.

(lb) Controllable WFPS: If a Generator or, where relevant a Generator Aggregator, in respect of a Controllable WFPS, issues an Availability Notice or a Re-declaration increasing (from zero or otherwise) or decreasing the level of Availability from a specified time, such notice shall be effective from the Trading Period/Imbalance Settlement Period following the specified time.

(g) Decreasing Availability: When a CDGU and/or Controllable WFPS is Synchronised to the System the Generator may have occasion to issue an Availability Notice or a Re-declaration decreasing the level of Availability of the CDGU and/or Controllable WFPS from a specified time. Such notice shall be construed as meaning that the CDGU and/or Controllable WFPS is capable of maintaining Load at the level of the
prevailing Availability until the time specified in the notice. Thereafter, the CDGU and/or Controllable WFPS shall be capable of maintaining Load to the level which would have been achieved if a Dispatch Instruction had been given to reduce the Load. This would have occurred with effect from the specified time, at the maximum De-Loading Rate and/or Ramp-Down Rate declared for the CDGU and/or Controllable WFPS as a Technical Parameter at such time down to the level of Availability specified in the new Availability Notice or a Re-declaration. When a Demand Side Unit is providing a Demand Side Unit MW Response the Demand Side Unit may have occasion to issue an Availability Notice or a Re-declaration decreasing the level of Demand Side Unit MW Availability of the Demand Side Unit from a specified time. Such notice shall be construed as meaning that the Demand Side Unit is capable of maintaining Demand Side Unit MW Response at the level of the prevailing Demand Side Unit MW Availability until the time specified in the notice. Thereafter, the Demand Side Unit shall be capable of maintaining Demand Side Unit MW Response to the level which would have been achieved if a Dispatch Instruction had been given to reduce the Demand Side Unit MW Response. This would have occurred with effect from the specified time, at the Maximum Ramp Down Rate declared for the Demand Side Unit as a Technical Parameter at such time down to the level of Demand Side Unit MW Availability specified in the new Availability Notice or a Re-declaration.

SDC1.4.3.8  (h) If an Interconnector Owner in respect of an Interconnector issues an Availability Notice or a Re-declaration increasing (from zero or otherwise) or decreasing the level of available transfer capacity on the Interconnector as a whole from a specified time, such notice shall, subject to SDC1.4.5.1(a), be effective immediately following the specified time.

SDC1.3.7  Default Availability

(a) Insofar as any data submitted or deemed to have been submitted on any particular day in any Availability Notice or any revision thereto is inconsistent with any other data in any other such notice, then the most recently submitted data which, if substituted for the inconsistent data, would make the data in such notices consistent, shall apply for the next following Trading Day.

(b) Insofar as an Availability Notice is not submitted, the User shall be deemed to have submitted an Availability Notice by Gate Closure 1 stating that the Availability of the relevant CDGU, Controllable WFPS, Demand Side Unit and/or the Aggregated Generating Units for the whole of the following Trading Day will be the level of Availability and Operating Mode declared in respect of the final Imbalance Settlement Period of the current Trading Day.
**SDC1.4.4 Technical and Commercial Data Requirements**

SDC1.4.3(a) shall not apply in respect of **PPA Generation** and the provisions of SDC1.B.4 shall apply instead. The provisions of SDC1.4.4.2 and SDC1.4.4.4(b) shall, with respect to **PPA Generation**, be read in conjunction with the provisions of SDC1.B.3.1.

**SDC1.4.4.1 Technical Parameters**

(a) (i) By not later than the **EA1 Gate Window Closure**, each User shall in respect of each:

- CDGU;
- Controllable WFPS;
- Aggregated Generating Unit;
- Pumped Storage Plant Demand; and/or
- Demand Side Unit,

submit to the TSO a Technical Parameters Notice in such form as the TSO may reasonably notify to each User or in the form published on the TSO website from time to time, containing the Technical Parameters to apply for the following relevant Trading Day.

(ii) A User may satisfy this obligation by submitting the data under the TSC, unless the TSO requires, by notice in writing to the User, the data to be submitted to it under the Grid Code.

(iii) Subsequent revisions to the Technical Parameters Notice may be submitted according to the technical offer data submission provisions as set out in the TSC. If there is a change to the data submitted under the TSC, the User shall notify the TSO.

(iv) As a general requirement, the User shall ensure that the data in any Technical Parameters Notice, or any revision thereto is consistent with its obligations under SDC1.4.3.2 and SDC1.4.3.4.

(b) **Flexibility:**

(i) In the case of any Technical Parameters as to which the User should, acting in accordance with Prudent Operating Practice, have some flexibility either in the revision itself or in the time at which the revision is to take effect the TSO may, acting reasonably, suggest an amended data figure and/or an amended time at which the data figure is to take effect.

(ii) Insofar as it is able to do so without breaching any obligations regarding confidentiality contained either in the TSO Licence or in any agreement, the TSO shall notify the User of the reasons for such flexibility request in such degree of detail as the TSO considers reasonable in the circumstances.
(iii) If the User agrees to such suggestion (such agreement not to be unreasonably withheld) the User shall use reasonable endeavours to accommodate such suggestion and submit a revised Technical Parameters Notice accordingly. In any event, the TSO may require such further information on the revision as is reasonable and the User shall give the TSO such information as soon as reasonably practicable.

A User shall notify the TSO as soon as it becomes aware, acting in accordance with Prudent Operating Practice, that any of the data submitted under SDC1.4.4.1 changes.

(c) Changes to Technical Parameters

A User must, as soon as reasonably practicable after it becomes aware of a change in its Technical Parameters in real time, submit, via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time, a declaration of its actual real time Technical Parameters.

If any of the data submitted to the TSO under SDC1.4.4.1, SDC1.4.4.3 and the relevant provisions of Appendix B to this SDC1 and SDC1.4.4.4 changes, a User shall, as soon as reasonably practicable after it becomes aware of a change to the information in a Technical Parameters Notice and subject to SDC1.4.3, (in the case of data submitted under SDC1.4.4.1 by means of a Technical Parameters Notice) submit a Re-declaration to that Technical Parameters Notice via Electronic Interface or in such other form as the TSO may reasonably notify to each User from time to time.

(d) Energy Limits for Hydro Units: A Generator in respect of its Hydro Units shall resubmit Energy Limits on the Trading Day regardless of whether the Energy Limits have changed since Gate Closure 1. Revised Energy Limits for Hydro Units may be submitted at any time up until 11.00 hours on the Trading Day in writing per unit basis.

(e) Default Technical Parameters:

Insofar as any data submitted or deemed to have been submitted on any particular day in any Technical Parameters Notice (such notice not being relevant to an Interconnector Owner) or any revision thereto is inconsistent with any other data in any other such notice, then the most recently submitted data which, if substituted for the inconsistent data, would make the data in such notices consistent, shall apply for the next following Trading Day.
Insofar as not submitted or revised, the applicable Standing Technical Offer Data for Technical Parameters shall apply for the next following Trading Day.

Energy Limits for Hydro Units: In respect of Hydro Units, the Energy Limit that applied to the previous Trading Day will be used.

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 Module 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 Modules within it.

(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) [Not used]

(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 and the Demand Side Unit MW Response Time.

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

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

(h) [Not used]

(i) In the case of Kilroot Power Station, Ballylumford Power Station and Coolkeeragh Power Station, which configuration referred to in PC.A3.3.12 the Power Station is operating at for each Trading Period Imbalance Settlement Period.

Data submitted under SDC1.4.4.2 shall, in respect of two shifting limitations, Governor Droop, reserve capability and MVAr capability, be submitted to the TSO in such form as the TSO may reasonably notify to each User or in the form published on the TSO website from time to time.

A User shall notify the TSO as soon as it becomes aware, acting in accordance with Prudent Operating Practice, that any of the data submitted under SDC1.4.4.2 is no longer correct changes.
Any changes to the MVAr capability shall be expressed as the maximum MVAr capability, for both leading and lagging MVAr, at the Registered Capacity.

**Changes to Additional Grid Code Characteristics:**

A User must, as soon as reasonably practicable after it becomes aware of a change in its Additional Grid Code Characteristics in real time, submit, via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time, a declaration of its actual real time Additional Grid Code Characteristics.

A User must, as soon as reasonably practicable after it becomes aware of any changes to the information in an Additional Grid Code Characteristics Notice submitted to the TSO under SDC1.4.4.2, submit a Re-declaration to such Additional Grid Code Characteristics Notice via Electronic Interface or in such other form as the TSO may reasonably notify to each User from time to time.

**SDC1.4.4.3 Reserve capability:**

(a) A Generator or Generator Aggregator shall notify the TSO as soon as it becomes aware, acting in accordance with Prudent Operating Practice, if any of its CDGUs and/or Controllable WFPSs or Aggregated Generating Units (or associated Power Station Equipment) is unable to meet the reserve capability specified in the relevant Sustained Load Diagrams, whether that is due to a defect in the CDGU and/or Controllable WFPS and/or Aggregated Generating Units or in its associated Power Station Equipment.

Any changes to the ability to meet the reserve capability specified in the relevant Sustained Load Diagram(s) shall be expressed as the maximum reserve capability for each category of reserve, as applicable to the relevant CDGU.

Such notification shall be made by submitting an Additional Grid Code Characteristics Notice in accordance with the Generator's obligations under SDC1.4.3.2 and paragraphs 1.B.1.1 and 1.B.1.2 of Appendix B to this SDC1, such Reserve Characteristics may only be amended (without the TSO's consent) in the event of a defect in or failure of a CDGU and/or Controllable WFPS and/or Aggregated Generating Units or any associated Power Station Equipment.

(b) A change following such notification will only take effect for so long as it takes, acting in accordance with Prudent Operating Practice, for the relevant CDGU and/or Controllable WFPS and/or Aggregated Generating Units or associated Power Station Equipment to be repaired and such repair shall re-instate the reserve capability to its previous level or to such other level as the TSO may, acting in accordance with Prudent Operating Practice, agree, taking into account the provisions of SDC1.4.4.4(a), and the Generator shall then submit a Technical Parameters Notice re-declaring the reserve capability accordingly. The Generator shall advise the TSO of the nature of any such defect or failure and of the Generator's best estimate, acting as a reasonable and prudent Generator, of the time it will take to
effect the repair to restore the Reserve Characteristics to their former level.

SDC1.4.4.4 Other Relevant Data

(a) By not later than the EA1 Gate Window Closure, each day, each User in respect of each of its Plant, shall in respect of the following Trading Day submit to the TSO in writing in the form set out on the TSO website or in such other form as the TSO may reasonably notify to each User from time to time), details in relation to the following relevant Trading Day of any newly arisen special factors, including abnormal risk to loss, which in the reasonable opinion of the User may have a material effect on the likely MW Output or Demand Side Unit MW Response of such Plant (including, for a CCGT Installation in relation to each of the CCGT Modules therein). The notice shall be consistent with the User’s obligations under SDC1.4.3.2. The provisions of this paragraph also apply to Interconnector Owners in relation to their Interconnector Filters.

(b) Where a CDGU is capable of firing on different fuels, then the Generator shall submit details in respect of each fuel for the CDGU. Each set of details shall contain the information set out in (a) above for each fuel and each shall be marked clearly to indicate to which fuel it applies.

(c) A User, acting in accordance with Prudent Operating Practice, shall notify the TSO as soon as it becomes aware that any of the data submitted under SDC1.4.4.4 has changed.

(d) Changes to Other Relevant Data

The User must notify the TSO via Electronic Interface of any new Other Relevant Data of which it becomes aware as soon as reasonably practicable after it becomes aware of such data.

(e) Default Other Relevant Data

Insofar as any data submitted or deemed to have been submitted on any particular day in any notice of Other Relevant Data or any revision thereto is inconsistent with any other data in any other such notice, then the most recently submitted data which, if substituted for the inconsistent data, would make the data in such notices consistent, shall apply for the next following Trading Day.

Insofar as not submitted or revised, the last notice relating to Other Relevant Data to have been submitted shall apply for the next following Trading Day.
As a general requirement, the **User** shall ensure that the data in any notice of any **Other Relevant Data** or any revision thereto is consistent with its obligations under SDC1.4.3.2 and SDC1.4.3.4.

### SDC1.4.4.5 Commercial Offer Data

(a) Each:
- **Generator**;
- **Pumped Storage Generator**;
- **Interconnector User**;
- **Demand Side Unit Operator**; and
- **Generator Aggregator**,

shall in respect of:
- each of its **CDGUs**;
- each of its **Pumped Storage Plant Demand**;
- each of its **Interconnector Units**;
- each of its **Demand Side Units**; and
- its **Aggregated Generating Units**,

submit to the **TSO**, either directly or by means of an **Intermediary** on its behalf (if applicable), **Commercial Offer Data** in accordance with the **TSC**, by the **Gate Window Closures** for the corresponding **Trading Windows** in accordance with the **TSC**. If no new **Commercial Offer Data** is submitted, the last accepted data will be used.

(b) Each **Generator** shall in respect of each of its **Energy Limited Generating Units** submit an **Energy Limit** as well as the **Commercial Offer Data** by **Gate Window Closure** for the corresponding **Trading Window**.

(c) Each **Pumped Storage Plant** will, with respect to its **Pumped Storage Plant Demand**, submit its **Target Reservoir Level** by **Gate Closure** for the following **Trading Day**. If no new data is submitted, the last accepted data will be used.

The **TSO** may require, by notice to the relevant **User**, the data referred to at SDC1.4.4.5 (a) to (e) to be submitted to it directly under the **Grid Code**. All data items submitted under this SDC1.4.4.5 are to be at levels of **MW Output** at the **Connection Point**.

(d) **Amendments to Commercial Offer Data** shall be in accordance with the **TSC**.

**Default Commercial Offer Data:**

SDC1-108
Insofar as not submitted or revised, Commercial Offer Data shall be deemed in accordance with the TSC.

SDC1.4.4.6 Physical Notifications

(a) Each:
- Generator;
- Pumped Storage Generator;
- Shipping Agent;
- Demand Side Unit Operator; and
- Generator Aggregator,

shall in respect of:

- Each of its CDGUs;
- Each of its Pumped Storage Plant Demand;
- Each of its Interconnectors;
- Each of its Demand Side Units; and
- Its Aggregated Generating Units,

submit to the TSO, either directly or by means of an Intermediary on its behalf (if applicable), Physical Notifications by Gate Closure 1 for the corresponding Trading Days in accordance with the TSC. Physical Notifications shall be technically feasible. Users shall ensure that the accuracy of Physical Notifications is commensurate with Good Industry Practice.

(b) Prior to Gate Closure 2, Physical Notifications submitted in accordance with SDC1.4.4.6(a) shall be amended by the User (or Intermediary if applicable) to align with changes to their expected Active Power Generation or Active Power Demand. At Gate Closure 2, Physical Notifications for the relevant Imbalance Settlement Period become Final Physical Notifications for that Imbalance Settlement Period. Final Physical Notifications may not be amended.

(c) Each Generator may, in respect of their Controllable WFPS submit Physical Notifications in accordance with the provisions of SDC1.4.4.6(a) and SDC1.4.4.6(b).

(d) Notwithstanding the obligations in SDC1.4.4.6(a) and SDC1.4.4.6(b), a value of zero will be deemed in all Imbalance Settlement Periods, or parts thereof, for which Physical Notifications data has not been submitted.

(e) If a User has submitted proposals for a test to the TSO and subsequently receives approval for the test from the TSO, the User (or their Intermediary, if applicable) shall submit Physical Notifications for the unit under test in accordance with the TSC to identify the time periods during which their units are under test. The User shall ensure that the Physical Notifications submitted in respect of a unit under test align with the approved test start time, test MW Output profile (or Demand Unit

31 July 2015
MW Response profile in the case of Demand Side Units) and test end time.

SDC1.4.5 Revisions/Re-declarations to data

SDC1.4.5.1 Availability

(a) Availability:

(i) A User must, as soon as reasonably practicable after it becomes aware of a change in its Availability in real time, submit, via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time, a declaration of its actual real-time Availability.

(ii) A User must, as soon as reasonably practicable after it becomes aware of a change to the information in the Availability Notice submitted to the TSO under SDC1.4.1.1 and as provided in this SDC1, submit a Re-declaration to such Availability Notice in accordance with its obligations to make the Unit Available under SDC1.4.3 and Appendix B to this SDC1, such Re-declaration to be submitted via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time.

(b) In the event that the TSO submits a Post Event Notice under OC1 in relation to any part of the period covered by the Availability Notice at any time after submission of the Availability Notice, the User shall be deemed to have submitted a revised Availability Notice consistent with such Post Event Notice.

(c) The revisions to the Availability Notice may include revisions of the levels of Availability in the CCGT Installation Matrix reflecting the revised Availability.

(d) Additional Availability Notice: A User must, as soon as reasonably practicable after it becomes aware of a change to the information in the Additional Grid Code Availability Notice submitted to the TSO under SDC1.4.2 and as provided in this SDC1, submit a Re-declaration to such Additional Grid Code Availability Notice in accordance with its obligations to make the Unit Available under SDC1.4.3 and Appendix B to this SDC1, such Re-declaration to be submitted via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time.

SDC1.4.5.2 Technical Parameters and Additional Grid Code Characteristics

(a) Technical Parameters:

A User must, as soon as reasonably practicable after it becomes aware of a change in its Technical Parameters in real time, submit, via Electronic Interface or in such other
form as the TSO may reasonably notify each User from time to time, a declaration of its actual real-time Technical Parameters.

(b) If any of the data submitted to the TSO under SDC1.4.4.1, SDC1.4.4.3 and the relevant provisions of Appendix B to this SDC1 and SDC1.4.4 changes, a User shall, as soon as reasonably practicable after it becomes aware of a change to the information in a Technical Parameters Notice and subject to SDC1.4.3, (in the case of data submitted under SDC1.4.4 by means of a Technical Parameters Notice) submit a Re-declaration of that Technical Parameters Notice via Electronic Interface or in such other form as the TSO may reasonably notify to each User from time to time. The User must notify the TSO via Electronic Interface of any new Other Relevant Data of which it becomes aware as soon as reasonably practicable after it becomes aware of such data.

(b) Additional Grid Code Characteristics:

(j) A User must, as soon as reasonably practicable after it becomes aware of a change in its Additional Grid Code Characteristics in real time, submit, via Electronic Interface or in such other form as the TSO may reasonably notify each User from time to time, a declaration of its actual real-time Additional Grid Code Characteristics.

(k) A User must, as soon as reasonably practicable after it becomes aware of any changes to the information in an Additional Grid Code Characteristics Notice submitted to the TSO under SDC1.4.4.2, submit a Re-declaration to such Additional Grid Code Characteristics Notice via Electronic Interface or in such other form as the TSO may reasonably notify to each User from time to time.

(c) Energy Limits for Hydro Units: A Generator in respect of its Hydro Units shall resubmit Energy Limits on the Trading Day regardless of whether the Energy Limits have changed since the EA1 Gate Window Closure. Revised Energy Limits for Hydro Units may be submitted at any time up until 18.00 hours on the Trading Day in writing per unit basis.

SDC1.4.5.3 The TSO shall, insofar as it is reasonably able, take account of such revisions or notifications submitted under SDC1.4.5 for Scheduling and Dispatch purposes.

SDC1.4.6 (a) Defaults:

(i) Insofar as any data submitted or deemed to have been submitted on any particular day in any Availability Notice, Technical
Parameters Notice (such notice not being relevant to an Interconnector Owner), or notice of Other Relevant Data or any revision thereto is inconsistent with any other data in any other such notice, then the most recently submitted data which, if substituted for the inconsistent data, would make the data in such notices consistent, shall apply for the next following Trading Window.

(ii) Insofar as an Availability Notice is not submitted, the User shall be deemed to have submitted an Availability Notice by Gate Closure stating that the Availability of the relevant CDGU, Controllable WFPS, Demand Side Unit and/or the Aggregated Generating Units for the whole of the following Trading Window will be the level of Availability and Operating Mode declared in respect of the final Trading Period of the current Trading Window.

(iii) Insofar as not submitted or revised, the applicable Standing Technical Offer Data for Technical Parameters shall apply for the next following Trading Day.

(iv) Insofar as not submitted or revised, the last notice relating to Other Relevant Data to have been submitted shall apply for the next following Trading Day.

(v) In respect of Hydro Units, the Energy Limit that applied to the previous Trading Day will be used.

(b) As a general requirement, the User shall ensure that the data in any Availability Notice, Technical Parameters Notice, or notice of any Other Relevant Data or any revision thereto is consistent with its obligations under SDC1.4.3.2 and SDC1.4.3.4.

SDC1.4.7 Form of Submission

(a) Where this SDC1 requires a User to submit a notice, it may instead of submitting it in writing, submit the information required in such a notice (which information shall be supplied in full) by telephone subject to the TSO’s prior consent (identifying unambiguously the type of notice which is thereby being submitted).

(b) The individual who is giving the notice by telephone on behalf of the User shall firstly specify the time at which the notice is being given, then identify himself and ask the individual receiving the notice on behalf of the TSO also to identify himself. The information required by the notice shall then be given, including (without limitation) the identity of the CDGU, Controllable WFPS, Aggregated Generating Unit, Pumped Storage Plant and Demand Side Unit to which the notice relates.

(c) The notice shall then be confirmed by facsimile transmission or by any electronic means as agreed with the TSO as soon as possible thereafter.
(and in any event be sent to the TSO within 2 hours). Where a facsimile is so sent by way of confirmation, it shall state clearly that it is in confirmation of a notice already given by telephone and shall state the exact time at which the notice was given by telephone.

SDC1.4.8 Compilation of the Indicative Operations Schedules

The provisions of SDC1.4.8.2 and SDC1.4.8.8 shall, with respect to PPA Generation, be read in conjunction with the provisions of SDC1.B.3.2 and SDC1.B.3.3 respectively.

SDC1.4.8.1 At least one Indicative Operations Schedule will be compiled daily for each of the present Trading Day and the following Trading Day by the TSO in conjunction with the Other TSO as further provided in this SDC1.4.8 as a statement of which CDGUs and/or Controllable WFPS and/or transfers across any Interconnector and/or Demand Side Units and/or Pumped Storage Plant Demand and/or Aggregated Generating Units and equivalent units in the Republic of Ireland may be required to operate and their expected MW Output. The TSO in conjunction with the Other TSO will periodically update the Indicative Operations Schedules.

SDC1.4.8.2 Merit Order

Subject as provided below, a Merit Order will be compiled by the TSO (in conjunction with the Other TSO) for each Trading Window Imbalance Settlement Period from the Incremental Price Quantity Pairs, Decremental Price Quantity Pairs, Start-Up Cost, 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 WFPS, Pumped Storage Plant Demand, Demand Side Units, Aggregated Generating Units or Interconnector tranche-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 will be on the basis of ascending prices so that once committed the CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Unit or Aggregated Generating Unit Price Set or Interconnector tranche Price Set bid-offer data from an External System Operator at the head of the Merit Order will be that which has the lowest Incremental Price per MWh, and that at the foot of the Merit Order shall be the one with the highest Incremental Price per MWh, and taking into account the average CDGU, Pumped Storage Plant Demand, Demand Side Unit, Aggregated Generating Unit Price Set or Interconnector Output. Each CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Unit, Aggregated Generating Units and/or Interconnector tranche bid-offer data from an External System Operator shall appear in the Merit Order for each Price Set submitted.

The Merit Order for dispatching MW Output to a level below that indicated in Physical Notifications will be on the basis of descending prices so that the CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Unit, Aggregated Generating Unit Price Set or Interconnector Output at the head of a Merit Order will be that which has the highest Decremental Price per MWh, and that at the foot of a Merit Order shall be the
one with the lowest Decremental Price per MWh. Each CDGU, Controllable WFPS, Pumped Storage Plant 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.

SDC1.4.8.3 In compiling the Indicative Operations Schedules in conjunction with the Other TSO, the TSO will take account of and give due weight to the following factors (and the equivalent factors on the Other Transmission System will be so treated separately by the Other TSO):

(i) Physical Notifications or Final Physical Notifications (as the case may be) submitted in accordance with SDC1.4.4.6;

(ii) Transmission System constraints which may vary from time to time, as determined by the TSO;

(iii) Reserve constraints which may vary from time to time, as determined by the TSO;

(iv) the need to provide an Operating Margin (by using the various categories of reserve as specified in OC3 (as the case may be), as determined by the TSO acting in conjunction with the Other TSO;

(iv) Transmission System stability considerations;

(v) the level of MW Output and availability covered by Non Centrally Dispatched Generating Units, by Plant subject to Priority Dispatch and by Controllable WFPS;

(vi) the Target Reservoir Levels for Pumped Storage taken against the initial conditions at 0600 hours the previous day;

(vii) the Energy Limits for Hydro Units;

(viii) in respect of all Plant, the values of their Technical Parameters registered under this SDC1 and other information submitted under SDC1.4.4.4;

(ix) Commercial Offer Data the Start-Up Cost of for each CDGU and/or Controllable WFPS and the Shutdown Cost of each Demand Side Unit and equivalent commercial data provided by an External System Operator in respect of Interconnectors;

(x) the requirements, as determined by the TSO, for Voltage Control and Mvar reserves;

(xi) CDGU and/or Controllable WFPS stability, as determined by the TSO;

(xii) other matters to enable the TSO to meet its Licence Standards and the Other TSO to meet its equivalent;

(xiii) the requirements as determined by the TSO, for maintaining Frequency Control;
Monitoring and/or Testing and/or Investigations to be carried out, or being carried out, under OC11 (as the case may be), testing to be carried out, or being carried out, at the request of a Generator in relation to a PPA CDGU under OC11.8, testing to be carried out at the request of a User in respect of User’s Equipment other than a PPA CDGU under OC11.13 and/or Commissioning/Acceptance Testing under the CC;

System Tests;

the inability of any CDGU and/or Controllable WFPS to meet its full reserve capability;

Inter-jurisdictional Tie Line limits;

other facts as may be reasonably considered by the TSO to be relevant to the Indicative Operations Schedule;

the inflexible characteristics as declared by the Generator and abnormal risks;

losses on the Transmission System and on the Other Transmission System;

Nomination Profiles where relevant;

requirements within any Constrained Group;

the fact that the Interconnector tranches in the unconstrained Indicative Market Schedule cannot be changed in the Indicative Operations Schedule;

in the case of PPA CDGUs any "take or pay" contract for the purchase of fuel to which such a Generator is a party and the terms of which have been agreed by NIE Energy and notified to the TSO and which impact on NIE Energy and/or the terms of any other contract to which NIE Energy is a party and which may, in its opinion, be relevant and which is notified to the TSO;

the requirements to manage gas flows;

fuel and emission constraints of a Plant as well as any other technical related factors which may constrain the Output or Demand Reduction of a Plant as the case may be both immediately and in the longer term;

any inter-unit dependencies notified to the TSO that restrict the number of Generating Units that can start up or shut down simultaneously.

Factors used by the TSO (and the Other TSO) in order to comply with Statutory Instruments, Statutory Regulations and/or the Licence which may impact Scheduling and Dispatch;
(xxiv) factors used by the TSO (and the Other TSO) to comply with the objectives in SDC1.2(g);

SDC1.4.8.4 Taking account of and applying the factors referred to in SDC1.4.8.3, the Indicative Operations Schedule shall be compiled by the TSO in conjunction with the Other TSO to Schedule such CDGUs, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Units, Aggregated Generating Units and/or such Interconnector transfers, and equivalent units or transfers of equivalent units in the Republic of the Ireland, which have been declared Available in an Availability Notice (and the equivalents on the Other Transmission System):

(i) in accordance with the applicable Merit Order, starting with the CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Units and/or Aggregated Generating Unit Price Set, and the Price Set for equivalent units in the Republic of the Ireland, together with Interconnector transfers in the unconstrained Indicative Market Schedule at the head of the Merit Order;

(ii) as will in aggregate (after taking into account electricity delivered other than from CDGUs, Controllable WFPSs, Aggregated Generating Units, and/or Interconnector transfers and variation in Demand from Pumped Storage Plant Demand and Demand Side Units) be sufficient to match at all times (to the extent possible having regard to the Availability or Demand Side Unit MW Availability of CDGUs, Controllable WFPSs, Pumped Storage Plant Demand, Demand Side Units, Aggregated Generating Units and Interconnector 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

(iii) as will in aggregate be sufficient to match minimum forecast Demand levels together with a sufficient Minimum Demand Regulation.

The taking account of and application of the factors in SDC1.4.8.3 will mean that, in general, the strict adherence to Merit Order may not necessarily be feasible followed.

SDC1.4.8.5 The TSO will periodically rerun the Scheduling process and issue revised Indicative Operating Schedules to take account of After the completion of the Scheduling process, and the issuing of the Indicative Operations Schedule, the TSO may consider it necessary to make adjustments to the MW output as determined by the Scheduling process. Such adjustments could be made necessary by any of the following factors (and the equivalent factors on the Other Transmission System which will be so dealt with separately by the Other TSO):

(a) changes to Physical Notifications;

(b) changes to Interconnector schedules;

31 July 2015
(c) changes to **Commercial Offer Data** [and bid-offer data from **External Transmission System Operators**];

(b)(d) changes to **Availability** or **Demand Side Unit MW Availability** and/or **Technical Parameters** of **CDGUs** and/or **Controllable WFPS** and/or **Aggregated Generating Units** and/or **Interconnectors** and/or **Demand Side Units** notified to the **TSO** after the commencement of the **Scheduling** process;

(b) changes to **Demand** forecasts on the Island of Ireland;

(e) changes to wind power forecasts on the Island of Ireland;

(dg) changes to **Transmission System** constraints, emerging from the necessarily iterative process of **Scheduling** and network security assessment;

(sh) changes to **CDGU** and/or **Controllable WFPS** requirements following notification to the **TSO** of the changes in capability of a **Generator** to provide a **Special Action** as described in SDC2;

(i) changes to **CDGU** and/or **Controllable WFPS** requirements within **Constrained Groups**, following re-appraisal of **System Demand** forecasts on the Island of Ireland within that **Constrained Group**;

(gi) changes to any conditions which in the reasonable opinion of the **TSO**, would impose increased risk to the **Transmission System** and would therefore require an increase in the **Operating Margin**;

(hk) known (or emerging) limitations and/or deficiencies of the **Scheduling** process.

SDC1.4.8.6 When:

(a) adverse weather is anticipated;

(b) there is a high risk to the whole or part of the **Transmission System** and/or the **Other Transmission System**;

(c) **Demand Control** has been instructed by the **TSO**;

(d) a **Total** or **Partial Shutdown** exists; or

(e) the **Fuel Security Code** is invoked or is anticipated to be invoked;

these factors may mean that a **CDGU**, **Controllable WFPS**, **Pumped Storage Plant Demand**, **Demand Side Unit**, **Aggregated Generating Unit** and/or **Interconnector** transfers is/are chosen other than in accordance with the profile described in **Physical Notifications** and amended in line with **Merit Order** to a greater degree than would be the case when merely taking into account and giving due weight to the factors listed in SDC1.4.8.3 in order to seek to maintain the integrity of the **Transmission System**.
The Synchronising and De-Synchronising times (and, in the case of Pumped Storage Plant Demand, the relevant effective time) shown in the Indicative Operations Schedule are indicative only and it should be borne in mind by Users that the Dispatch Instructions could reflect more or different CDGU, Aggregated Generating Unit and/or Controllable WFPS, Pumped Storage Plant Demand and/or Aggregate Generating Unit requirements than in the Indicative Operations Schedule. The TSO may issue Dispatch Instructions in respect of any CDGU and/or Aggregated Generating Unit, Controllable WFPS, Pumped Storage Plant Demand or Aggregated Generating Unit which has not declared an Availability or Demand Side Unit MW Availability of 0 MW in an Availability Notice. Users with CDGUs and/or Aggregated Generating Units, Controllable WFPS, Pumped Storage Plant Demand shall ensure that their units are able to be Synchronised, or in the case of Pumped Storage Plant Demand, used at the times Scheduled, but only if so Dispatched by the TSO by issue of a Dispatch Instruction. Users shall, as part of a revision to the Technical Parameters, indicate to the TSO the latest time at which a Dispatch Instruction is required to meet the scheduled Synchronising time or in the case of Pumped Storage Plant Demand, the Scheduled relevant effective time.

The provisions of SDC1.4.8.7(a) shall apply to Demand Side Units with the exception that reference to relevant effective time shall be read as a reference to Demand Side Unit Notice Time.

The information contained in the Indicative Operations Schedule will indicate, where appropriate, on an individual CDGU, Controllable WFPS, Pumped Storage Plant Demand, Demand Side Unit, and/or Aggregated Generating Units and/or Interconnector basis, the period and Loading for which it is Scheduled during the relevant Trading Day. If no fuel is contained in the Indicative Operations Schedule, then the most recently specified fuel shall be treated as having been indicated.

(a) The initial Indicative Operations Schedule for a Trading Day associated with the EA2 Trading Window will be published for access by Users (or where in relation to a CDGU the User does not have access to where it would be published, shall, subject to agreement with the TSO (such agreement not to be unreasonably withheld or delayed), be sent by the TSO to that User) by 1600 hours each on the day preceding the relevant Trading Day and the Indicative Operations Schedule associated with the within-day WD1 Trading Window will be published for access by Users by 1330 hours each day on the relevant Trading Day, provided that all the necessary information from the Users was made available by not later than Gate Window Closure. However, if on any occasion the TSO is unable to meet these times, the TSO also reserves the right to extend the timescale for the issue of the initial Indicative Operations Schedules to the extent
necessary. Following the issue of the initial Indicative Operations Schedule preceding the relevant Trading Window Day, the TSO may issue revised Indicative Operations Schedules to reflect updated information from the Scheduling process, up until one hour before the start of the Trading Window.

(b) Indicative Operations Schedules issued by the TSO may comprise several schedules covering short term, medium term or long term timeframes where long term covers the period up to 48 hours immediately following real time.

(c) The TSO may issue Dispatch Instructions to Users in respect of CDGUs, Controllable WFPSs, Pumped Storage Plant Demand and/or Demand Side Units and/or Aggregated Generating Units and/or Interconnector transfers before the issue of the Indicative Operations Schedule for the Trading Day to which the Dispatch instruction relates if the length of Notice to Synchronise Synchronous Start Up Time for the relevant CDGUs and/or Controllable WFPSs, Pumped Storage Plant Demand and/or Demand Side Unit and/or Aggregated Generating Unit requires the Dispatch instruction to be given at that time. When the length of the time required for Notice to Synchronise is within 30 minutes of causing the CDGU and/or Controllable WFPS and/or Pumped Storage Plant Demand to be unable to meet the indicative Synchronising time in the Indicative Operations Schedule or a subsequent indicative Synchronising time and no Dispatch Instruction has been received, the Generator shall inform the TSO without delay.

SDC1.4.8.10 Regulation

It is a requirement for running the Transmission System that all Synchronised CDGUs and/or Controllable WFPSs shall at all times be capable of reducing MW Output sufficient to allow a sufficient Regulating Margin for adequate Frequency Control. The TSO will monitor the MW Output data of the Indicative Operations Schedule against forecast of System Demand on the Island of Ireland to see whether the level of regulation for any period is sufficient, and may take any shortfall into account in Scheduling and Dispatch.

SDC1.4.8.11 Data Requirements

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 WFPSs and/or Pumped Storage Plant Demand and/or Demand Side Units and/or Aggregated Generating Units by not later than Gate Closure 1 on the day prior to the relevant Trading Day.

SDC1 Appendix A Part 2 sets out the additional data items required in respect of an Additional Grid Code Characteristics Notice.
## Part 1. Technical Parameters

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SDC1-120
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<td>Governor Droop</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Sustained Response Capability</td>
<td>All PPA CDGUs</td>
</tr>
<tr>
<td>The maximum reserve capability for each category of reserve</td>
<td>All non-PPA CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Two shifting limitation (limitation on the number of Start-ups per Trading Day)</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>The MW and Mvar capability limits within which the CDGU is able to operate as shown in the relevant Generator Performance Chart</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Maximum number of on Load cycles per 24 hour period, together with the maximum Load increases involved</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>^Maximum number of changes to the Dispatched Fuel per 24 hour period</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Maximum quantity of oil in “ready-use tanks” and associated pipework</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>^Maximum number of changes to the Designated Fuel per 24 hour period</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>^Minimum notice to change the Designated Fuel.</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Settings of the Unit Load Controller for each CDGU for which a Unit Load Controller is required under CCS1.5.5 of the</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
<tr>
<td>Variable</td>
<td>Applies to</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>SONI Grid Code</td>
<td></td>
</tr>
<tr>
<td>Time between <strong>De-Synchronising</strong> different CDGUs in a Power Station which, in the case of Coolkeeragh Power Station only, shall be stated for both paired and single CDGUs.</td>
<td>All CDGUs, except Aggregated Generating Units</td>
</tr>
</tbody>
</table>
SDC1 - APPENDIX B

SDC1.B.1 The following paragraphs apply in relation to PPA Generation in place of SDC1.4.3.1 to SDC1.4.3.3.

SDC1.B.1.1 In relation to PPA Generation, each Generator shall subject always to the terms and conditions of any applicable Generating Unit Agreement throughout the term of the Generating Unit Agreement relating to a particular PPA CDGU, maintain, repair, operate and fuel the CDGU as required by Prudent Operating Practice and any legal requirements with a view to providing the Contracted Capacity and the Contracted Technical Parameters, provided that in determining when so to maintain or repair the CDGU, the Generator may have regard to the amount of Availability Payments (including reductions in and rebates of Availability Payments) which may at any time be earned (or suffered) by it under the relevant Generating Unit Agreement and to its obligations under clause 5.1 of the relevant Power Station Agreement.

SDC1.B.1.2 In relation to PPA Generation, the Generator shall use reasonable endeavours to ensure that it does not at any time declare by issuing or allowing to remain outstanding an Availability Notice, or a Technical Parameter Notice which declares the Availability or Technical Parameters of the CDGU, (including, in the case of a CCGT Installation, its Operating Mode) at levels or values different from those that the PPA CDGU could achieve at the relevant time except:

(a) during periods of Planned Outage or Short Term Planned Maintenance Outage or otherwise with the consent of the TSO;

(b) while repairing or maintaining the PPA CDGU or equipment necessary to the operation of the PPA CDGU where such repair or maintenance cannot reasonably, in accordance with Prudent Operating Practice, be deferred to a period of Planned Outage or Short Term Planned Maintenance Outage;

(c) where necessary to avoid an imminent risk of injury to persons or material damage to property (including the PPA CDGU);

(d) if it is not lawful for the Generator to operate the PPA CDGU; or

(e) to the extent that the Generator is affected by Force Majeure under the Generating Unit Agreement;

provided that nothing in the Grid Code shall require the Generator to declare levels or values better than Contracted Capacity and Contracted Technical Parameters in respect of a PPA CDGU.

SDC1.B.1.3 The Generator shall provide the TSO with all information necessary to enable the TSO to implement and apply the above provisions.

SDC1.B.2 The following paragraphs apply in relation to PPA Generation at Kilroot Power Station in addition to the other provisions of this SDC1.

SDC1.B.2.1 In relation to any steam turbine PPA CDGU at Kilroot Power Station, the TSO may, in respect of any Trading Period (and/or successive Trading Periods) give
notice (an “Overburn Notice”) to the relevant Generator with as much notice as possible and in any event (except in the circumstances specified in (iii) below) not less than 24 hours before the start of such Trading Period (or the first such period) with the following effect and subject as follows:

(i) the Contracted Capacity (Coal) shall thereby be increased to Overburn Contracted Capacity in respect of such Trading Period (or periods) following which the Generator shall redeclare the Availability of the CDGU in an Availability Notice (and, for the avoidance of doubt, such increase shall only apply for the Trading Periods specified in the Overburn Notice);

(ii) the aggregate number of Trading Periods in any period of 24 hours and in any period of 12 months for which Overburn Notices may be given shall be no greater than the limits set out in paragraph 3 of schedule 1 to the relevant Generating Unit Agreement;

(iii) The TSO will procure that NIE will waive the rebate of Availability Payments for late declaration of Availability under paragraph 13.2 of schedule 2 to the relevant Generating Unit Agreement if the Overburn Notice is issued by the TSO less than 24 hours in advance of the start of the relevant Trading Period.

SDC1.B.3 References to fuel

The following paragraphs apply in relation to PPA Generation and the interpretation of this SDC1.

SDC1.B.3.1 References to “fuel” at SDC1.4.2.1, SDC1.4.4.2 and SDC1.4.4.4(b) shall be read as references to “Designated Fuel”.

SDC1.B.3.2 The final two sentences of SDC1.4.8.8 shall be read as follows:

In the case of a CDGU which is capable of firing on two different Designated Fuels, it will also indicate the Designated Fuel for which it is scheduled during the following Trading Day. If no Declared Fuel and/or, where relevant Designated Fuel is contained in the Indicative Operations Schedule, then the most recently specified Declared Fuel and/or, where relevant, Designated Fuel shall be treated as having been indicated.

SDC1.B.3.3 References to the Price Set in SDC1.4.8.2 shall be construed as in relation to each Designated Fuel or Declared Fuel, as the case may be.

SDC1.B.4 Technical Parameters

SDC1.B.4.1 The following paragraph applies in relation to PPA Generation in place of the equivalent provisions of SDC 1.4.4.3.(a).

SDC1.B.4.2 A Generator must notify the TSO as soon as it becomes aware, acting in accordance with Prudent Operating Practice if (whether due to a defect in the CDGU or in its associated Power Station Equipment) any of its CDGUs is unable to meet the Spinning Reserve Capability set out in the Sustained Load Diagram attached to Schedule 8 of the relevant Generating Unit Agreement and submitted pursuant to the PC.
Such notification shall be made by submitting an **Additional Grid Code Characteristics Notice** in accordance with the **Generator**’s obligations under SDC1.4.3.2 and paragraphs 1.B.1.1 and 1.B.1.2 of Appendix B to this SDC1, such **Spinning Reserve Capability** may only be amended (without the TSO’s consent) in the event of a defect in or failure of a **CDGU** or any associated **Power Station Equipment**.

**SDC1.B.4.3** In SDC1.4.4.3(a) and (b) the term “reserve capability” shall be construed as “**Spinning Reserve Capability**”.

**SDC1.B.4.4** In relation to **PPA Generation** the **User** shall provide in the **Technical Parameters Notice** any revisions to the **Technical Parameters** compared to the **Contracted Technical Parameters**.
ANNEX I

Explanatory Note of differences between SDC1 in the SONI Grid Code and EirGrid Grid Code

This annex is an explanatory note only and does not form part of the Grid Code.

1. General Differences in wording

The table below summarises the general differences in wording between the form of SDC1 in the SONI Grid Code and the form of SDC1 in the EirGrid Grid Code, which appear repeatedly throughout SDC1.

<table>
<thead>
<tr>
<th>Terms used in SONI Grid Code</th>
<th>Equivalent terms used in EirGrid Grid Code (where different)</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Support Services</td>
<td>Ancillary Service(s)</td>
<td>The existing arrangements for Ancillary Services and System Support Services are continuing until further notice.</td>
</tr>
<tr>
<td>System Support Services</td>
<td>Ancillary Service(s) Agreement</td>
<td>These agreements will continue to stay in place with their existing names.</td>
</tr>
<tr>
<td>CCGT Module</td>
<td>CCGT Unit</td>
<td>This is the phrase currently used to describe the individual parts of a Combined Cycle Plant. CCGT Module is an important concept in Northern Ireland and is reflected in many other agreements. EirGrid is keeping the phrase CCGT Unit, as it more closely describes the concept of an individual unit and EirGrid has formerly used CCGT Module to describe the whole CCGT Installation.</td>
</tr>
<tr>
<td>Prudent Operating Practice</td>
<td>Prudent Utility Practice</td>
<td>Each Code uses a different phrase for this concept.</td>
</tr>
<tr>
<td>Planned Outage</td>
<td>Schedule Outage</td>
<td>Each Code uses a different phrase for this concept.</td>
</tr>
<tr>
<td>Planned Maintenance Outage</td>
<td>Short Term Scheduled Outage</td>
<td>Each Code uses a different phrase for this concept.</td>
</tr>
</tbody>
</table>
## 2. Specific differences in wording between equivalent provisions in both Grid Codes

The table below provides a list of the other specific differences in wording between equivalent provisions of SDC1 in both Grid Codes.

<table>
<thead>
<tr>
<th>Provision</th>
<th>SONI Grid Code</th>
<th>EirGrid Grid Code</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC1.4.2.1</td>
<td>An additional sentence states at the end of SDC1.4.2.1 that these provisions have to be read in conjunction with SDC1.B.3.1 in respect of PPA Generation.</td>
<td>No such reference is made.</td>
<td>The provisions of Appendix B are specific to PPA Generation in Northern Ireland.</td>
</tr>
<tr>
<td>SDC1.4.2.2(b)</td>
<td>Reference is made to “PCA2.3.4”</td>
<td>Reference is made to “PCA.4.3 of the Planning Code Appendix”</td>
<td>These are the respective requirements for the provision of the CCGT Installation data.</td>
</tr>
<tr>
<td>SDC1.4.3.4</td>
<td>Reference is made to “NI System”</td>
<td>Reference is made to “Network”</td>
<td>NI System refers to both the NI Transmission System and NI Distribution System and Network refers to the Ireland Transmission System and Distribution System</td>
</tr>
<tr>
<td>SDC1.4.4.2</td>
<td>The following paragraphs are contained at the end of SDC 1.4.4.2: “Data submitted under SDC1.4.4.2 shall, in respect of two shifting limitations, Governor Droop, reserve capability and MVAr capability, be submitted to the TSO in such form as the TSO may reasonably notify to each User or in the form published on the TSO website from time to time.” “Any changes to the MVAr capability shall be expressed as the maximum MVAr capability, for both leading and lagging MVAr, at the Registered Capacity.”</td>
<td>No such reference is made.</td>
<td>These provisions are specific to the way Users are required to declare reserve characteristics in Northern Ireland.</td>
</tr>
<tr>
<td>SDC1.4.5.1(b) SDC1.4.3.6(b)</td>
<td>Reference is made to “OC11”</td>
<td>Reference is made to “OC10”</td>
<td>These are the respective requirements for Testing Monitoring and</td>
</tr>
<tr>
<td>SDC1.4.5.1(d)</td>
<td>SDC1.4.3.6(d)</td>
<td>Reference is made to a User acting in accordance with its obligations under “SDC1.4.3 and Appendix B to this SDC1”</td>
<td>Reference is made to a User acting in accordance with its obligations under “SDC1.4.3” only</td>
</tr>
<tr>
<td>SDC1.4.6(a)(ii)</td>
<td>SDC1.4.3.7</td>
<td>The EirGrid Grid Code contains the following additional words at the end of the paragraph: “or any other values that the TSO may reasonably deem appropriate”</td>
<td>Difference is due to different requirements in both jurisdictions.</td>
</tr>
<tr>
<td>SDC1.4.8.1</td>
<td>Reference is made to “the Republic of Ireland”.</td>
<td>Reference is made to “Northern Ireland”.</td>
<td>Reference is being made in each Grid Code to the other jurisdiction.</td>
</tr>
<tr>
<td>SDC1.4.8.3(i)</td>
<td>Reference is made to the “Transmission System and Distribution System constraints”</td>
<td>Reference is made to the “Transmission System constraints” only.</td>
<td>EirGrid will not be in a position to take Distribution Constraints into account in determining the IOS.</td>
</tr>
<tr>
<td>SDC1.4.8.3(iii)</td>
<td>SDC1.4.8.3(iv)</td>
<td>Reference is made to “OC3”</td>
<td>Reference is made to “OC4.6 and CC7.3.1.1”</td>
</tr>
<tr>
<td>SDC1.4.8.3(xiv)</td>
<td>Reference is made to “OC11” and then to “OC11.8 and OC11.13”. Reference is also made to (i) “Generator in relation to a PPA CDGU” and “User in respect of User’s Equipment other than a PPA CDGU”.</td>
<td>Reference is made to “OC10” and then to “OC8”. Reference is made to “Users” only.</td>
<td>These are the respective references to Testing Monitoring and Investigation and Operational Testing.</td>
</tr>
<tr>
<td>SDC1.4.8.3(xiv)</td>
<td>Reference is made to “Commissioning/Acceptance Testing”</td>
<td>Reference is made to “Commissioning/Testing”</td>
<td>These are the respective terms used in each Grid Code.</td>
</tr>
<tr>
<td>SDC1.4.8.3(xv)</td>
<td>Reference is made to “System Tests” only</td>
<td>Reference is made to “System Tests, Operational Tests and Commissioning Tests”</td>
<td>The EirGrid Grid Code definition of System Tests excludes Operational and</td>
</tr>
<tr>
<td>Provisions used in SONI Grid Code only</td>
<td>Reason</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC1.1.4</td>
<td>SONI has extra requirements due to the presence of PPA Generation in Northern Ireland.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC1.4.3: Introductory sentence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC1.4.4: Introductory sentence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC1.4.8: Introductory Sentence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**3. Provisions applicable to one Grid Code only**

The table below provides a list of the provisions of SDC1 which exist in one Grid Code only.
<table>
<thead>
<tr>
<th>SDC1.4.8.3(xxiv)</th>
<th>The CCGT Matrix can be amended in the SONI Grid Code as per a specific requirement in the Planning Code Appendix, whereas the EirGrid Code can be amended as per any Planning Code data.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC1 Appendix B</td>
<td>For reasons associated with the management of the Transmission System in Northern Ireland - especially relating to emission and fuel constraints on certain CDGUs - it is important that the TSO is given fuel and emission constraint related information by a Generator so that it can take these into account when preparing the IOS.</td>
</tr>
<tr>
<td>SDC1.4.4.2(i)</td>
<td>This provision is necessary to deal with conversion factors applicable to PPA Generators in Northern Ireland.</td>
</tr>
<tr>
<td>SDC1.4.4.3</td>
<td>There are differences in how Reserve capabilities are notified to both SONI and EirGrid.</td>
</tr>
</tbody>
</table>

**Provisions used in EirGrid Grid Code only**

<table>
<thead>
<tr>
<th>SDC1.4.4.2 (h)</th>
<th>There are differences in how Operating Reserve capabilities are notified to both SONI and EirGrid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC1.4.4.2(c)</td>
<td>The SONI Grid Code addresses the issue of conversion factors in a different way by cross-referring to the Planning Code.</td>
</tr>
</tbody>
</table>
SDC2.1 INTRODUCTION

SDC2.1.1 SEM Provisions

(a) This Scheduling and Dispatch Code No. 2 ("SDC2") forms part of the Sections under Common Governance of the Grid Code. The Sections under Common Governance are those parts of the Grid Code which are under common governance in both the Grid Code and the Other Grid Code.

(b) The form of this SDC2 is similar to the SDC2 in the Other Grid Code. Differences relate to references to relevant power systems and related terms. Where there is a difference between a provision in this Grid Code and an equivalent provision in the Other Grid Code, the wording in question is shaded in grey. In addition, those parts of this SDC2 that are not part of the Other Grid Code are shaded in grey in this SDC2. Differences between the form of this SDC2 and the SDC2 in the Other Grid Code are summarised in Annex 1 to this SDC2.

(c) This SDC2 is intended to work in conjunction with other documents, including the Trading and Settlement Code ("TSC"). The provisions of the Grid Code and the Other Grid Code will take precedence over the TSC. The TSC is the document under which the principal elements of the market for electricity operate. Every User which trades in electricity above certain minimum thresholds is required to be a party to the TSC. The Market Operator is a party to the TSC, as is the TSO and the Other TSO.

(d) Where stated in this SDC2, the obligation to submit data in relation to some of the information required to be provided to the TSO by this SDC2 may be fulfilled by Users where such information submitted under the TSC by a User or by an Intermediary on behalf of Users is then provided to the TSO by the Market Operator under the provisions of in accordance with the TSC, as further provided in this SDC2. The TSO may require Users to verify or update data received by it via the Market Operator.

(e) Further provisions dealing with the Sections under Common Governance are contained in the General Conditions.

SDC2.1.2 SDC2 sets out the procedure for the TSO to issue Dispatch Instructions to:

(a) Generators in respect of their CDGUs (which for the avoidance of doubt comprise, Generating Units subject to Central Dispatch, CCGT Installations, Hydro Units, Pumped Storage Generation (but not Pumped Storage Demand) and Dispatchable WFPSs);
Controllable WFPSs are not currently subject to Dispatch Instructions.

SDC2.1.3 Certain provisions relating to PPA Generation are included in Appendix C and Appendix D and prevail, supplement and/or replace as the case may be the provisions of SDC2 in relation to such PPA Generation.

SDC2.2 OBJECTIVE

The procedure for the issue of Dispatch Instructions by the TSO, is intended to enable (as far as possible) the TSO to match continuously CDGU, Demand Side Unit, Aggregated Generating Units output (or reduction as the case may be) and/or Interconnector transfers to Demand, and thereby in conjunction with the Other TSO, the Demand on the Island of Ireland, by utilising the Physical Notifications and Merit Order derived pursuant to SDC1 and the factors to be taken into account listed there and by taking into account any NCDGU MW Output in both cases together with an appropriate margin of reserve, whilst maintaining (so far as possible) the integrity of the Transmission System together with the security and quality of supply (with the Other TSO having a similar objective with regard to its Transmission System).

SDC2.3 SCOPE

SDC2.3.1 SDC2 applies to the TSO, and:

(a) Generators with regard to their CDGUs;

(b) Pumped Storage Generators with regard to their Pumped Storage Plant Demand;

(c) Interconnector Owners with regard to their Interconnectors;

(d) Demand Side Unit Operators in relation to their Demand Side Units; and

(e) Generator Aggregators in respect of their Aggregated Generating Units.

Each of which (other than the TSO) is a “User” under this SDC2.

SDC1-134
SDC2.3.2 In this SDC2, the term “User” shall include users of the Distribution System that fall under one of the above categories and are subject to Central Dispatch.

SDC2.4 PROCEDURE

SDC2.4.1 Information Used

SDC2.4.1.1 The information which the TSO shall use in assessing which CDGU, Demand Side Unit, Interconnector transfers, Pumped Storage Plant Demand and/or Aggregated Generating Units to Dispatch, will be:

(a) Final Physical Notifications (or Physical Notifications in circumstances where Dispatch Instructions must be issued before Gate Closure 2);

(f) the Availability Notices;

(b) the Merit Order as derived under SDC1;

(ed) the other factors to be taken into account under SDC1 and which were used by the TSO to compile the Indicative Operations Schedule; and

(de) the:

(i) Technical Parameters;

(ii) Additional Grid Code Characteristics Notices;

(iii) Reserve Characteristics; and

(iv) Other Relevant Data,

in respect of that CDGU, Demand Side Unit, Interconnector transfers, Pumped Storage Plant Demand and/or Aggregated Generating Units subject to any subsequent revisions to the data under SDC1 and SDC2.

SDC2.4.1.2 Additional factors which the TSO will also take into account are:

(a) those Generators or Demand Side Unit Operators who have not complied with Dispatch Instructions or Special Actions;

(b) real time variation requests; and

(c) the need to Dispatch CDGUs, Aggregated Generating Units, Demand Side Units, Interconnector transfers, and Pumped Storage Plant Demand for Monitoring, Testing or Investigation purposes (and/or for other trading purposes whether at the request of a User, for Commissioning or Acceptance, System Tests or otherwise).

SDC2.4.1.3 In the event of two or more CDGUs, Demand Side Units, Pumped Storage Plant 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

SDC1-135
SDC1.4.8.2, SDC1.4.8.3 and SDC1.4.8.4, then the TSO will select first for Dispatch the one which in the TSO’s reasonable judgement is most appropriate in all the circumstances.

**SDC2.4.1.4** Following Gate Closure 2, Users may no longer amend Physical Notifications or Commercial Offer Data in respect of Trading Periods for which the Gate Closure 2 has occurred. Notwithstanding SDC1.4.8, the TSO will continue to rerun the Scheduling process and issue Indicative Operations Schedules.

**SDC2.4.1.54** In this SDC2, where the provisions relating to CCGTs differ from the explicit requirements contained in a Generating Unit Agreement, a Power Station Agreement and/or a System Support Services Agreement in Northern Ireland, the provisions of that agreement will prevail.

**SDC2.4.2** Dispatch Instructions

**SDC2.4.2.1** Introduction

As far as is reasonably practicable, Dispatch Instructions relating to the Trading Day will normally be issued at any time following Gate Closure 2 in respect of the relevant Trading Periods during the period beginning immediately after the issue of the first Indicative Operations Schedule in respect of that Trading Day. The TSO may, however, at its discretion, issue Dispatch Instructions in relation to a CDGU, Demand Side Unit, Interconnector transfers, Pumped Storage Plant Demand and/or Aggregated Generating Units prior to Gate Closure 2 if the issue of an Indicative Operations Schedule which includes that CDGU, Demand Side Unit, Interconnector, Pumped Storage Plant Demand and/or Aggregated Generating Units.

**SDC2.4.2.2** Issue of Dispatch Instructions

The TSO will issue Dispatch Instructions direct to:

(a) the Generator for the Dispatch of each of its CDGUs.

(b) the Generator Aggregator for the Dispatch of its Aggregated Generating Units.

(c) the Demand Side Unit Operator and the Pumped Storage Demand User in respect of each of their Demand Side Units and Pumped Storage Plant Demand respectively.

(d) the Interconnector Owner for the Dispatch of the Interconnector transfers.

(e) The TSO may issue Dispatch Instructions for any CDGU, Demand Side Unit, Interconnector transfers, Pumped Storage Plant Demand and/or Aggregated Generating Units which has been declared Available in an Availability Notice even if that CDGU, Demand Side Unit, Interconnector transfers, Pumped Storage Plant Demand and/or Aggregated Generating Units was not included in an Indicative Operations Schedule.
**Scope of Dispatch Instructions**

In addition to instructions relating to the Dispatch of Active Power, Dispatch Instructions (unless otherwise specified by the TSO at the time of giving the Dispatch Instructions) shall be deemed to include an automatic instruction of Spinning Reserve, the level of which is to be provided in accordance with the Sustained Load Diagram set out in Schedule 8 of the relevant Generating Unit Agreement (or in the System Support Services Agreement, as the case may be), and submitted pursuant to the PC.

**SDC2.4.2.4** In addition to instructions relating to the Dispatch of Active Power, Dispatch Instructions in relation to CDGUs and, Demand Side Units and/or Pumped Storage Plant Demand may include:

(a) a Dispatch Instruction to provide a System Support Service.

(b) (i) Mvars: the individual Reactive Power output from CDGUs at the Generator Terminals or voltage levels (at instructed MW level) at the Connection Point which will be maintained by the CDGU.

(ii) The issue of Dispatch Instructions for Active Power will be as at the Connection Point and will be made with due regard to any resulting change in Reactive Power capability and may include instruction for reduction in Active Power generation to increase Reactive Power capability.

(iii) In the event of a sudden change in System voltage a Generator must not take any action in respect of any of its CDGUs to override automatic Mvar response unless instructed otherwise by the TSO or unless immediate action is necessary to comply with stability limits. A Generator may take such action as is in its reasonable opinion necessary to avoid an imminent risk of injury to persons or material damage to property (including the CDGU).

(iv) [not used]

(c) Fuels: Fuels to be used by the Generator in operating the CDGU. The Generator shall only be permitted to change Fuels with the TSO’s prior consent. Appendix C provides further detail on Dispatch Instructions for different fuels.

(d) Special Protection Scheme: an instruction to switch into or out of service a Special Protection Scheme or other Intertripping Scheme;

(e) Time to Synchronise/react: a time to Synchronise or De-Synchronise CDGUs and, where appropriate Demand Side Units and/or Pumped Storage Plants in relation to Pumped Storage Plant Demand and time to react for Demand Side Units;

(f) Synchronous Compensation: an instruction, (where contracted, where that is necessary), for a CDGU to operate in Synchronous Compensation mode;
(g) **Testing etc**: an instruction in relation to the carrying out of **Testing**, **Monitoring** or **Investigations** as required under OC11, or testing at the request of a **Generator** in relation to a PPA CDGU under OC11.8, testing at the request of a **User** in relation to **User’s Equipment** other than a PPA CDGU under OC11.13 or **Commissioning/Acceptance Testing** under the CC;

(h) **System Tests**: an instruction in relation to the carrying out of a **System Test** as required under OC10;

(i) **Maximisation**: in the case of a CDGU which is subject to an agreement with the TSO for the provision of **Maximisation** (or where it is otherwise agreed) an instruction requiring it to generate at a level in excess of its **Availability** but not exceeding its **Short Term Maximisation Capability** which may only be given if, at the time of issue of the instruction, the CDGU is **Dispatched** to a MW **Output** equal to its **Availability** and provided that the limit on the number of hours for which such instructions may be given in any year, as set out in any arrangement relating to the relevant agreement is not thereby exceeded. Such an instruction shall be identified as a "**Maximisation Instruction**". When the TSO gives a **Dispatch Instruction** which is in excess of the **Availability** of the CDGU which is not designated a "**Maximisation Instruction**", the Generator must inform the TSO immediately that the **Dispatch Instruction** is so in excess in order that the TSO can so designate the **Dispatch Instruction** as a **Maximisation Instruction** or withdraw the instruction. The Generator shall not then be obliged to comply with the **Dispatch Instruction** unless and until the TSO notifies it that the instruction is designated a "**Maximisation Instruction**";

(j) **Cycle Operating Mode**: in the case of a **CCGT Installation**, an instruction specifying the **Cycle Operating Mode** and/or an instruction to **Dispatch** a **CCGT Installation** in Open Cycle Mode. The Generator must then ensure that the **CCGT Installation** achieves the new **Dispatched Operating Mode**, without undue delay, in accordance with the **CCGT Installation's declared Availability** and declared **Technical Parameters**. **Dispatch Instructions** in relation to **Cycle Operating Modes** issued by the TSO shall reflect the applicable **Availability Notice** and **Technical Parameters**;

(k) **Pumped Storage**: mode changes for **Pumped Storage Plants**, where contracted, in relation to **Pumped Storage Plant Demand**;

(l) **Under Dispatch Instruction Test Flags**: **Dispatch Instructions** will, where appropriate, contain a flag to indicate that a unit is under **Within-Day Test** and the part of the **Dispatch Instruction** subject to the flag will not be deemed to be a **Dispatch Instruction** for settlement purposes. **Dispatch Instruction Test Flags** shall be applied to **Dispatch Instructions** in respect of new or amended test proposals submitted by a **Generator** after **Gate Closure 2** has already occurred for the relevant **Trading Period Imbalance Settlement Periods** (since **Final Physical Notifications** cannot be amended) and the **Generator** could not have reasonably foreseen the need for the new or amended test request before **Gate Closure 2** for the relevant **Trading Period Imbalance Settlement Period**. The **Dispatch Instruction**
Test Flag shall be applied to the portion of the Dispatch Instruction which deviates from Physical Notifications submitted by a Generator in respect of a test proposal which has been approved by the TSO. The part of a Dispatch Instruction subject to the flag will not be deemed to be a Dispatch Instruction for settlement purposes.

(m) Gas supply emergency: instructions relating to gas supply emergencies, where the ordinary Dispatch process may not be followed;
(n) Tap Positions: an instruction for a change in Generator Transformer tap positions;
(o) Fuel Security Code: in relation to CDGUs, an instruction given by the TSO pursuant to the Fuel Security Code, with which document all Generators are required under the Grid Code to comply.

SDC2.4.2.5 Form of Instruction

(a) Instructions may normally be given via Electronic Interface but can be given by telephone, by facsimile transmission or by radio telephone. In the case of a Special Protection Scheme, a Low Frequency Relay initiated response from a CDGU, Demand Side Unit, and/or Pumped Storage Plant in relation to Pumped Storage Plant Demand, the instruction will be given for the effective time which is consistent with the time at which the Low Frequency Relay operation occurred. This Dispatch Instruction will be issued retrospectively.

(b) The reduction by a Generator of the MW Output of one of its CDGUs under SDC3.6.1 shall be deemed to have followed a Dispatch Instruction issued by the TSO.

(c) (i) In the event of a temporary loss of the TSO Control Centre as described under OC7, each Generator shall, subject to the provisions of SDC2.4.2.5(c)(ii), continue to operate its CDGUs in accordance with the last Dispatch Instructions to have been issued by the TSO but shall use all reasonable endeavours to maintain System Frequency at the indicated Target Frequency by monitoring Frequency and increasing/decreasing the MW Output of its CDGUs as necessary until such time as new Dispatch Instructions are received from the TSO.

(ii) When operating its CDGUs in the circumstances described under SDC2.4.2.5(c)(i), a Generator shall never be required to Dispatch these units in a manner in which the TSO would not be entitled to require such units to be Dispatched by means of a Dispatch Instruction issued in accordance with this SDC2.

(d) The De-Synchronisation of a CDGU following the operation of a Special Protection Scheme selected by the TSO shall be deemed to have happened as a result of a Dispatch Instruction issued by the TSO.
SDC2.4.2.6  **Target Frequency**

(a) **Dispatch Instructions** to **Generators** will generally indicate the target MW (at **Target Frequency**) to be provided at the **Connection Point** to be achieved in accordance with the respective **CDGU's Technical Parameters** and/or parameters as provided in the **Additional Grid Code Characteristics Notices** provided under SDC1 or this SDC2, or such rate within those parameters as is specified by the **TSO** in the **Dispatch Instructions**.

(b) **Dispatch Instructions** deemed to be given upon the operation of an agreed **Low Frequency Relay** will be deemed to indicate the target MW (at **Target Frequency**), which may either be at maximum MW **Output** or at some lower MW **Output** (as previously specified by the **TSO**), to be provided at the **Connection Point** which reflects and is in accordance with the **CDGU's Technical Parameters** and/or parameters as provided in the **Additional Grid Code Characteristics Notice** data given under (or as revised in accordance with) SDC1 or this SDC2.

SDC2.4.2.7  To aid clarity, the form of and terms to be used by the **TSO** in issuing instructions together with their meanings are set out in the Appendices to this SDC2.

SDC2.4.2.8  (a) Subject only to SDC2.4.2.9 and as provided below in this SDC2.4.2.8, **Dispatch Instructions** will not be inconsistent with the **Availability** and/or **Technical Parameters** and/or **Additional Grid Code Characteristics Notice** data and **Other Relevant Data** notified to the **TSO** under SDC1 (and any revisions under SDC1 or this SDC2 to that data).

(b) A new **Dispatch Instruction** may be subsequently given (including an instruction for a **Cancelled Start**) at any time.

(c) **Dispatch Instructions** may however be inconsistent with the **Availability** and/or **Technical Parameters** and/or **Additional Grid Code Characteristics Notice** data and/or **Other Relevant Data** so notified to the **TSO** for the purposes of carrying out a test at the request of the relevant **Generator** under OC11.8, a test at the request of a **User** under OC11.13 or a **System Test** at the request of the relevant **Generator** under OC10.4, to the extent that such **Dispatch Instructions** are consistent with the procedure agreed (or otherwise determined) for conducting the test or **System Test** (as the case may be). **Dispatch Instructions** may also be inconsistent with the **Availability** and/or **Technical Parameters** and/or **Additional Grid Code Characteristics Notice** data and/or **Other Relevant Data** so notified to the **TSO** in circumstances where the **TSO** issues a **Dispatch Instruction** to a **Generator** in relation to its CDGUs pursuant to the **Fuel Security Code**.

(d) For the avoidance of doubt, any **Dispatch Instructions** issued by the **TSO** for the purposes of carrying out a test at the request of the relevant **Generator** under OC11.8, a test at the request of a **User** under OC11.13 or a **System Test** at the request of the relevant **Generator** under OC10.4 shall not be deemed to be **Dispatch Instructions** given pursuant to SDC2.4.2.9.
SDC2.4.2.9 (a) To preserve System integrity under emergency circumstances where, for example, Licence Standards cannot be met the TSO may, however, issue Dispatch Instructions to change CDGU, Aggregated Generating Units, Demand Side Unit, Interconnector transfers and/or Pumped Storage Plant Demand MW Output or Demand Side Unit MW Response even when this is outside parameters so registered or so amended. This may, for example, be an instruction to trip or partially load a CDGU. The instruction will be stated by the TSO to be one in relation to emergency circumstances under SDC2.4.2.9.

(b) A User may refuse to comply or continue to comply with instructions referred to in this SDC2.4.2.9 but only in order to avoid, in the Generator's reasonable opinion, an imminent risk of injury to persons or material damage to property (including in the case of a Generator, the CDGU).

SDC2.4.2.10 Communication with Users

(a) Dispatch Instructions whether given via Electronic Interface, by telephone, by facsimile transmission or by radio telephone must be formally acknowledged immediately by the User at the Control Facility by Electronic Interface or, with the TSO’s prior consent, by telephone, by return facsimile transmission or by radio telephone, in the manner agreed between the User and the TSO or a reason must be given as soon as possible for non-acceptance, which may (subject to SDC2.4.2.9) only be to avoid, in the User's reasonable opinion, an imminent risk of injury to persons or material damage to property (including the CDGU) or because they are not in accordance with the applicable Availability Notice, or Technical Parameters, or Additional Grid Code Characteristics Notices or do not reflect Other Relevant Data submitted by the User pursuant to SDC1.

(b) In the event that in carrying out the Dispatch Instructions, an unforeseen problem arises, giving rise, in the User's reasonable opinion, to an imminent risk of injury to persons or material damage to property (including the CDGU) the TSO must be notified as soon as possible by telephone.

SDC2.4.2.11 Action Required from Users

(a) Each User will comply in accordance with SDC2.4.2.12 with all Dispatch Instructions given by the TSO unless the User has given notice to the TSO under the provisions of SDC2.4.2.10 regarding non-acceptance of Dispatch Instructions.

(b) When complying with Dispatch Instructions for a CCGT Installation a Generator will operate its CCGT Modules in accordance with the applicable CCGT Installation Matrix.

(c) Where the TSO issues a Synchronising time to a Generator for a specific CDGU (other than an Open Cycle Gas Turbine) and the Generator identifies that such CDGU will not be Synchronised within ±15/-5 minutes of the instructed time, the Generator must immediately (at the time the
discrepancy is identified) inform the TSO of the situation and estimate the new Synchronising time.

(d) If the Synchronising time of the CDGU (other than an Open Cycle Gas Turbine) is different from the instructed time by more than 15 minutes but less than 1 hour, this will constitute a Short Notice Re-declaration by the CDGU for that Generator.

(e) If the Synchronising time of the CDGU (other than an Open Cycle Gas Turbine) is different from the instructed time by more than 1 hour, this will constitute a Re-declaration for the CDGU by the Generator.

SDC2.4.2.12 Implementation of Instructions by Users

When a User has received a Dispatch Instruction given by the TSO, it will react by responding to that Dispatch Instruction given by the TSO without undue delay, and, in any event, within one minute in accordance with the instruction, including those Dispatch Instructions issued pursuant to SDC2.4.2.9.

Instructions indicating a target MW Output at the Target Frequency will be complied with by Users notwithstanding any tolerance bands set out in any Testing requirement or elsewhere in the Grid Code.

SDC2.4.2.13 (a) Subject to the exception set out below in this SDC2.4.2.13, Generators will only Synchronise or de-Synchronise CDGUs to the when they have received these Dispatch Instructions from the TSO or unless it occurs automatically as a result of Special Protection Schemes or Low Frequency Relay operations. Subject to the exception set out below in this SDC2.4.2.13, Demand Side Unit Operators will only reduce or increase their Demand Side Unit MW Response to the Dispatch Instructions of the TSO or unless it occurs automatically as a result of Special Protection Schemes or Low Frequency Relay operations.

(b) De-Synchronisation may otherwise only take place without the TSO's prior agreement if it is to avoid, in the Generator's reasonable opinion, an imminent risk of injury to persons or material damage to property (including the CDGU). Demand Side Units, who can not maintain the provision of any Demand Side Unit MW Response, may otherwise only take place without the TSO's prior agreement if it is to avoid, in the Demand Side Unit Operator's reasonable opinion, an imminent risk of injury to persons or material damage to property (including the Demand Side Unit).

(c) If one of these exceptions occur, then the TSO must be informed that it has taken place as soon as possible.

SDC2.4.2.14 The TSO may suspend the issue of Dispatch Instructions to User’s Plant in accordance with the Merit Order (having taken account of and applied the factors referred to in SDC1.4.8.3) to the extent that the conditions in SDC1.4.8.6 or SDC2.4.2.4(m) arise. When necessary the TSO will issue Dispatch Instructions for a Black Start.
SDC2.4.2.15 **User Plant Changes**

Each User at its Control Facility will, without delay, notify the TSO by Electronic Interface, telephone or by facsimile transmission of any change or loss (temporary or otherwise) to the operational capability of its Plant including any changes to the Technical Parameters and/or Additional Grid Code Characteristics Notice data of each of the User’s Plant (in the case of Technical Parameters, by the submission of a Technical Parameters Revision Notice) indicating (where possible) the magnitude and the duration of the change. In the case of CDGUs already Synchronised to the System, each Generator, in respect of its Generating Units, must also state whether or not the loss was instantaneous.

SDC2.4.2.16 Each Generator, in respect of its Generating Units, will operate its Synchronised CDGUs with AVRs and Var limiters in service at all times (where required pursuant to CC.S1.5) unless released from this obligation in respect of a particular CDGU by the TSO.

SDC2.4.2.17 Each Generator, in respect of its Generating Units, shall request the TSO’s agreement for one of its CDGUs at that Generating Plant to be operated without the AVR or Var limiter in service. The agreement of the TSO will be dependent on the risk that would be imposed on the System. However, a Generator may, in any event, take such action in relation to that CDGU as is reasonably necessary to avoid, in the Generator’s reasonable opinion, an imminent risk of injury to persons or material damage to property (including the CDGU). When a Generator operates one of its CDGUs without the AVR or Var limiter in service, whether or not the TSO has agreed to such action, the Generator shall notify the TSO in such form as the TSO may reasonably notify to each User or in the form published on the TSO website from time to time.

SDC2.4.2.18 **Minimum Demand Regulation ("MDR")**

Synchronised CDGUs must at all times be capable of reducing MW Output sufficient to allow a sufficient Regulating Margin for adequate Frequency Control. The TSO will monitor the MW Output data of the Indicative Operations Schedule against the forecast Demand to see whether the level of MDR for any period is insufficient, and may take any shortfall into account in Dispatch.

SDC2.4.3 **Special Actions**

The TSO may also issue Dispatch Instructions for Special Actions (either pre- or post-fault) to a User in respect of any of its Plant in the event that the TSO in its reasonable opinion believes that such instructions are necessary in order to ensure that the Licence Standards are met. Special Actions will generally involve a Load change, a Load reduction change or a change in required Notice to Synchronise (or, in the case of a Demand Side Unit or Pumped Storage Plant Demand, a change in the relevant effective time) in a specific timescale on individual or groups of CDGUs. They may also include selection of Special Protection Scheme for stability or thermal reasons. Instructions for Special Actions will always be within Technical Parameters.
SDC - APPENDIX A

DISPATCH INSTRUCTIONS FOR CDGUS AND DEMAND SIDE UNITS

SDC2.A.1 General

This Appendix A to SDC2 provides further information on the form of a Dispatch Instruction as well as an example of a Dispatch Instruction for CDGUs and Demand Side Units.

In this SDC2, where the provisions relating to CCGT Modules and CCGT Installations differ from the explicit requirements contained in a Generating Unit Agreement, a Power Station Agreement and/or a System Support Services Agreement, the provisions of that agreement will prevail.

SDC2.A.2 Form of Dispatch Instruction

SDC2.A.2.1 All Loading/De-Loading Rates will be assumed to be in accordance with Technical Parameters and Additional Grid Code Characteristics Notice data. Each Dispatch Instruction will, wherever possible, be kept simple, drawing as necessary from the following forms and SDC2.4.2.

SDC2.A.2.2 The Dispatch Instruction given by Electronic Interface, telephone, or facsimile transmission will normally follow the form:

(a) where appropriate, the specific CDGU or User’s Plant to which the instruction applies;

(b)

(i) the MW Output (or Demand Side Unit MW Response) to which it is instructed or:

(ii) the MW Output (or Demand Side Unit MW Response) to which it is instructed until, a specified time, in which case the instructed MW Output shall be followed until a further Dispatch Instruction is issued;

(c) if the start time is different from the time the instruction is issued, the start time will be included;

(d) where specific Loading/De-Loading Rates are concerned, a specific target time;

(e) the issue time of the instruction;

(f) the Designated Fuel, Declared Fuel or fuel as the case may be;

(g) in the case of CDGUs, if the instruction is designated as a "Maximisation Instruction", this will be stated; and

SDC1-145
(h) in the case of a **CCGT Installation**, the **Operating Mode** to which it is instructed.

**SDC2.A.2.3 Where the MW Output (or Demand Side Unit MW Response) is instructed until a specified time, that time shall normally be within the Trading Days for which Gate Closure 1 has passed. The TSO may, however, at its discretion, specify a time beyond the end of the Trading Days for which Gate Closure 1 has passed.**

**SDC2.A.3 Dispatching a Synchronised CDGU to increase or decrease MW Output**

**SDC2.A.3.1** If the time of the **Dispatch Instruction** is 1400 hours, the Unit is Unit 1 and the **MW Output** to be achieved is 205 MW, the relevant part of the instruction would be, for example:

"Time 1400 hours. Unit 1 to 205 MW until further notice"

Or

"Time 1400 hours. Unit 1 to 205 MW effective until 1500 hours"

**SDC2.A.3.2** If the start time is 1415 hours, it would be, for example:

"Time 1400 hours. Unit 1 to 205 MW until further notice, start at 1415 hours"

Or

"Time 1400 hours. Unit 1 to 205 MW effective until 1500 hours, start at 1415 hours"

**SDC2.A.3.3 Loading and De-Loading Rates** are assumed to be in accordance with **Technical Parameters** and **Additional Grid Code Characteristics Notice** data unless otherwise stated. If different **Loading** or **De-Loading Rates** are required, the time to be achieved will be stated, for example:

"Time 1400 hours. Unit 1 to 205 MW by 1420 hours until further notice"

Or

"Time 1400 hours. Unit 1 to 205 MW by 1420 hours, effective until 1500 hours"

**SDC2.A.4 Dispatching a CDGU to Synchronise/de-Synchronise**

**SDC2.A.4.1 CDGU Synchronising**

**SDC2.A.4.1.1** In this instance, for CDGUs, the **Dispatch Instruction** issue time will always have due regard for the **Synchronising** time declared to the TSO by the **Generator** as a **Technical Parameters** or as part of **Additional Grid Code Characteristics Notice** data.

The instruction will follow the form, for example:

"Time 1300 hours. Unit 1, Synchronise at 1600 hours"

In relation to an instruction to **Synchronise**, the start time referred to in SDC2.A.2.2 will be deemed to be the time at which **Synchronisation** is to take place.
SDC2.A.4.1.2 Unless a Loading programme is also given at the same time it will be assumed that the CDGU(s) are to be brought to Minimum Generation and on the Generator reporting that the unit has Synchronised a further Dispatch Instruction will be issued.

SDC2.A.4.1.3 When a Dispatch Instruction for a CDGU to Synchronise is cancelled (i.e. a Cancelled Start) before the unit is Synchronised, the instruction will follow the form, for example:

"Time 1400 hours. Unit 1, cancel Synchronising instruction"

SDC2.A.4.1.4 If a CDGU fails to Synchronise more than 5 minutes after the time specified in a Notice to Synchronise, the TSO may issue a Failure to Follow Notice to Synchronise Instruction. If a Generator requests to Synchronise a CDGU more than 15 minutes before the time set out in the Notice to Synchronise, the TSO may agree to the CDGU being Synchronised at that time or request that the CDGU be Synchronised at the original Notice to Synchronise time. If the TSO accepts the request to Synchronise more than 15 minutes before the original Notice to Synchronise time the TSO will not amend the original Notice to Synchronise time but the Generator shall be entitled to Synchronise the CDGU, and the CDGU shall be deemed to have met the original Notice to Synchronise time.

SDC2.A.4.1.5 When in respect of a CDGU a Generator receives a Failure to Follow Notice to Synchronise Instruction the original Notice to Synchronise is deemed never to have been issued and the CDGU is not entitled to Synchronise. The TSO will then decide whether or not to instruct again the Generator to Synchronise the CDGU, and will notify the Generator in relation to the CDGU accordingly.

SDC2.A.4.1.6 When a CDGU trips before reaching Minimum Generation a Failure to Reach Minimum Generation Instruction will be issued. The Failure to Reach Minimum Generation Instruction will negate the Notice to Synchronise received by the CDGU. The TSO will then decide whether or not to instruct the CDGU to Synchronise again, and will notify the Generator in relation to that CDGU accordingly.

SDC2.A.4.2 CDGUs De-Synchronising

SDC2.A.4.2.1 The Dispatch Instruction will normally follow the form, for example:

"Time 1300 hours. Unit 1, Shutdown"

If the instruction start time is for 1400 hours the form will be, for example:

"Time 1300 hours. Unit 1, Shutdown, start at 1400 hours"

Both the above assume De-Loading Rate at declared Technical Parameters. Otherwise the message will conclude with, for example:

"... and De-Synchronise at 1500 hours"
SDC2.A.5  **Frequency Control**

All the above Dispatch Instructions will be deemed to be at the instructed Target Frequency, i.e. where a CDGU is in the Frequency Sensitive Mode instructions refer to target MW Output at Target Frequency. Target Frequency changes will always be given to the Generator by telephone or Electronic Interface and will normally only be 49.95, 50.00, 50.05Hz.

SDC2.A.5.2  CDGUs required to be Frequency insensitive will be specifically instructed as such. The Dispatch Instruction will be of the form for example:

"Time 2100 hours. Unit 1, to Frequency insensitive mode"

SDC2.A.5.3  **Frequency Control** instructions may be issued in conjunction with, or separate from, a Dispatch Instruction relating to MW Output.

SDC2.A.6  **Emergency Load Drop**

The Dispatch Instruction will be in a pre-arranged format and normally follow the form, for example:

"Time 2000 hours. Emergency Load drop of "X"MW in "Y" minutes"

SDC2.A.7  **Voltage Control** Instruction

In order that adequate System voltage profiles are maintained under normal and fault conditions a range of Voltage Control instructions will be utilised from time to time, for example:

(a) Operate to target voltage of 117 kV;

(b) Maximum production or absorption of Reactive Power (at current instructed MW Output);

(c) Increase reactive output by 10 Mvar (at current instructed MW Output).

SDC2.A.8  **Instruction to change fuel**

When the TSO wishes to instruct a Generator to change the fuel being burned in the operation of one of its CDGUs from one Dispatched Fuel (or fuel) to another (for example from 1% sulphur oil to 3% sulphur oil), the Dispatch Instruction will follow the form, for example:

"Time 1500 hours. Unit 2 change to 3% fuel at 1700 hours".

31 July 2015
Instruction to change fuel for a dual firing CDGU

When the TSO wishes to instruct a Generator to change the fuel being burned in the operation of one of its CDGUs which is capable of firing on two different fuels (for example, coal or oil), from one Designated Fuel (or fuel) to another (for example, from coal to oil), the instruction will follow the form, for example:

"Time 1500 hours. Unit 1 generate using oil at 1800 hours".

Maximisation Instruction to CDGUs

When the TSO wishes to instruct a Generator to operate a CDGU at a level in excess of its Availability in accordance with SDC2.4.2.4(i), the instruction will follow the form, for example:

"Maximisation Instruction. Time 1800 hours. Unit GT2 to 58 MW."

Dispatching a Demand Side Unit to a Demand Side Unit MW Response

For Demand Side Units, the Dispatch Instruction issue time will always have due regard for the Demand Side Unit MW Response Time declared to the TSO by the Demand Side Unit Operator as a Technical Parameter or as part of Additional Grid Code Characteristics Notice data.

The instruction will follow the form, for example:

"Time 1300 hours. Unit 1, Demand Side Unit MW Response at 1400 hours until further notice"

Or

"Time 1300 hours. Unit 1, Demand Side Unit MW Response at 1400 hours until 1500 hours"

If the time of the Dispatch Instruction is 1400 hours, the Demand Side Unit is XX1, the Demand Side Unit Notice Time is 10 minutes and the Demand Side Unit MW Response to be achieved is 20 MW, the relevant part of the instruction would be for example:

“Time 1400 hours. Unit XX1 to 20 MW until further notice, start at 1410 hours”

Or

“Time 1400 hours. Unit XX1 to 20 MW until 1500 hours, start at 1410 hours”
SDC2 - APPENDIX B

[Not Used]
SDC2 - APPENDIX C

DISPATCH INSTRUCTIONS FOR DIFFERENT FUELS

SDC2.C.1 In addition to instructions relating to the Dispatch of Active Power, Dispatch Instructions in relation to CDGUs may include:

(a) the Declared Fuel (or fuel) to be used by the Generator in operating the CDGU. In the case of a CDGU capable of firing on different fuels, the Dispatch Instruction may also specify the Designated fuel (or fuel) to be used by the Generator. If no Declared Fuel (or fuel) and/or, where relevant, fuel is contained in the Dispatch Instruction, then the most recently instructed fuel will apply. The part of a Dispatch Instruction which specifies a change in the fuel to be burned by the Generator shall be known as a "Dispatched fuel Notice". The TSO may, however, use a separate Dispatched fuel Notice and which may be issued separately from any Dispatch Instruction containing the above information. These provisions apply to a PPA CDGU. If a fuel has been notified for a CDGU other than a PPA CDGU, the fuel may be specified;

(b) in the case of a PPA CDGU only, the Generator may (subject to the following provisions of this paragraph (b)), in complying with a Dispatch Instruction burn a fuel other than the fuel specified in the Dispatch Instruction.
SDC2 - APPENDIX D

PPA GENERATION PROVISION

SDC2.A.D.1 In relation to SDC2.4.2.9(b), in the case of PPA Generation, the provision of GC13.5 shall be imported into (and for the purposes of the TSO Licence and the NIE Licence, requested as forming part of SDC2.4.2.9(b)).

SDC2.A.D.2 In the case of PPA Generation, references to "Maximisation" in the Grid Code shall be read as being references to "Peak" or "Peaking" in the Power Station Agreements and the Generating Unit Agreements.
ANNEX I

Explanatory Note of differences between SDC2 in the SONI Grid Code and EirGrid Grid Code

This annex is an explanatory note only and does not form part of the Grid Code.

1. General Differences in wording

The table below summarises the general differences in wording between the form of SDC2 in the SONI Grid Code and the form of SDC2 in the EirGrid Grid Code, which appear repeatedly throughout SDC2.

<table>
<thead>
<tr>
<th>Terms used in SONI Grid Code</th>
<th>Equivalent terms used in EirGrid Grid Code (where different)</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Support Services</td>
<td>Ancillary Service(s)</td>
<td>The existing arrangements for Ancillary Services and System Support Services are continuing until further notice.</td>
</tr>
<tr>
<td>CCGT Module</td>
<td>CCGT Unit</td>
<td>This is the phrase currently used to describe the individual parts of a Combined Cycle Plant. CCGT Module is an important concept in Northern Ireland and is reflected in many other agreements. EirGrid is keeping the phrase CCGT Unit, as it more closely describes the concept of an individual unit and EirGrid has formerly used CCGT Module to describe the whole CCGT installation.</td>
</tr>
<tr>
<td>voltage</td>
<td>Voltage</td>
<td>“Voltage” is a defined term in the EirGrid Grid Code but not in the SONI Grid Code.</td>
</tr>
<tr>
<td>emergency</td>
<td>Emergency</td>
<td>“Emergency” is a defined term in the EirGrid Grid Code but not in the SONI Grid Code.</td>
</tr>
</tbody>
</table>

2. Specific differences in wording between equivalent provisions in both Grid Codes

The table below provides a list of the other specific differences in wording between equivalent provisions of SDC1 in both Grid Codes.

<table>
<thead>
<tr>
<th>Provision</th>
<th>SONI Grid Code</th>
<th>EirGrid Grid Code</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC2.1.2(a)</td>
<td>Reference is made to “but not Pumped Storage Demand” after the words “Pumped Storage Generation”.</td>
<td>Reference to these words in the SONI Grid Code is made for clarity reasons.</td>
<td></td>
</tr>
<tr>
<td>SDC2.4.2.4(g)</td>
<td>Reference is made to “OC11” and “OC11.8 and “OC11.13”. Reference is also made to (i) “Generator in relation to a PPA CDGU” and “in relation to User’s Equipment other than a PPA CDGU”. The word “Acceptance” appears before “Commissioning”.</td>
<td>Reference is made to “OC10” and “OC8.5”.</td>
<td>These are the respective requirements in relation to testing, monitoring and investigations</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SDC2.4.2.4(h)</td>
<td>Reference is made to “OC10”</td>
<td>Reference is made to “OC8.4”</td>
<td>These are the respective System Tests requirements</td>
</tr>
<tr>
<td>SDC2.4.2.5</td>
<td>Reference is made to “radio telephones” in the list of means of communications of a Dispatch Instruction</td>
<td>No reference is made to “radio telephones” and in addition, after the words “Frequency Relay” the EirGrid Grid Code also refers to “or any other automatic Primary Frequency Control Scheme (excluding governor response)”.</td>
<td>These are respective requirements regarding the form of a Dispatch Instruction</td>
</tr>
<tr>
<td>SDC2.4.2.5(b)</td>
<td>Reference is made to “SDC3.6.1”</td>
<td>Reference is made to “OC4.3”</td>
<td>These are the respective requirements in relation to actions required in response to high frequency</td>
</tr>
<tr>
<td>SDC2.4.2.5(c)(i)</td>
<td>Reference is made to “OC7”</td>
<td>Reference is made to “OC9”</td>
<td>These are the respective references in respective of temporary losses at the TSOs’ Control Centres</td>
</tr>
<tr>
<td>SDC2.4.2.8(c)</td>
<td>Reference is made to “OC11.8”, “OC11.13” and “OC10.4”. Reference is also made to “a test at the request of a User under OC11.13”.</td>
<td>Reference is made to “OC8.5” and “OC8.6”</td>
<td>These are the respective requirements in respect of testing and System Tests</td>
</tr>
<tr>
<td>SDC2.4.2.8(d)</td>
<td>Reference is made to “OC11.8”, “OC11.13” and “OC10.4”. Reference is also made to “a test at the request of a User under OC11.13”.</td>
<td>Reference is made to “OC8.5” and “OC8.6”</td>
<td>These are the respective requirements in respect of testing and System Tests</td>
</tr>
<tr>
<td>SDC2.4.2.10(a)</td>
<td>Reference is made to “radio telephones” in the list of means of communication</td>
<td>No reference is made to “Radio telephones”</td>
<td>The reference to “radio telephones” is specific to the means of...</td>
</tr>
<tr>
<td>Provisions used in SONI Grid Code only</td>
<td>Reason</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC2.1.3</td>
<td>This paragraph cross-refers to Appendices C and D which both deal with specific issues applicable to PPA Generation only.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDC2.4.1.4</td>
<td>This provision is necessary in the SONI Grid Code to specify that specific CCGT requirements contained in the Generating Unit Agreements, Power Station Agreements and System Support Services Agreements prevail over the</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Provisions applicable to one Grid Code only

The table below provides a list of the provisions of SDC1 which exist in one Grid Code only.
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SDC2.4.2.3</strong></td>
<td>This paragraph is necessary to deal with issues specific to PPA Generation, and in particular the fact that for PPA Generation, a Dispatch Instruction may include an automatic instruction of Spinning Reserve.</td>
</tr>
<tr>
<td><strong>SDC2.4.2.4(c) – final sentence</strong></td>
<td>This final sentence is specific to the SONI Grid Code as it cross-refers to Appendix C that sets out the different terminology and requirements relating to fuel for PPA Generation.</td>
</tr>
<tr>
<td><strong>SDC2.4.2.4(n)</strong></td>
<td>This is a SONI Grid Code only requirement in respect of instructions to change Generator Transformer tap positions.</td>
</tr>
<tr>
<td><strong>SDC2.A.1 – second paragraph</strong></td>
<td>This is a SONI Grid Code only provision which provides that for PPA CCGT Modules and Units, provisions in the Power Purchase Arrangements and SSSAs prevail over Grid Code requirements where there is an inconsistency.</td>
</tr>
<tr>
<td><strong>SDC2 Appendix C</strong></td>
<td>This appendix deals with fuel provisions which apply to PPA Generation only.</td>
</tr>
<tr>
<td><strong>SDC2 Appendix D</strong></td>
<td>This appendix deals with additional provisions which apply to PPA Generation only.</td>
</tr>
</tbody>
</table>

**Provisions used in EirGrid Grid Code only**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SDC2.4.2.3</strong></td>
<td>This paragraph is necessary in order to deal with the EirGrid specific requirement that a Dispatch Instruction may include an automatic instruction of Operating Reserve.</td>
</tr>
<tr>
<td><strong>SDC2.4.2.4(b)(iv)</strong></td>
<td>This paragraph is EirGrid specific as it cross-refers to Appendix B which sets out EirGrid specific requirements for Generator Reactive Power Dispatch.</td>
</tr>
<tr>
<td><strong>SDC2.A.5.1 – second paragraph</strong></td>
<td>This provision deals with EirGrid specific requirements in respect of MW Output adjustment of a CDGU for System Frequency.</td>
</tr>
<tr>
<td><strong>SDC2.A.7 (d) to (h) and final 2 paragraphs</strong></td>
<td>These additional paragraphs deal with EirGrid specific Generator Reactive Power dispatch requirements.</td>
</tr>
<tr>
<td><strong>SDC2.A.11</strong></td>
<td>This additional paragraph deals with EirGrid specific Dispatch Instructions in relation to emergencies.</td>
</tr>
<tr>
<td><strong>SDC2 Appendix B</strong></td>
<td>This appendix deals with the EirGrid specific requirements for the Dispatch of Generator Reactive Power.</td>
</tr>
</tbody>
</table>