

All Recipients of the Serviced Grid Code

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Dear Sir/Madam

THE SERVICED GRID CODE – ISSUE 4 REVISION 13

Revision 13 of Issue 4 of the Grid Code has been approved by the Authority for implementation on **7th June 2012**.

I have enclosed the replacement pages that incorporate the agreed changes necessary to update the Grid Code Issue 4 Revision 12 to Revision 13 standard.

The enclosed note provides a brief summary of the changes made to the text.

Yours faithfully,

Lucy Hudson
Code Coordinator
Electricity Codes

NATIONAL GRID ELECTRICITY TRANSMISSION PLC

THE GRID CODE – ISSUE 4 REVISION 13

SUMMARY OF CHANGES

The changes arise from the implementation of modifications proposed in the following Consultation Paper:

D/11 - System to Generator Operational Intertripping Schemes

Summary of Proposal

This amendment modifies the Grid Code to ensure that it is consistent with how system to generator operational intertripping schemes have been implemented for generators connected to Relevant Transmission Licensees systems, by amending the definition of 'System to Generator Intertripping'.

The categories of Users affected by this revision to the Grid Code are:

- National Electricity Transmission System Operator
- Relevant Transmission Licensees
- Offshore Generators
- Onshore Generators

THE GRID CODE

Issue 4 Revision 13

7th June 2012

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GLOSSARY AND DEFINITIONS (G & D)

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

Access Group A group of **Connection Points** within which a **User** declares under the **Planning Code**

- i) An interconnection and/or
- ii) A need to redistribute **Demand** between those **Connection Points** either pre-fault or post-fault

Where a single **Connection Point** does not form part of an **Access Group** in accordance with the above, that single **Connection Point** shall be considered to be an **Access Group** in its own right.

Access Period A period of time in respect of which each **Transmission Interface Circuit** is to be assessed as whether or not it is capable of being maintained as derived in accordance with PC.A.4.1.4. The period shall commence and end on specified calendar weeks.

Act The Electricity Act 1989 (as amended by the Utilities Act 2000 and the Energy Act 2004).

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

1000 Wh = 1 kWh
1000 kWh = 1 MWh
1000 MWh = 1 GWh
1000 GWh = 1 TWh

Active Power The product of voltage and the in-phase component of alternating current measured in units of watts and standard multiples thereof, ie:

1000 Watts = 1 kW
1000 kW = 1 MW
1000 MW = 1 GW
1000 GW = 1 TW

Affiliate In relation to any person, any holding company or subsidiary of such person or any subsidiary of a holding company of such person, in each case within the meaning of Section 736, 736A and 736B of the Companies Act 1985 as substituted by section 144 of the Companies Act 1989 and, if that latter section is not in force at the **Transfer Date**, as if such section were in force at such date.

<u>Ancillary Service</u>	A System Ancillary Service and/or a Commercial Ancillary Service , as the case may be.
<u>Ancillary Services Agreement</u>	An agreement between a User and NGET for the payment by NGET to that User in respect of the provision by such User of Ancillary Services .
<u>Annual Average Cold Spell Conditions or ACS Conditions</u>	A particular combination of weather elements which gives rise to a level of peak Demand within a Financial Year which has a 50% chance of being exceeded as a result of weather variation alone.
<u>Apparent Power</u>	The product of voltage and of alternating current measured in units of voltamperes and standard multiples thereof, ie: $1000 \text{ VA} = 1 \text{ kVA}$ $1000 \text{ kVA} = 1 \text{ MVA}$
<u>Apparatus</u>	Other than in OC8 , means all equipment in which electrical conductors are used, supported or of which they may form a part. In OC8 it means High Voltage electrical circuits forming part of a System on which Safety Precautions may be applied to allow work and/or testing to be carried out on a System .
<u>Authorised Electricity Operator</u>	Any person (other than NGET in its capacity as operator of the National Electricity Transmission System) who is authorised under the Act to generate, participate in the transmission of, distribute or supply electricity.
<u>Automatic Voltage Regulator or AVR</u>	The continuously acting automatic equipment controlling the terminal voltage of a Synchronous Generating Unit by comparing the actual terminal voltage with a reference value and controlling by appropriate means the output of an Exciter , depending on the deviations.
<u>Authority for Access</u>	An authority which grants the holder the right to unaccompanied access to sites containing exposed HV conductors.
<u>Authority, The</u>	The Authority established by section 1 (1) of the Utilities Act 2000.
<u>Auxiliaries</u>	Any item of Plant and/or Apparatus not directly a part of the boiler plant or Generating Unit or DC Converter or Power Park Module , but required for the boiler plant's or Generating Unit's or DC Converter's or Power Park Module's functional operation.
<u>Auxiliary Diesel Engine</u>	A diesel engine driving a Generating Unit which can supply a Unit Board or Station Board , which can start without an electrical power supply from outside the Power Station within which it is situated.

<u>Auxiliary Gas Turbine</u>	A Gas Turbine Unit , which can supply a Unit Board or Station Board , which can start without an electrical power supply from outside the Power Station within which it is situated.
<u>Average Conditions</u>	That combination of weather elements within a period of time which is the average of the observed values of those weather elements during equivalent periods over many years (sometimes referred to as normal weather).
<u>Back-Up Protection</u>	Protection equipment or system which is intended to operate when a system fault is not cleared in due time because of failure or inability of the Main Protection to operate or in case of failure to operate of a circuit-breaker other than the associated circuit breaker.
<u>Balancing and Settlement Code or BSC</u>	The code of that title as from time to time amended.
<u>Balancing Code or BC</u>	That portion of the Grid Code which specifies the Balancing Mechanism process.
<u>Balancing Mechanism</u>	Has the meaning set out in NGET's Transmission Licence
<u>Balancing Mechanism Reporting Agent or BMRA</u>	Has the meaning set out in the BSC .
<u>Balancing Mechanism Reporting Service or BMRS</u>	Has the meaning set out in the BSC .
<u>Balancing Principles Statement</u>	A statement prepared by NGET in accordance with Condition C16 of NGET's Transmission Licence .
<u>Bid-Offer Acceptance</u>	a) A communication issued by NGET in accordance with BC2.7 ; or b) an Emergency Instruction to the extent provided for in BC2.9.2.3.
<u>Bid-Offer Data</u>	Has the meaning set out in the BSC .
<u>Bilateral Agreement</u>	Has the meaning set out in the CUSC
<u>Black Start</u>	The procedure necessary for a recovery from a Total Shutdown or Partial Shutdown .

<u>Black Start Capability</u>	An ability in respect of a Black Start Station , for at least one of its Gensets to Start-Up from Shutdown and to energise a part of the System and be Synchronised to the System upon instruction from NGET , within two hours, without an external electrical power supply.
<u>Black Start Stations</u>	Power Stations which are registered, pursuant to the Bilateral Agreement with a User , as having a Black Start Capability .
<u>Black Start Test</u>	A Black Start Test carried out by a Generator with a Black Start Station , on the instructions of NGET , in order to demonstrate that a Black Start Station has a Black Start Capability .
<u>Block Load Capability</u>	The incremental Active Power steps, from no load to Rated MW , which a generator can instantaneously supply without causing it to trip or go outside the Frequency range of 47.5 – 52Hz (or an otherwise agreed Frequency range). The time between each incremental step shall also be provided.
<u>BM Participant</u>	A person who is responsible for and controls one or more BM Units or where a Bilateral Agreement specifies that a User is required to be treated as a BM Participant for the purposes of the Grid Code . For the avoidance of doubt, it does not imply that they must be active in the Balancing Mechanism .
<u>BM Unit</u>	Has the meaning set out in the BSC , except that for the purposes of the Grid Code the reference to “Party” in the BSC shall be a reference to User .
<u>BM Unit Data</u>	The collection of parameters associated with each BM Unit , as described in Appendix 1 of BC1 .
<u>Boiler Time Constant</u>	Determined at Registered Capacity , the boiler time constant will be construed in accordance with the principles of the IEEE Committee Report "Dynamic Models for Steam and Hydro Turbines in Power System Studies" published in 1973 which apply to such phrase.
<u>British Standards or BS</u>	Those standards and specifications approved by the British Standards Institution.
<u>BSCCo</u>	Has the meaning set out in the BSC .
<u>BSC Panel</u>	Has meaning set out for “Panel” in the BSC .
<u>BS Station Test</u>	A Black Start Test carried out by a Generator with a Black Start Station while the Black Start Station is disconnected from all external alternating current electrical supplies.

BS Unit Test

A **Black Start Test** carried out on a **Generating Unit** or a **CCGT Unit**, as the case may be, at a **Black Start Station** while the **Black Start Station** remains connected to an external alternating current electrical supply.

Business Day

Any week day (other than a Saturday) on which banks are open for domestic business in the City of London.

Cancellation of National Electricity Transmission System Warning

The notification given to **Users** when a **National Electricity Transmission System Warning** is cancelled.

Cascade Hydro Scheme

Two or more hydro-electric **Generating Units**, owned or controlled by the same **Generator**, which are located in the same water catchment area and are at different ordnance datums and which depend upon a common source of water for their operation, known as:

1. Moriston
2. Killin
3. Garry
4. Conon
5. Clunie
6. Beaully

which will comprise more than one **Power Station**.

Cascade Hydro Scheme Matrix

The matrix described in Appendix 1 to **BC1** under the heading **Cascade Hydro Scheme Matrix**.

Caution Notice

A notice conveying a warning against interference.

Category 1 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** arising from a Variation to Connection Design following a request from the relevant **User** which is consistent with the criteria specified in the **Security and Quality of Supply Standard**.

Category 2 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** which is:-

- (i) required to alleviate an overload on a circuit which connects the **Group** containing the **User's Connection Site** to the **National Electricity Transmission System**; and
 - (ii) installed in accordance with the requirements of the planning criteria of the **Security and Quality of Supply Standard** in order that measures can be taken to permit maintenance access for each transmission circuit and for such measures to be economically justified,
- and the operation of which results in a reduction in **Active Power** on the overloaded circuits which connect the **User's Connection Site** to the rest of the **National Electricity Transmission System** which is equal to the reduction in **Active Power** from the **Connection Site** (once any system losses or third party system effects are discounted).

Category 3 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** which, where agreed by **NGET** and the **User**, is installed to alleviate an overload on, and as an alternative to, the reinforcement of a third party system, such as the **Distribution System** of a **Public Distribution System Operator**.

Category 4 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** installed to enable the disconnection of the **Connection Site** from the **National Electricity Transmission System** in a controlled and efficient manner in order to facilitate the timely restoration of the **National Electricity Transmission System**.

CENELEC

European Committee for Electrotechnical Standardisation.

CCGT Module Matrix

The matrix described in Appendix 1 to BC1 under the heading **CCGT Module Matrix**.

CCGT Module Planning Matrix

A matrix in the form set out in Appendix 3 of OC2 showing the combination of **CCGT Units** within a **CCGT Module** which would be running in relation to any given MW output.

Cluster

1. Before Telemetry

A cluster of wind turbines will be formed when the total wind capacity within any circle of five kilometre radius has a **Registered Capacity** of not less than 5MW

2. After Telemetry

Any wind turbine installed within a five kilometre radius of the anemometer position (whether installed before or after the installation of that anemometer) will be deemed to be within the cluster for that anemometer and will not count towards the creation of any new cluster. All other wind turbines may count towards the creation of further clusters.

Combined Cycle Gas Turbine Module or CCGT Module

A collection of **Generating Units** (registered as a **CCGT Module** under the PC) comprising one or more **Gas Turbine Units** (or other gas based engine units) and one or more **Steam Units** where, in normal operation, the waste heat from the **Gas Turbines** is passed to the water/steam system of the associated **Steam Unit** or **Steam Units** and where the component units within the **CCGT Module** are directly connected by steam or hot gas lines which enable those units to contribute to the efficiency of the combined cycle operation of the **CCGT Module**.

Combined Cycle Gas Turbine Unit or CCGT Unit

A **Generating Unit** within a **CCGT Module**.

Commercial Ancillary Services

Ancillary Services, other than **System Ancillary Services**, utilised by NGET in operating the **Total System** if a **User** (or other person) has agreed to provide them under an **Ancillary Services Agreement** or under a **Bilateral Agreement** with payment being dealt with under an **Ancillary Services Agreement** or in the case of **Externally Interconnected System Operators** or **Interconnector Users**, under any other agreement (and in the case of **Externally Interconnected System Operators** and **Interconnector Users** includes ancillary services equivalent to or similar to **System Ancillary Services**).

Commercial Boundary

Has the meaning set out in the **CUSC**

Committed Project Planning Data

Data relating to a **User Development** once the offer for a **CUSC Contract** is accepted.

Common Collection Busbar

A busbar within a **Power Park Module** to which the higher voltage side of two or more **Power Park Unit** generator transformers are connected.

<u>Completion Date</u>	Has the meaning set out in the Bilateral Agreement with each User to that term or in the absence of that term to such other term reflecting the date when a User is expected to connect to or start using the National Electricity Transmission System . In the case of an Embedded Medium Power Station or Embedded DC Converter Station having a similar meaning in relation to the Network Operator's System as set out in the Embedded Development Agreement .
<u>Complex</u>	A Connection Site together with the associated Power Station and/or Network Operator substation and/or associated Plant and/or Apparatus , as appropriate.
<u>Connection Conditions or CC</u>	That portion of the Grid Code which is identified as the Connection Conditions .
<u>Connection Entry Capacity</u>	Has the meaning set out in the CUSC
<u>Connected Planning Data</u>	Data which replaces data containing estimated values assumed for planning purposes by validated actual values and updated estimates for the future and by updated forecasts for Forecast Data items such as Demand .
<u>Connection Point</u>	A Grid Supply Point or Grid Entry Point , as the case may be.
<u>Connection Site</u>	A Transmission Site or User Site , as the case may be.
<u>Construction Agreement</u>	Has the meaning set out in the CUSC
<u>Contingency Reserve</u>	The margin of generation over forecast Demand which is required in the period from 24 hours ahead down to real time to cover against uncertainties in Large Power Station availability and against both weather forecast and Demand forecast errors.
<u>Control Calls</u>	A telephone call whose destination and/or origin is a key on the control desk telephone keyboard at a Transmission Control Centre and which, for the purpose of Control Telephony , has the right to exercise priority over (ie. disconnect) a call of a lower status.
<u>Control Centre</u>	A location used for the purpose of control and operation of the National Electricity Transmission System or DC Converter Station owner's System or a User System other than a Generator's System or an External System .

Control Engineer

A person nominated by the relevant party for the control of its **Plant** and **Apparatus**.

Control Person

The term used as an alternative to "**Safety Co-ordinator**" on the **Site Responsibility Schedule** only.

Control Phase

The **Control Phase** follows on from the **Programming Phase** and covers the period down to real time.

Control Point

The point from which:-

- a) A **Non-Embedded Customer's Plant** and **Apparatus** is controlled; or
- b) A **BM Unit** at a **Large Power Station** or at a **Medium Power Station** or representing a **Cascade Hydro Scheme** or with a **Demand Capacity** with a magnitude of:
 - (i) 50MW or more in **NGET's Transmission Area**; or
 - (ii) 30MW or more in **SPT's Transmission Area**; or
 - (iii) 10MW or more in **SHETL's Transmission Area**,
 - (iv) 10MW or more which is connected to an **Offshore Transmission System**

is physically controlled by a **BM Participant**; or

- c) In the case of any other **BM Unit** or **Generating Unit**, data submission is co-ordinated for a **BM Participant** and instructions are received from **NGET**,

as the case may be. For a **Generator** this will normally be at a **Power Station** but may be at an alternative location agreed with **NGET**. In the case of a **DC Converter Station**, the **Control Point** will be at a location agreed with **NGET**. In the case of a **BM Unit** of an **Interconnector User**, the **Control Point** will be the **Control Centre** of the relevant **Externally Interconnected System Operator**.

Control Telephony

The principal method by which a **User's Responsible Engineer/Operator** and **NGET Control Engineer(s)** speak to one another for the purposes of control of the **Total System** in both normal and emergency operating conditions.

CUSC

Has the meaning set out in **NGET's Transmission Licence**

<u>CUSC Contract</u>	One or more of the following agreements as envisaged in Standard Condition C1 of NGET's Transmission Licence : (a) the CUSC Framework Agreement ; (b) a Bilateral Agreement ; (c) a Construction Agreement or a variation to an existing Bilateral Agreement and/or Construction Agreement ;
<u>CUSC Framework Agreement</u>	Has the meaning set out in NGET's Transmission Licence
<u>Customer</u>	A person to whom electrical power is provided (whether or not he is the same person as the person who provides the electrical power).
<u>Customer Demand Management</u>	Reducing the supply of electricity to a Customer or disconnecting a Customer in a manner agreed for commercial purposes between a Supplier and its Customer .
<u>Customer Demand Management Notification Level</u>	The level above which a Supplier has to notify NGET of its proposed or achieved use of Customer Demand Management which is 12 MW in England and Wales and 5 MW in Scotland.
<u>Customer Generating Plant</u>	A Power Station or Generating Unit of a Customer to the extent that it operates the same exclusively to supply all or part of its own electricity requirements, and does not export electrical power to any part of the Total System .
<u>Data Registration Code or DRC</u>	That portion of the Grid Code which is identified as the Data Registration Code .
<u>Data Validation, Consistency and Defaulting Rules</u>	The rules relating to validity and consistency of data, and default data to be applied, in relation to data submitted under the Balancing Codes , to be applied by NGET under the Grid Code as set out in the document "Data Validation, Consistency and Defaulting Rules" - Issue 8, dated 25 th January 2012. The document is available on the National Grid website or upon request from NGET .
<u>DC Converter</u>	Any Onshore DC Converter or Offshore DC Converter .
<u>Demand Control Notification Level</u>	The level above which a Network Operator has to notify NGET of its proposed or achieved use of Demand Control which is 12 MW in England and Wales and 5 MW in Scotland.

<u>Designed Minimum Operating Level</u>	The output (in whole MW) below which a Genset or a DC Converter at a DC Converter Station (in any of its operating configurations) has no High Frequency Response capability.
<u>De-Synchronise</u>	<p>a) The act of taking a Generating Unit, Power Park Module or DC Converter off a System to which it has been Synchronised, by opening any connecting circuit breaker; or</p> <p>b) The act of ceasing to consume electricity at an importing BM Unit;</p> <p>and the term "De-Synchronising" shall be construed accordingly.</p>
<u>De-synchronised Island(s)</u>	Has the meaning set out in OC9.5.1(a)
<u>Detailed Planning Data</u>	Detailed additional data which NGET requires under the PC in support of Standard Planning Data , comprising DPD I and DPD II
<u>Detailed Planning Data Category I or DPD I</u>	The Detailed Planning Data categorised as such in the DRC , and submitted in accordance with PC.4.4.2 or PC.4.4.4 as applicable.
<u>Detailed Planning Data Category II or DPD II</u>	The Detailed Planning Data categorised as such in the DRC , and submitted in accordance with PC.4.4.2 or PC.4.4.4 as applicable.
<u>Discrimination</u>	The quality where a relay or protective system is enabled to pick out and cause to be disconnected only the faulty Apparatus .
<u>Disconnection</u>	The physical separation of Users (or Customers) from the National Electricity Transmission System or a User System as the case may be.
<u>Disputes Resolution Procedure</u>	The procedure described in the CUSC relating to disputes resolution.
<u>Distribution Code</u>	The distribution code required to be drawn up by each Electricity Distribution Licence holder and approved by the Authority , as from time to time revised with the approval of the Authority .
<u>Droop</u>	The ratio of the per unit steady state change in speed, or in Frequency to the per unit steady state change in power output.
<u>Dynamic Parameters</u>	Those parameters listed in Appendix 1 to BC1 under the heading BM Unit Data – Dynamic Parameters .

<u>E&W Offshore Transmission System</u>	An Offshore Transmission System with an Interface Point in England and Wales.
<u>E&W Offshore Transmission Licensee</u>	A person who owns or operates an E&W Offshore Transmission System pursuant to a Transmission Licence .
<u>E&W Transmission System</u>	Collectively NGET's Transmission System and any E&W Offshore Transmission Systems .
<u>E&W User</u>	A User in England and Wales or any Offshore User who owns or operates Plant and/or Apparatus connected to an E&W Offshore Transmission System .
<u>Earth Fault Factor</u>	At a selected location of a three-phase System (generally the point of installation of equipment) and for a given System configuration, the ratio of the highest root mean square phase-to-earth power Frequency voltage on a sound phase during a fault to earth (affecting one or more phases at any point) to the root mean square phase-to-earth power Frequency voltage which would be obtained at the selected location without the fault.
<u>Earthing</u>	A way of providing a connection between conductors and earth by an Earthing Device which is either: <ul style="list-style-type: none"> (a) Immobilised and Locked in the earthing position. Where the Earthing Device is Locked with a Safety Key, the Safety Key must be secured in a Key Safe and the Key Safe Key must be, where reasonably practicable, given to the authorised site representative of the Requesting Safety Co-Ordinator and is to be retained in safe custody. Where not reasonably practicable the Key Safe Key must be retained by the authorised site representative of the Implementing Safety Co-Ordinator in safe custody: or (b) maintained and/or secured in position by such other method which must be in accordance with the Local Safety Instructions of NGET or the Safety Rules of the Relevant Transmission Licensee or that User, as the case may be.
<u>Earthing Device</u>	A means of providing a connection between a conductor and earth being of adequate strength and capability.
<u>Electrical Standard</u>	A standard listed in the Annex to the General Conditions .
<u>Electricity Council</u>	That body set up under the Electricity Act, 1957.
<u>Electricity Distribution Licence</u>	The licence granted pursuant to Section 6(1) (c) of the Act .

<u>Electricity Supply Industry Arbitration Association</u>	The unincorporated members' club of that name formed inter alia to promote the efficient and economic operation of the procedure for the resolution of disputes within the electricity supply industry by means of arbitration or otherwise in accordance with its arbitration rules.
<u>Electricity Supply Licence</u>	The licence granted pursuant to Section 6(1) (d) of the Act .
<u>Electromagnetic Compatibility Level</u>	Has the meaning set out in Engineering Recommendation G5/4 .
<u>Embedded</u>	Having a direct connection to a User System or the System of any other User to which Customers and/or Power Stations are connected, such connection being either a direct connection or a connection via a busbar of another User or of a Transmission Licensee (but with no other connection to the National Electricity Transmission System).
<u>Embedded Development</u>	Has the meaning set out in PC.4.4.3(a)
<u>Embedded Development Agreement</u>	An agreement entered into between a Network Operator and an Embedded Person , identifying the relevant site of connection to the Network Operator's System and setting out other site specific details in relation to that use of the Network Operator's System .
<u>Embedded Person</u>	The party responsible for a Medium Power Station not subject to a Bilateral Agreement or DC Converter Station not subject to a Bilateral Agreement connected to or proposed to be connected to a Network Operator's System .
<u>Emergency Deenergisation Instruction</u>	an Emergency Instruction issued by NGET to De-Synchronise a Generating Unit , Power Park Module or DC Converter in circumstances specified in the CUSC .
<u>Emergency Instruction</u>	An instruction issued by NGET in emergency circumstances, pursuant to BC2.9, to the Control Point of a User . In the case of such instructions applicable to a BM Unit , it may require an action or response which is outside the Dynamic Parameters , QPN or Other Relevant Data , and may include an instruction to trip a Genset .
<u>Engineering Recommendations</u>	The documents referred to as such and issued by the Electricity Association or the former Electricity Council.

Estimated Registered Data

Those items of **Standard Planning Data** and **Detailed Planning Data** which either upon connection will become **Registered Data**, or which for the purposes of the **Plant** and/or **Apparatus** concerned as at the date of submission are **Registered Data**, but in each case which for the seven succeeding **Financial Years** will be an estimate of what is expected.

European Specification

A common technical specification, a **British Standard** implementing a European standard or a European technical approval. The terms "common technical specification", "European standard" and "European technical approval" shall have the meanings respectively ascribed to them in the **Regulations**.

Event

An unscheduled or unplanned (although it may be anticipated) occurrence on, or relating to, a **System** (including **Embedded Power Stations**) including, without limiting that general description, faults, incidents and breakdowns and adverse weather conditions being experienced.

Exciter

The source of the electrical power providing the field current of a synchronous machine.

Excitation System

The equipment providing the field current of a machine, including all regulating and control elements, as well as field discharge or suppression equipment and protective devices.

Excitation System No-Load Negative Ceiling Voltage

The minimum value of direct voltage that the **Excitation System** is able to provide from its terminals when it is not loaded, which may be zero or a negative value.

Excitation System Nominal Response

Shall have the meaning ascribed to that term in **IEC 34-16-1:1991** [equivalent to **British Standard BS4999** Section 116.1 : 1992]. The time interval applicable is the first half-second of excitation system voltage response.

Excitation System On-Load Positive Ceiling Voltage

Shall have the meaning ascribed to the term 'Excitation system on load ceiling voltage' in **IEC 34-16-1:1991**[equivalent to **British Standard BS4999** Section 116.1 : 1992].

Excitation System No-Load Positive Ceiling Voltage

Shall have the meaning ascribed to the term 'Excitation system no load ceiling voltage' in **IEC 34-16-1:1991**[equivalent to **British Standard BS4999** Section 116.1 : 1992].

Exemptable

Has the meaning set out in the **CUSC**.

Existing AGR Plant

The following nuclear advanced gas cooled reactor plant (which was commissioned and connected to the **Total System** at the **Transfer Date**):-

Dungeness B
Hinkley Point B
Heysham 1
Heysham 2
Hartlepool
Hunterston B
Torness.

Existing AGR Plant Flexibility Limit

In respect of each **Genset** within each **Existing AGR Plant** which has a safety case enabling it to so operate, 8 (or such lower number which when added to the number of instances of reduction of output as instructed by **NGET** in relation to operation in **Frequency Sensitive Mode** totals 8) instances of flexibility in any calendar year (or such lower or greater number as may be agreed by the Nuclear Installations Inspectorate and notified to **NGET**) for the purpose of assisting in the period of low **System NRAPM** and/or low **Localised NRAPM** provided that in relation to each **Generating Unit** each change in output shall not be required to be to a level where the output of the reactor is less than 80% of the reactor thermal power limit (as notified to **NGET** and which corresponds to the limit of reactor thermal power as contained in the "Operating Rules" or "Identified Operating Instructions" forming part of the safety case agreed with the Nuclear Installations Inspectorate).

Existing Gas Cooled Reactor Plant

Both **Existing Magnox Reactor Plant** and **Existing AGR Plant**.

Existing Magnox Reactor Plant

The following nuclear gas cooled reactor plant (which was commissioned and connected to the **Total System** at the **Transfer Date**):-

Calder Hall
Chapelcross
Dungeness A
Hinkley Point A
Oldbury-on-Severn
Bradwell
Sizewell A
Wylfa.

Export and Import Limits

Those parameters listed in Appendix 1 to **BC1** under the heading **BM Unit Data – Export and Import Limits**.

External Interconnection

Apparatus for the transmission of electricity to or from the **National Electricity Transmission System** or a **User System** into or out of an **External System**. For the avoidance of doubt, a single **External Interconnection** may comprise several circuits operating in parallel.

<u>External Interconnection Circuit</u>	Plant or Apparatus which comprises a circuit and which operates in parallel with another circuit and which forms part of the External Interconnection .
<u>Externally Interconnected System Operator or EISO</u>	A person who operates an External System which is connected to the National Electricity Transmission System or a User System by an External Interconnection .
<u>External System</u>	In relation to an Externally Interconnected System Operator means the transmission or distribution system which it owns or operates which is located outside the National Electricity Transmission System Operator Area any Apparatus or Plant which connects that system to the External Interconnection and which is owned or operated by such Externally Interconnected System Operator .
<u>Fault Current Interruption Time</u>	The time interval from fault inception until the end of the break time of the circuit breaker (as declared by the manufacturers).
<u>Fast Start</u>	A start by a Genset with a Fast Start Capability .
<u>Fast Start Capability</u>	The ability of a Genset to be Synchronised and Loaded up to full Load within 5 minutes.
<u>Final Generation Outage Programme</u>	An outage programme as agreed by NGET with each Generator and each Interconnector Owner at various stages through the Operational Planning Phase and Programming Phase which does not commit the parties to abide by it, but which at various stages will be used as the basis on which National Electricity Transmission System outages will be planned.
<u>Final Physical Notification Data</u>	Has the meaning set out in the BSC .
<u>Final Report</u>	A report prepared by the Test Proposer at the conclusion of a System Test for submission to NGET (if it did not propose the System Test) and other members of the Test Panel .
<u>Financial Year</u>	Bears the meaning given in Condition A1 (Definitions and Interpretation) of NGET's Transmission Licence .
<u>Flicker Severity (Long Term)</u>	A value derived from 12 successive measurements of Flicker Severity (Short Term) (over a two hour period) and a calculation of the cube root of the mean sum of the cubes of 12 individual measurements, as further set out in Engineering Recommendation P28 as current at the Transfer Date .

<u>Flicker Severity (Short Term)</u>	A measure of the visual severity of flicker derived from the time series output of a flickermeter over a 10 minute period and as such provides an indication of the risk of Customer complaints.
<u>Forecast Data</u>	Those items of Standard Planning Data and Detailed Planning Data which will always be forecast.
<u>Frequency</u>	The number of alternating current cycles per second (expressed in Hertz) at which a System is running.
<u>Frequency Sensitive AGR Unit</u>	Each Generating Unit in an Existing AGR Plant for which the Generator has notified NGET that it has a safety case agreed with the Nuclear Installations Inspectorate enabling it to operate in Frequency Sensitive Mode , to the extent that such unit is within its Frequency Sensitive AGR Unit Limit . Each such Generating Unit shall be treated as if it were operating in accordance with BC3.5.1 provided that it is complying with its Frequency Sensitive AGR Unit Limit .
<u>Frequency Sensitive AGR Unit Limit</u>	In respect of each Frequency Sensitive AGR Unit , 8 (or such lower number which when added to the number of instances of flexibility for the purposes of assisting in a period of low System or Localised NRAPM totals 8) instances of reduction of output in any calendar year as instructed by NGET in relation to operation in Frequency Sensitive Mode (or such greater number as may be agreed between NGET and the Generator), for the purpose of assisting with Frequency control, provided the level of operation of each Frequency Sensitive AGR Unit in Frequency Sensitive Mode shall not be outside that agreed by the Nuclear Installations Inspectorate in the relevant safety case.
<u>Frequency Sensitive Mode</u>	A Genset operating mode which will result in Active Power output changing, in response to a change in System Frequency , in a direction which assists in the recovery to Target Frequency , by operating so as to provide Primary Response and/or Secondary Response and/or High Frequency Response .
<u>Fuel Security Code</u>	The document of that title designated as such by the Secretary of State , as from time to time amended.
<u>Gas Turbine Unit</u>	A Generating Unit driven by a gas turbine (for instance by an aero-engine).

<u>Gas Zone Diagram</u>	A single line diagram showing boundaries of, and interfaces between, gas-insulated HV Apparatus modules which comprise part, or the whole, of a substation at a Connection Site (or in the case of OTSDUW Plant and Apparatus, Transmission Interface Site), together with the associated stop valves and gas monitors required for the safe operation of the National Electricity Transmission System or the User System , as the case may be.
<u>Gate Closure</u>	Has the meaning set out in the BSC .
<u>General Conditions or GC</u>	That portion of the Grid Code which is identified as the General Conditions .
<u>Generating Plant Demand Margin</u>	The difference between Output Usable and forecast Demand .
<u>Generating Unit</u>	An Onshore Generating Unit and/or an Offshore Generating Unit .
<u>Generating Unit Data</u>	The Physical Notification, Export and Import Limits and Other Relevant Data only in respect of each Generating Unit : <ul style="list-style-type: none"> (a) which forms part of the BM Unit which represents that Cascade Hydro Scheme; (b) at an Embedded Exemptable Large Power Station, where the relevant Bilateral Agreement specifies that compliance with BC1 and/or BC2 is required: <ul style="list-style-type: none"> i) to each Generating Unit, or ii) to each Power Park Module where the Power Station comprises Power Park Modules
<u>Generation Capacity</u>	Has the meaning set out in the BSC .
<u>Generation Planning Parameters</u>	Those parameters listed in Appendix 2 of OC2 .
<u>Generator</u>	A person who generates electricity under licence or exemption under the Act acting in its capacity as a generator in Great Britain or Offshore .
<u>Generator Performance Chart</u>	A diagram which shows the MW and Mvar capability limits within which a Generating Unit will be expected to operate under steady state conditions.
<u>Genset</u>	A Generating Unit, Power Park Module or CCGT Module at a Large Power Station or any Generating Unit, Power Park Module or CCGT Module which is directly connected to the National Electricity Transmission System .

<u>Good Industry Practice</u>	The exercise of that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced operator engaged in the same type of undertaking under the same or similar circumstances.
<u>Governor Deadband</u>	The total magnitude of the change in steady state speed (expressed as a range of Hz ($\pm x$ Hz) where "x" is a numerical value) within which there is no resultant change in the position of the governing valves of the speed/load Governing System.
<u>Great Britain or GB</u>	The landmass of England and Wales and Scotland, including internal waters.
<u>Grid Code Review Panel or Panel</u>	The panel with the functions set out in GC.4.
<u>Grid Entry Point</u>	An Onshore Grid Entry Point or an Offshore Grid Entry Point ..
<u>Grid Supply Point</u>	A point of supply from the National Electricity Transmission System to Network Operators or Non-Embedded Customers .
<u>Group</u>	Those National Electricity Transmission System sub-stations bounded solely by the faulted circuit(s) and the overloaded circuit(s) excluding any third party connections between the Group and the rest of the National Electricity Transmission System , the faulted circuit(s) being a Secured Event .
<u>High Frequency Response</u>	An automatic reduction in Active Power output in response to an increase in System Frequency above the Target Frequency (or such other level of Frequency as may have been agreed in an Ancillary Services Agreement). This reduction in Active Power output must be in accordance with the provisions of the relevant Ancillary Services Agreement which will provide that it will be released increasingly with time over the period 0 to 10 seconds from the time of the Frequency increase on the basis set out in the Ancillary Services Agreement and fully achieved within 10 seconds of the time of the start of the Frequency increase and it must be sustained at no lesser reduction thereafter. The interpretation of the High Frequency Response to a + 0.5 Hz frequency change is shown diagrammatically in Figure CC.A.3.3.
<u>High Voltage or HV</u>	For E&W Transmission Systems , a voltage exceeding 650 volts. .For Scottish Transmission Systems , a voltage exceeding 1000 volts.

<u>HV Connections</u>	Apparatus connected at the same voltage as that of the National Electricity Transmission System , including Users' circuits, the higher voltage windings of Users' transformers and associated connection Apparatus .
<u>HP Turbine Power Fraction</u>	Ratio of steady state mechanical power delivered by the HP turbine to the total steady state mechanical power delivered by the total steam turbine at Registered Capacity .
<u>IEC</u>	International Electrotechnical Commission.
<u>IEC Standard</u>	A standard approved by the International Electrotechnical Commission.
<u>Implementing Safety Co-ordinator</u>	The Safety Co-ordinator implementing Safety Precautions .
<u>Import Usable</u>	That portion of Registered Import Capacity which is expected to be available and which is not unavailable due to a Planned Outage .
<u>Incident Centre</u>	A centre established by NGET or a User as the focal point in NGET or in that User , as the case may be, for the communication and dissemination of information between the senior management representatives of NGET , or of that User , as the case may be, and the relevant other parties during a Joint System Incident in order to avoid overloading NGET's , or that User's , as the case may be, existing operational/control arrangements.
<u>Indicated Constraint Boundary Margin</u>	The difference between a constraint boundary transfer limit and the difference between the sum of BM Unit Maximum Export Limits and the forecast of local Demand within the constraint boundary.
<u>Indicated Imbalance</u>	The difference between the sum of Physical Notifications for BM Units comprising Generating Units or CCGT Modules and the forecast of Demand for the whole or any part of the System .
<u>Indicated Margin</u>	The difference between the sum of BM Unit Maximum Export Limits submitted and the forecast of Demand for the whole or any part of the System
<u>Instructor Facilities</u>	A device or system which gives certain Transmission Control Centre instructions with an audible or visible alarm, and incorporates the means to return message acknowledgements to the Transmission Control Centre

Integral Equipment Test or IET

A test on equipment, associated with **Plant** and/or **Apparatus**, which takes place when that **Plant** and/or **Apparatus** forms part of a **Synchronised System** and which, in the reasonable judgement of the person wishing to perform the test, may cause an **Operational Effect**.

Interconnection Agreement

An agreement made between **NGET** and an **Externally Interconnected System Operator** and/or an **Interconnector User** and/or other relevant persons for the **External Interconnection** relating to an **External Interconnection** and/or an agreement under which an **Interconnector User** can use an **External Interconnection**.

Interconnector Export Capacity

In relation to an **External Interconnection** means the (daily or weekly) forecast value (in MW) at the time of the (daily or weekly) peak demand, of the maximum level at which the **External Interconnection** can export to the **Grid Entry Point**.

Interconnector Import Capacity

In relation to an **External Interconnection** means the (daily or weekly) forecast value (in MW) at the time of the (daily or weekly) peak demand of the maximum level at which the **External Interconnection** can import from the **Grid Entry Point**.

Interconnector Owner

Has the meaning given to the term in the **Connection and Use of System Code**.

Interconnector User

Has the meaning set out in the **BSC**.

Interface Agreement

Has the meaning set out in the **CUSC**.

Interface Point

as the context admits or requires either;

- (a) the electrical point of connection between an **Offshore Transmission System** and an **Onshore Transmission System**, or
- (b) the electrical point of connection between an **Offshore Transmission System** and a **Network Operator's User System**.

Interface Point Capacity

The maximum amount of **Active Power** transferable at the **Interface Point** as declared by a User under the **OTSDUW Arrangements** expressed in whole MW.

Interface Point Target Voltage/Power factor

The nominal target voltage/power factor at an **Interface Point** which a **Network Operator** requires **NGET** to achieve by operation of the relevant **Offshore Transmission System**.

<u>Intermittent Power Source</u>	The primary source of power for a Generating Unit that can not be considered as controllable, e.g. wind, wave or solar.
<u>Intertripping</u>	(a) The tripping of circuit-breaker(s) by commands initiated from Protection at a remote location independent of the state of the local Protection ; or (b) Operational Intertripping .
<u>Intertrip Apparatus</u>	Apparatus which performs Intertripping .
<u>IP Turbine Power Fraction</u>	Ratio of steady state mechanical power delivered by the IP turbine to the total steady state mechanical power delivered by the total steam turbine at Registered Capacity .
<u>Isolating Device</u>	A device for achieving Isolation .
<u>Isolation</u>	The disconnection of HV Apparatus (as defined in OC8A.1.6.2 and OC8B.1.7.2) from the remainder of the System in which that HV Apparatus is situated by either of the following: (a) an Isolating Device maintained in an isolating position. The isolating position must either be: (i) maintained by immobilising and Locking the Isolating Device in the isolating position and affixing a Caution Notice to it. Where the Isolating Device is Locked with a Safety Key , the Safety Key must be secured in a Key Safe and the Key Safe Key must be, where reasonably practicable, given to the authorised site representative of the Requesting Safety Co-Ordinator and is to be retained in safe custody. Where not reasonably practicable the Key Safe Key must be retained by the authorised site representative of the Implementing Safety Co-Ordinator in safe custody; or (ii) maintained and/or secured by such other method which must be in accordance with the Local Safety Instructions of NGET or the Safety Rules of the Relevant Transmission Licensee or that User , as the case may be; or (b) an adequate physical separation which must be in accordance with and maintained by the method set out in the Local Safety Instructions of NGET or the Safety Rules of the Relevant Transmission Licensee or that User , as the case may be.
<u>Joint BM Unit Data</u>	Has the meaning set out in the BSC .

Joint System Incident

An **Event** wherever occurring (other than on an **Embedded Medium Power Station** or an **Embedded Small Power Station**) which, in the opinion of **NGET** or a **User**, has or may have a serious and/or widespread effect, in the case of an **Event** on a **User(s) System(s)** (other than on an **Embedded Medium Power Station** or **Embedded Small Power Station**), on the **National Electricity Transmission System**, and in the case of an **Event** on the **National Electricity Transmission System**, on a **User(s) System(s)** (other than on an **Embedded Medium Power Station** or **Embedded Small Power Station**).

Key Safe

A device for the secure retention of keys.

Key Safe Key

A key unique at a **Location** capable of operating a lock, other than a control lock, on a **Key Safe**.

Large Power Station

A **Power Station** which is

(A) directly connected to:

- (a) **NGET's Transmission System** where such **Power Station** has a **Registered Capacity** of 100MW or more; or
- (b) **SPT's Transmission System** where such **Power Station** has a **Registered Capacity** of 30MW or more; or
- (c) **SHETL's Transmission System** where such **Power Station** has a **Registered Capacity** of 10MW or more; or
- (d) an **Offshore Transmission System** where such **Power Station** has a **Registered Capacity** of 10MW or more;

or,

(B) **Embedded** within a **User System** (or part thereof) where such **User System** (or part thereof) is connected under normal operating conditions to:

- (a) **NGET's Transmission System** and such **Power Station** has a **Registered Capacity** of 100MW or more; or
- (b) **SPT's Transmission System** and such **Power Station** has a **Registered Capacity** of 30MW or more; or
- (c) **SHETL's Transmission System** and such **Power Station** has a **Registered Capacity** of 10MW or more;

or,

(C) **Embedded** within a **User System** (or part thereof) where the **User System** (or part thereof) is not connected to the **National Electricity Transmission System**, although such **Power Station** is in:

- (a) **NGET's Transmission Area** where such **Power Station** has a **Registered Capacity** of 100MW or more; or
- (b) **SPT's Transmission Area** where such **Power Station** has a **Registered Capacity** of 30MW or more; or
- (c) **SHETL's Transmission Area** where such **Power Station** has a **Registered Capacity** of 10MW or more;

Licence

Any licence granted to **NGET** or a **Relevant Transmission Licensee** or a **User**, under Section 6 of the **Act**.

Licence Standards

Those standards set out or referred to in Condition C17 of **NGET's Transmission Licence** and/or Condition D3 and/or Condition E16 of a **Relevant Transmission Licensee's Transmission Licence**.

Limited Frequency Sensitive Mode

A mode whereby the operation of the **Genset** (or **DC Converter** at a **DC Converter Station** exporting **Active Power** to the **Total System**) is **Frequency** insensitive except when the **System Frequency** exceeds 50.4Hz, from which point **Limited High Frequency Response** must be provided.

Limited High Frequency Response

A response of a **Genset** (or **DC Converter** at a **DC Converter Station** exporting **Active Power** to the **Total System**) to an increase in **System Frequency** above 50.4Hz leading to a reduction in **Active Power** in accordance with the provisions of BC3.7.2.

Load

The **Active, Reactive** or **Apparent Power**, as the context requires, generated, transmitted or distributed.

Loaded

Supplying electrical power to the **System**.

Load Factor

The ratio of the actual output of a **Generating Unit** to the possible maximum output of that **Generating Unit**.

Load Management Block

A block of **Demand** controlled by a **Supplier** or other party through the means of radio teleswitching or by some other means.

Local Joint Restoration Plan

A plan produced under OC9.4.7.12 detailing the agreed method and procedure by which a **Genset** at a **Black Start Station** (possibly with other **Gensets** at that **Black Start Station**) will energise part of the **Total System** and meet complementary blocks of local **Demand** so as to form a **Power Island**.

In Scotland, the plan may also: cover more than one **Black Start Station**; include **Gensets** other than those at a **Black Start Station** and cover the creation of one or more **Power Islands**.

Local Safety Instructions

For safety co-ordination in England and Wales, instructions on each **User Site** and **Transmission Site**, approved by the relevant **NGET** or **User's** manager, setting down the methods of achieving the objectives of **NGET's** or the **User's Safety Rules**, as the case may be, to ensure the safety of personnel carrying out work or testing on **Plant** and/or **Apparatus** on 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 maintaining or securing the position of an **Earthing Device**.

Local Switching Procedure

A procedure produced under OC7.6 detailing the agreed arrangements in respect of carrying out of **Operational Switching** at **Connection Sites** and parts of the **National Electricity Transmission System** adjacent to those **Connection Sites**.

<u>Localised Negative Reserve Active Power Margin or Localised NRAPM</u>	That margin of Active Power sufficient to allow transfers to and from a System Constraint Group (as the case may be) to be contained within such reasonable limit as NGET may determine.
<u>Location</u>	Any place at which Safety Precautions are to be applied.
<u>Locked</u>	A condition of HV Apparatus that cannot be altered without the operation of a locking device.
<u>Locking</u>	The application of a locking device which enables HV Apparatus to be Locked .
<u>Low Frequency Relay</u>	Has the same meaning as Under Frequency Relay .
<u>Low Voltage or LV</u>	For E&W Transmission Systems a voltage not exceeding 250 volts. For Scottish Transmission Systems , a voltage exceeding 50 volts but not exceeding 1000 volts.
<u>LV Side of the Offshore Platform</u>	Unless otherwise specified in the Bilateral Agreement , the busbar on the Offshore Platform (typically 33kV) at which the relevant Offshore Grid Entry Point is located.
<u>Main Protection</u>	Protection equipment or system expected to have priority in initiating either a fault clearance or an action to terminate an abnormal condition in a power system.
<u>Material Effect</u>	An effect causing NGET or a Relevant Transmission Licensee to effect any works or to alter the manner of operation of Transmission Plant and/or Transmission Apparatus at the Connection Site (which term shall, in this definition and in the definition of " Modification " only, have the meaning ascribed thereto in the CUSC) or the site of connection or a User to effect any works or to alter the manner of operation of its Plant and/or Apparatus at the Connection Site or the site of connection which in either case involves that party in expenditure of more than £10,000.
<u>Maximum Export Capacity</u>	The maximum continuous Apparent Power expressed in MVA and maximum continuous Active Power expressed in MW which can flow from an Offshore Transmission System connected to a Network Operator's User System , to that User System .
<u>Maximum Generation Service, MGS</u>	A service utilised by NGET in accordance with the CUSC and the Balancing Principles Statement in operating the Total System .

Maximum Generation Service Agreement

An agreement between a **User** and **NGET** for the payment by **NGET** to that **User** in respect of the provision by such **User** of a **Maximum Generation Service**.

Maximum Import Capacity

The maximum continuous **Apparent Power** expressed in MVA and maximum continuous **Active Power** expressed in MW which can flow from an **Offshore Transmission System** connected to a **Network Operator's User System**, to that **User System**.

Medium Power Station

A **Power Station** which is

(A) directly connected to **NGET's Transmission System** where such Power Station has a **Registered Capacity** of 50MW or more but less than 100MW;

or,

(B) **Embedded** within a **User System** (or part thereof) where such **User System** (or part thereof) is connected under normal operating conditions to **NGET's Transmission System** and such **Power Station** has a **Registered Capacity** of 50MW or more but less than 100MW;

or,

(C) **Embedded** within a **User System** (or part thereof) where the **User System** (or part thereof) is not connected to the **National Electricity Transmission System**, although such **Power Station** is in **NGET's Transmission Area** and such **Power Station** has a **Registered Capacity** of 50MW or more but less than 100MW.

Medium Voltage or MV

For **E&W Transmission Systems** a voltage exceeding 250 volts but not exceeding 650 volts.

Mills

Milling plant which supplies pulverised fuel to the boiler of a coal fired **Power Station**.

Minimum Generation

The minimum output (in whole MW) which a **Genset** can generate or **DC Converter** at a **DC Converter Station** can import or export to the **Total System** under stable operating conditions, as registered with **NGET** under the **PC** (and amended pursuant to the **PC**). For the avoidance of doubt, the output may go below this level as a result of operation in accordance with BC3.7.

Minimum Import Capacity

The minimum input (in whole MW) into a **DC Converter** at a **DC Converter Station** (in any of its operating configurations) at the **Onshore Grid Entry Point** (or in the case of an **Embedded DC Converter** at the **User System Entry Point**) at which a **DC Converter** can operate in a stable manner, as registered with **NGET** under the **PC** (and amended pursuant to the **PC**).

Modification

Any actual or proposed replacement, renovation, modification, alteration or construction by or on behalf of a **User** or **NGET** to either that **User's Plant** or **Apparatus** or **Transmission Plant** or **Apparatus**, as the case may be, or the manner of its operation which has or may have a **Material Effect** on **NGET** or a **User**, as the case may be, at a particular **Connection Site**.

Mothballed DC Converter at a DC Converter Station

A **DC Converter** at a **DC Converter Station** that has previously imported or exported power which the **DC Converter Station** owner plans not to use to import or export power for the remainder of the current **Financial Year** but which could be returned to service.

Mothballed Generating Unit

A **Generating Unit** that has previously generated which the **Generator** plans not to use to generate for the remainder of the current **NGET Financial Year** but which could be returned to service.

Mothballed Power Park Module

A **Power Park Module** that has previously generated which the **Generator** plans not to use to generate for the remainder of the current **Financial Year** but which could be returned to service.

Multiple Point of Connection

A double (or more) **Point of Connection**, being two (or more) **Points of Connection** interconnected to each other through the **User's System**.

National Demand

The amount of electricity supplied from the **Grid Supply Points** plus:-

- that supplied by **Embedded Large Power Stations**, and
- **National Electricity Transmission System Losses**,

minus:-

- the **Demand** taken by **Station Transformers** and **Pumped Storage Units'**

and, for the purposes of this definition, does not include:-

- any exports from the **National Electricity Transmission System** across **External Interconnections**.

National Electricity Transmission System

The **Onshore Transmission System** and **Offshore Transmission Systems**.

**National Electricity
Transmission System
Demand**

The amount of electricity supplied from the **Grid Supply Points** plus:-

- that supplied by **Embedded Large Power Stations**, and
- exports from the **National Electricity Transmission System** across **External Interconnections**, and
- **National Electricity Transmission System Losses**,

and, for the purposes of this definition, includes:-

- the **Demand** taken by **Station Transformers** and **Pumped Storage Units**.

**National Electricity
Transmission System
Losses**

The losses of electricity incurred on the **National Electricity Transmission System**.

**National Electricity
Transmission System
Operator Area**

Has the meaning set out in Schedule 1 of **NGET's Transmission Licence**.

**National Electricity
Transmission System
Study Network Data File**

A computer file produced by **NGET** which in **NGET's** view provides an appropriate representation of the **National Electricity Transmission System** for a specific point in time. The computer file will contain information and data on **Demand** on the **National Electricity Transmission System** and on **Large Power Stations** including **Genset** power output consistent with **Output Usable** and **NGET's** view of prevailing system conditions.

**National Electricity
Transmission System
Warning**

A warning issued by **NGET** to **Users** (or to certain **Users** only) in accordance with OC7.4.8.2, which provides information relating to **System** conditions or **Events** and is intended to :

- (a) alert **Users** to possible or actual **Plant** shortage, **System** problems and/or **Demand** reductions;
- (b) inform of the applicable period;
- (c) indicate intended consequences for **Users**; and
- (d) enable specified **Users** to be in a state of readiness to receive instructions from **NGET**.

**National Electricity
Transmission System
Warning - Demand
Control Imminent**

A warning issued by **NGET**, in accordance with OC7.4.8.7, which is intended to provide short term notice, where possible, to those **Users** who are likely to receive **Demand** reduction instructions from **NGET** within 30 minutes.

**National Electricity
Transmission System
Warning - High Risk of
Demand Reduction**

A warning issued by **NGET**, in accordance with OC7.4.8.6, which is intended to alert recipients that there is a high risk of **Demand** reduction being implemented and which may normally result from an inadequate **System Margin**.

**National Electricity
Transmission System
Warning - Inadequate
System Margin**

A warning issued by **NGET**, in accordance with OC7.4.8.5, which is intended to alert recipients of an inadequate **System Margin** and which if not improved may result in **Demand** reduction being instructed.

**National Electricity
Transmission System
Warning - Risk of System
Disturbance**

A warning issued by **NGET**, in accordance with OC7.4.8.8, which is intended to alert **Users** of the risk of widespread and serious **System** disturbance which may affect **Users**.

Network Data

The data to be provided by **NGET** to **Users** in accordance with the **PC**, as listed in Part 3 of the Appendix to the **PC**.

Network Operator

A person with a **User System** directly connected to the **National Electricity Transmission System** to which **Customers** and/or **Power Stations** (not forming part of the **User System**) are connected, acting in its capacity as an operator of the **User System**, but shall not include a person acting in the capacity of an **Externally Interconnected System Operator** or a **Generator** in respect of **OTSUA**.

NGET

National Grid Electricity Transmission plc (NO: 2366977) whose registered office is at 1-3 Strand, London, WC2N 5EH.

NGET Control Engineer

The nominated person employed by **NGET** to direct the operation of the **National Electricity Transmission System** or such person as nominated by **NGET**.

**NGET Operational
Strategy**

NGET's operational procedures which form the guidelines for operation of the **National Electricity Transmission System**.

No-Load Field Voltage

Shall have the meaning ascribed to that term in **IEC 34-16-1:1991** [equivalent to **British Standard BS4999** Section 116.1 : 1992].

No System Connection

As defined in OC8A.1.6.2 and OC8B.1.7.2

Non-Embedded Customer

A **Customer** in **Great Britain**, except for a **Network Operator** acting in its capacity as such, receiving electricity direct from the **Onshore Transmission System** irrespective of from whom it is supplied.

<u>Non-Synchronous Generating Unit</u>	An Onshore Non_Synchronous Generating Unit or Offshore Non-Synchronous Generating Unit .
<u>Normal CCGT Module</u>	A CCGT Module other than a Range CCGT Module .
<u>Offshore</u>	Means wholly or partly in Offshore Waters , and when used in conjunction with another term and not defined means that the associated term is to be read accordingly.
<u>Offshore DC Converter</u>	Any User Apparatus located Offshore used to convert alternating current electricity to direct current electricity, or vice versa. An Offshore DC Converter is a standalone operative configuration at a single site comprising one or more converter bridges, together with one or more converter transformers, converter control equipment, essential protective and switching devices and auxiliaries, if any, used for conversion.
<u>Offshore Development Information Statement</u>	A statement prepared by NGET in accordance with Special Condition C4 of NGET's Transmission Licence .
<u>Offshore Generating Unit</u>	Unless otherwise provided in the Grid Code , any Apparatus located Offshore which produces electricity, including, an Offshore Synchronous Generating Unit and Offshore Non-Synchronous Generating Unit .
<u>Offshore Grid Entry Point</u>	In the case of:- an Offshore Generating Unit or an Offshore DC Converter , as the case may be, which is directly connected to an Offshore Transmission System , the point at which it connects to that Offshore Transmission System , or; an Offshore Power Park Module which is directly connected to an Offshore Transmission System , the point where one Power Park String (registered by itself as a Power Park Module) or the collection of points where a number of Offshore Power Park Strings (registered as a single Power Park Module) connects to that Offshore Transmission System , or; an External Interconnection which is directly connected to an Offshore Transmission System , the point at which it connects to that Offshore Transmission System .
<u>Offshore Non-Synchronous Generating Unit</u>	An Offshore Generating Unit that is not an Offshore Synchronous Generating Unit including for the avoidance of doubt a Power Park Unit located Offshore .

<u>Offshore Platform</u>	A single structure comprising of Plant and Apparatus located Offshore which includes one or more Offshore Grid Entry Points .
<u>Offshore Power Park Module</u>	A collection of one or more Offshore Power Park Strings (registered as a Power Park Module under the PC). There is no limit to the number of Power Park Strings within the Power Park Module , so long as they either: <ul style="list-style-type: none"> a) connect to the same busbar which cannot be electrically split; or b) connect to a collection of directly electrically connected busbars of the same nominal voltage and are configured in accordance with the operating arrangements set out in the relevant Bilateral Agreement.
<u>Offshore Power Park String</u>	A collection of Offshore Generating Units that are powered by an Intermittent Power Source , joined together by cables forming part of a User System with a single point of connection to an Offshore Transmission System . The connection to an Offshore Transmission System may include a DC Converter .
<u>Offshore Synchronous Generating Unit</u>	An Offshore Generating Unit in which, under all steady state conditions, the rotor rotates at a mechanical speed equal to the electrical frequency of the National Electricity Transmission System divided by the number of pole pairs of the Generating Unit .
<u>Offshore Tender Process</u>	The process followed by the Authority to make, in prescribed cases, a determination on a competitive basis of the person to whom an offshore transmission licence is to be granted.
<u>Offshore Transmission Distribution Connection Agreement</u>	An agreement entered into by NGET and a Network Operator in respect of the connection to and use of a Network Operator's User System by an Offshore Transmission System .
<u>Offshore Transmission Licensee</u>	Such person in relation to whose Transmission Licence the standard conditions in Section E (offshore transmission owner standard conditions) of such Transmission Licence have been given effect, or any person in that prospective role who has acceded to the STC .

Offshore Transmission System

A system consisting (wholly or mainly) of high voltage electric lines owned or operated by an **Offshore Transmission Licensee** and used for the transmission of electricity from one **Power Station** to a sub-station or to another **Power Station** or between sub-stations, and includes any **Plant** and **Apparatus** and meters owned or operated by any **Offshore Transmission Licensee** in connection with the transmission of electricity but does not include any **Remote Transmission Assets**. An **Offshore Transmission System** extends from the **Interface Point** to the **Offshore Grid Entry Point(s)** and may include **Plant** and **Apparatus** located **Onshore** and **Offshore** and, where the context permits, references to the **Offshore Transmission System** includes **OTSUA**.

Offshore Waters

Has the meaning given to “offshore waters” in Section 90(9) of the Energy Act 2004.

Offshore Works Assumptions

In relation to a particular User means those assumptions set out in Appendix P of the relevant **Construction Agreement** as amended from time to time.

Onshore

Means within **Great Britain**, and when used in conjunction with another term and not defined means that the associated term is to be read accordingly.

Onshore DC Converter

Any **User Apparatus** located **Onshore** with a **Completion Date** after 1st April 2005 used to convert alternating current electricity to direct current electricity, or vice versa. An **Onshore DC Converter** is a standalone operative configuration at a single site comprising one or more converter bridges, together with one or more converter transformers, converter control equipment, essential protective and switching devices and auxiliaries, if any, used for conversion. In a bipolar arrangement, an **Onshore DC Converter** represents the bipolar configuration.

Onshore Generating Unit

Unless otherwise provided in the **Grid Code**, any **Apparatus** located **Onshore** which produces electricity, including, an **Onshore Synchronous Generating Unit** and **Onshore Non-Synchronous Generating Unit**.

Onshore Grid Entry Point

A point at which a **Onshore Generating Unit** or a **CCGT Module** or a **CCGT Unit** or a **Onshore DC Converter** or a **Onshore Power Park Module** or an **External Interconnection**, as the case may be, which is directly connected to the **Onshore Transmission System** connects to the **Onshore Transmission System**.

Onshore Non-Synchronous Generating Unit

A **Generating Unit** located **Onshore** that is not a **Synchronous Generating Unit** including for the avoidance of doubt a **Power Park Unit** located **Onshore**.

Onshore Power Park Module

A collection of **Onshore Generating Units** (registered as a **Power Park Module** under the **PC**) that are powered by an **Intermittent Power Source**, joined together by a **System** with a single electrical point of connection to the **Onshore Transmission System** (or **User System** if **Embedded**). The connection to the **Onshore Transmission System** (or **User System** if **Embedded**) may include a **DC Converter**.

Onshore Synchronous Generating Unit

An **Onshore Generating Unit** including, for the avoidance of doubt, a **CCGT Unit** in which, under all steady state conditions, the rotor rotates at a mechanical speed equal to the electrical frequency of the **National Electricity Transmission System** divided by the number of pole pairs of the **Generating Unit**.

Onshore Transmission Licensee

NGET, SPT, or SHETL.

Onshore Transmission System

The system consisting (wholly or mainly) of high voltage electric lines owned or operated by **Onshore Transmission Licensees** and used for the transmission of electricity from one **Power Station** to a substation or to another **Power Station** or between substations or to or from **Offshore Transmission Systems** or to or from any **External Interconnection**, and includes any **Plant** and **Apparatus** and meters owned or operated by any **Onshore Transmission Licensee** in connection with the transmission of electricity but does not include any **Remote Transmission Assets**.

On-Site Generator Site

A site which is determined by the **BSC Panel** to be a Trading Unit under the **BSC** by reason of having fulfilled the Class 1 or Class 2 requirements as such terms are used in the **BSC**.

Operating Code or OC

That portion of the **Grid Code** which is identified as the **Operating Code**.

Operating Margin

Contingency Reserve plus **Operating Reserve**.

Operating Reserve

The additional output from **Large Power Stations** or the reduction in **Demand**, which must be realisable in real-time operation to respond in order to contribute to containing and correcting any **System Frequency** fall to an acceptable level in the event of a loss of generation or a loss of import from an **External Interconnection** or mismatch between generation and **Demand**.

Operation

A scheduled or planned action relating to the operation of a **System** (including an **Embedded Power Station**).

Operational Data

Data required under the **Operating Codes** and/or **Balancing Codes**.

Operational Day

The period from 0500 hours on one day to 0500 on the following day.

Operation Diagrams

Diagrams which are a schematic representation of the **HV Apparatus** and the connections to all external circuits at a **Connection Site** (and in the case of **OTSDUW, Transmission Interface Site**), incorporating its numbering, nomenclature and labelling.

Operational Effect

Any effect on the operation of the relevant other **System** which causes the **National Electricity Transmission System** or the **System** of the other **User** or **Users**, as the case may be, to operate (or be at a materially increased risk of operating) differently to the way in which they would or may have operated in the absence of that effect.

Operational Intertripping

The automatic tripping of circuit-breakers to prevent abnormal system conditions occurring, such as over voltage, overload, **System** instability, etc. after the tripping of other circuit-breakers following power **System** fault(s) which includes **System** to **Generating Unit, System to CCGT Module, System to Power Park Module, System to DC Converter** and **System to Demand** intertripping schemes.

Operational Planning

Planning through various timescales the matching of generation output with forecast **National Electricity Transmission System Demand** together with a reserve of generation to provide a margin, taking into account outages of certain **Generating Units**, of parts of the **National Electricity Transmission System** and of parts of **User Systems** to which **Power Stations** and/or **Customers** are connected, carried out to achieve, so far as possible, the standards of security set out in **NGET's Transmission Licence, each Relevant Transmission Licensee's Transmission Licence or Electricity Distribution Licence**, as the case may be.

Operational Planning Margin

An operational planning margin set by **NGET**.

Operational Planning Phase

The period from 8 weeks to the end of the 5th 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 **Apparatus**, issued in connection with the actual operation of **Plant** and/or **Apparatus** at or from a **Connection Site**.

<u>Operational Switching</u>	Operation of Plant and/or Apparatus to the instruction of the relevant Control Engineer . For the avoidance of doubt, the operation of Transmission Plant and/or Apparatus forming part of the National Electricity Transmission System in England and Wales, will be to the instruction of NGET and in Scotland and Offshore will be to the instruction of the Relevant Transmission Licensee .
<u>Other Relevant Data</u>	The data listed in BC1.4.2(f) under the heading Other Relevant Data .
<u>Offshore Transmission System Development User Works</u> or <u>OTSDUW</u>	In relation to a particular User where the OTSDUW Arrangements apply, means those activities and/or works for the design, planning, consenting and/or construction and installation of the Offshore Transmission System to be undertaken by the User as identified in Part 2 of Appendix I of the relevant Construction Agreement .
<u>OTSDUW Arrangements</u>	The arrangements whereby certain aspects of the design, consenting, construction and/or installation of transmission assets are capable of being undertaken by a User prior to the transfer of those assets to a Relevant Transmission Licensee under an Offshore Tender Process .
<u>OTSDUW Data and Information</u>	The data and information to be provided by Users undertaking OTSDUW , to NGET in accordance with Appendix F of the Planning Code .
<u>OTSDUW DC Converter</u>	A Transmission DC Converter designed and/or constructed and/or installed by a User under the OTSDUW Arrangements .
<u>OTSDUW Development and Data Timetable</u>	The timetable for both the delivery of OTSDUW Data and Information and OTSDUW Network Data and Information as referred to in Appendix F of the Planning Code and the development of the scope of the OTSDUW .
<u>OTSDUW Network Data and Information</u>	The data and information to be provided by NGET to Users undertaking OTSDUW in accordance with Appendix F of the Planning Code .
<u>OTSDUW Plant and Apparatus</u>	Plant and Apparatus , including any OTSDUW DC Converter , designed by the User under the OTSDUW Arrangements .
<u>Offshore Transmission System User Assets</u> or <u>OTSUA</u>	OTSDUW Plant and Apparatus constructed and/or installed by a User under the OTSDUW Arrangements that once transferred to a Relevant Transmission Licensee under an Offshore Tender Process will form the Offshore Transmission System .

<u>OTSUA Transfer Time</u>	The time and date at which the OTSUA are transferred to a Relevant Transmission Licensee .
<u>Out of Synchronism</u>	The condition where a System or Generating Unit cannot meet the requirements to enable it to be Synchronised .
<u>Output Usable or OU</u>	<p>The (daily or weekly) forecast value (in MW), at the time of the (daily or weekly) peak demand, of the maximum level at which the Genset can export to the Grid Entry Point, or in the case of Embedded Power Stations, to the User System Entry Point.</p> <p>For the purpose of OC2 only, the term Output Usable shall include the terms Interconnector Export Capacity and Interconnector Import Capacity where the term Output Usable is being applied to an External Interconnection.</p>
<u>Over-excitation Limiter</u>	Shall have the meaning ascribed to that term in IEC 34-16-1:1991 [equivalent to British Standard BS4999 Section 116.1 : 1992].
<u>Part 1 System Ancillary Services</u>	Ancillary Services which are required for System reasons and which must be provided by Users in accordance with the Connection Conditions . An exhaustive list of Part 1 System Ancillary Services is included in that part of CC.8.1 headed Part 1.
<u>Part 2 System Ancillary Services</u>	Ancillary Services which are required for System reasons and which must be provided by a User if the User has agreed to provide them under a Bilateral Agreement . A non-exhaustive list of Part 2 System Ancillary Services is included in that part of CC.8.1 headed Part 2.
<u>Part Load</u>	The condition of a Genset , or Cascade Hydro Scheme which is Loaded but is not running at its Maximum Export Limit.
<u>Permit for Work for proximity work</u>	<p>In respect of E&W Transmission Systems, a document issued by the Relevant E&W Transmission Licensee or an E&W User in accordance with its respective Safety Rules to enable work to be carried out in accordance with OC8A.8 and which provides for Safety Precautions to be applied and maintained. An example format of a Relevant E&W Transmission Licensee's permit for work is attached as Appendix E to OC8A.</p> <p>In respect of Scottish Transmission Systems, a document issued by a Relevant Scottish Transmission Licensee or a Scottish User in accordance with its respective Safety Rules to enable work to be carried out in accordance with OC8B.8 and which provides for Safety Precautions to be applied and maintained. Example formats of Relevant Scottish Transmission Licensees' permits for work are attached as Appendix E to OC8B.</p>

<u>Partial Shutdown</u>	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 from External Interconnections 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 that part of the Total System to begin to function again without NGET's directions relating to a Black Start .
<u>Phase (Voltage) Unbalance</u>	The ratio (in percent) between the rms values of the negative sequence component and the positive sequence component of the voltage.
<u>Physical Notification</u>	Data that describes the BM Participant's best estimate of the expected input or output of Active Power of a BM Unit and/or (where relevant) Generating Unit .
<u>Planning Code or PC</u>	That portion of the Grid Code which is identified as the Planning Code .
<u>Planned Maintenance Outage</u>	An outage of NGET electronic data communication facilities as provided for in CC.6.5.8 and NGET's associated computer facilities of which normally at least 5 days notice is given, but in any event of which at least twelve hours notice has been given by NGET to the User and which is anticipated to last no longer than 2 hours. The length of such an outage may in exceptional circumstances be extended where at least 24 hours notice has been given by NGET to the User . It is anticipated that normally any planned outage would only last around one hour.
<u>Planned Outage</u>	An outage of a Large Power Station or of part of the National Electricity Transmission System , or of part of a User System , co-ordinated by NGET under OC2 .
<u>Plant</u>	Fixed and movable items used in the generation and/or supply and/or transmission of electricity, other than Apparatus .
<u>Point of Common Coupling</u>	That point on the National Electricity Transmission System electrically nearest to the User installation at which either Demands or Loads are, or may be, connected.
<u>Point of Connection</u>	An electrical point of connection between the National Electricity Transmission System and a User's System .
<u>Point of Isolation</u>	The point on Apparatus (as defined in OC8A.1.6.2 and OC8B.1.7.2) at which Isolation is achieved.
<u>Post-Control Phase</u>	The period following real time operation.

<u>Power Factor</u>	The ratio of Active Power to Apparent Power .
<u>Power Island</u>	Gensets at an isolated Power Station , together with complementary local Demand . In Scotland a Power Island may include more than one Power Station .
<u>Power Park Module</u>	Any Onshore Power Park Module or Offshore Power Park Module ..
<u>Power Park Module Availability Matrix</u>	The matrix described in Appendix 1 to BC1 under the heading Power Park Module Availability Matrix .
<u>Power Park Module Planning Matrix</u>	A matrix in the form set out in Appendix 4 of OC2 showing the combination of Power Park Units within a Power Park Module which would be expected to be running under normal conditions.
<u>Power Park Unit</u>	A Generating Unit within a Power Park Module .
<u>Power Station</u>	An installation comprising one or more Generating Units or Power Park Modules (even where sited separately) owned and/or controlled by the same Generator , which may reasonably be considered as being managed as one Power Station .
<u>Power System Stabiliser or PSS</u>	Equipment controlling the Exciter output via the voltage regulator in such a way that power oscillations of the synchronous machines are dampened. Input variables may be speed, frequency or power (or a combination of these).
<u>Preface</u>	The preface to the Grid Code (which does not form part of the Grid Code and therefore is not binding).
<u>Preliminary Notice</u>	A notice in writing, sent by NGET both to all Users identified by it under OC12.4.2.1 and to the Test Proposer , notifying them of a proposed System Test .
<u>Preliminary Project Planning Data</u>	Data relating to a proposed User Development at the time the User applies for a CUSC Contract but before an offer is made and accepted.

Primary Response

The automatic increase in **Active Power** output of a **Genset** or, as the case may be, the decrease in **Active Power Demand** in response to a **System Frequency** fall. This increase in **Active Power** output or, as the case may be, the decrease in **Active Power Demand** must be in accordance with the provisions of the relevant **Ancillary Services Agreement** which will provide that it will be released increasingly with time over the period 0 to 10 seconds from the time of the start of the **Frequency** fall on the basis set out in the **Ancillary Services Agreement** and fully available by the latter, and sustainable for at least a further 20 seconds. The interpretation of the **Primary Response** to a – 0.5 Hz frequency change is shown diagrammatically in Figure CC.A.3.2.

Programming Phase

The period between **Operational Planning Phase** and the **Control Phase**. It starts at the 8 weeks ahead stage and finishes at 17:00 on the day ahead of real time.

Proposal Notice

A notice submitted to **NGET** by a **User** which would like to undertake a **System Test**.

Proposal Report

A report submitted by the **Test Panel** which contains:

- a) proposals for carrying out a **System Test** (including the manner in which the **System Test** is to be monitored);
- b) an allocation of costs (including un-anticipated costs) between the affected parties (the general principle being that the **Test Proposer** will bear the costs); and
- c) such other matters as the **Test Panel** considers appropriate.

The report may include requirements for indemnities to be given in respect of claims and losses arising from a **System Test**.

Protection

The provisions for detecting abnormal conditions on a **System** and initiating fault clearance or actuating signals or indications.

Protection Apparatus

A group of one or more **Protection** relays and/or logic elements designated to perform a specified **Protection** function.

Pumped Storage Generator

A **Generator** which owns and/or operates any **Pumped Storage Plant**.

Pumped Storage Plant

The Dinorwig, Ffestiniog, Cruachan and Foyers **Power Stations**.

Pumped Storage Unit

A **Generating Unit** within a **Pumped Storage Plant**.

Quiescent Physical Notification or QPN

Data that describes the MW levels to be deducted from the **Physical Notification** of a **BM Unit** to determine a resultant operating level to which the **Dynamic Parameters** associated with that **BM Unit** apply, and the associated times for such MW levels. The MW level of the **QPN** must always be set to zero.

Range CCGT Module

A **CCGT Module** where there is a physical connection by way of a steam or hot gas main between that **CCGT Module** and another **CCGT Module** or other **CCGT Modules**, which connection contributes (if open) to efficient modular operation, and which physical connection can be varied by the operator.

Rated Field Voltage

Shall have the meaning ascribed to that term in **IEC 34-16-1:1991** [equivalent to **British Standard BS4999 Section 116.1 : 1992**].

Rated MW

The “rating-plate” MW output of a **Generating Unit, Power Park Module** or **DC Converter**, being:

- (a) that output up to which the **Generating Unit** was designed to operate (Calculated as specified in **British Standard BS EN 60034 – 1: 1995**); or
- (b) the nominal rating for the MW output of a **Power Park Module** being the maximum continuous electric output power which the **Power Park Module** was designed to achieve under normal operating conditions; or
- (c) the nominal rating for the MW import capacity and export capacity (if at a **DC Converter Station**) of a **DC Converter**.

Reactive Despatch Instruction

Has the meaning set out in the **CUSC**.

Reactive Despatch to Zero MVar Network Restriction

A **Reactive Despatch Network Restriction** which prevents an **Embedded Generating Unit, Embedded Power Park Module** or **DC Converter** at an **Embedded DC Converter Station** from supplying power at zero MVar at all **Active Power** output levels up to and including **Rated MW** at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**)

Reactive Despatch Network Restriction

A restriction placed upon an **Embedded Generating Unit, Embedded Power Park Module** or **DC Converter** at an **Embedded DC Converter Station** by the **Network Operator** that prevents such **Embedded Generating Unit, Embedded Power Park Module** or **DC Converter** at an **Embedded DC Converter Station** from supplying power within the power factor range specified in CC.6.3.2 at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**)

Reactive Energy

The integral with respect to time of the **Reactive Power**.

Reactive Power

The product of voltage and current and the sine of the phase angle between them measured in units of voltamperes reactive and standard multiples thereof, ie:

$$1000 \text{ VAr} = 1 \text{ kVAr}$$

$$1000 \text{ kVAr} = 1 \text{ Mvar}$$

Record of Inter-System Safety Precautions or RISSP

A written record of inter-system **Safety Precautions** to be compiled in accordance with the provisions of **OC8**.

Registered Capacity

- (a) In the case of a **Generating Unit** other than that forming part of a **CCGT Module** or **Power Park Module**, the normal full load capacity of a **Generating Unit** as declared by the **Generator**, less the MW consumed by the **Generating Unit** through the **Generating Unit's Unit Transformer** when producing the same (the resultant figure being expressed in whole MW, or in MW to one decimal place).
- (b) In the case of a **CCGT Module** or **Power Park Module**, the normal full load capacity of the **CCGT Module** or **Power Park Module** (as the case may be) as declared by the **Generator**, being the **Active Power** declared by the **Generator** as being deliverable by the **CCGT Module** or **Power Park Module** at the **Grid Entry Point** (or in the case of an **Embedded CCGT Module** or **Power Park Module**, at the **User System Entry Point**), expressed in whole MW, or in MW to one decimal place.
- (c) In the case of a **Power Station**, the maximum amount of **Active Power** deliverable by the **Power Station** at the **Grid Entry Point** (or in the case of an **Embedded Power Station** at the **User System Entry Point**), as declared by the **Generator**, expressed in whole MW, or in MW to one decimal place. The maximum **Active Power** deliverable is the maximum amount deliverable simultaneously by the **Generating Units** and/or **CCGT Modules** and/or **Power Park Modules** less the MW consumed by the **Generating Units** and/or **CCGT Modules** in producing that **Active Power**.
- (d) In the case of a **DC Converter** at a **DC Converter Station**, the normal full load amount of **Active Power** transferable from a **DC Converter** at the **Onshore Grid Entry Point** (or in the case of an **Embedded DC Converter Station** at the **User System Entry Point**), as declared by the **DC Converter Station** owner, expressed in whole MW, or in MW to one decimal place.
- (e) In the case of a **DC Converter Station**, the maximum amount of **Active Power** transferable from a **DC Converter Station** at the **Onshore Grid Entry Point** (or in the case of an **Embedded DC Converter Station** at the **User System Entry Point**), as declared by the **DC Converter Station** owner, expressed in whole MW, or in MW to one decimal place.

Registered Data

Those items of **Standard Planning Data** and **Detailed Planning Data** which upon connection become fixed (subject to any subsequent changes).

Registered Import Capability

In the case of a **DC Converter Station** containing **DC Converters** connected to an **External System**, the maximum amount of **Active Power** transferable into a **DC Converter Station** at the **Onshore Grid Entry Point** (or in the case of an **Embedded DC Converter Station** at the **User System Entry Point**), as declared by the **DC Converter Station** owner, expressed in whole MW.

In the case of a **DC Converter** connected to an **External System** and in a **DC Converter Station**, the normal full load amount of **Active Power** transferable into a **DC Converter** at the **Onshore Grid Entry Point** (or in the case of an **Embedded DC Converter Station** at the **User System Entry Point**), as declared by the **DC Converter** owner, expressed in whole MW.

Regulations

The Utilities Contracts Regulations 1996, as amended from time to time.

Reheater Time Constant

Determined at **Registered Capacity**, the reheater time constant will be construed in accordance with the principles of the IEEE Committee Report "Dynamic Models for Steam and Hydro Turbines in Power System Studies" published in 1973 which apply to such phrase.

Relevant E&W Transmission Licensee

As the context requires **NGET** and/or an **E&W Offshore Transmission Licensee**

Relevant Scottish Transmission Licensee

As the context requires **SPT** and/or **SHETL** and/or a **Scottish Offshore Transmission Licensee**

Relevant Transmission Licensee

Means **SP Transmission Ltd (SPT)** in its **Transmission Area** or **Scottish Hydro-Electric Transmission Ltd (SHETL)** in its **Transmission Area** or any **Offshore Transmission Licensee** in its **Transmission Area**.

Relevant Unit

As defined in the **STC**, Schedule 3

Remote Transmission Assets

Any **Plant** and **Apparatus** or meters owned by **NGET** which:

- a) are **Embedded** in a **User System** and which are not directly connected by **Plant** and/or **Apparatus** owned by **NGET** to a sub-station owned by **NGET**; and
- b) are by agreement between **NGET** and such **User** operated under the direction and control of such **User**.

<u>Requesting Safety Co-ordinator</u>	The Safety Co-ordinator requesting Safety Precautions .
<u>Responsible Engineer/Operator</u>	A person nominated by a User to be responsible for System control.
<u>Responsible Manager</u>	A manager who has been duly authorised by a User or NGET to sign Site Responsibility Schedules on behalf of that User or NGET , as the case may be. For Connection Sites in Scotland and Offshore a manager who has been duly authorised by the Relevant Transmission Licensee to sign Site Responsibility Schedules on behalf of that Relevant Transmission Licensee .
<u>Re-synchronisation</u>	The bringing of parts of the System which have become Out of Synchronism with any other System back into Synchronism , and like terms shall be construed accordingly.
<u>Safety Co-ordinator</u>	A person or persons nominated by a Relevant E&W Transmission Licensee and each E&W User in relation to Connection Points on an E&W Transmission System and/or by the Relevant Scottish Transmission Licensee and each Scottish User in relation to Connection Points on a Scottish Transmission System to be responsible for the co-ordination of Safety Precautions at each Connection Point when work (which includes testing) is to be carried out on a System which necessitates the provision of Safety Precautions on HV Apparatus (as defined in OC8A.1.6.2 and OC8B.1.7.2), pursuant to OC8 .
<u>Safety From The System</u>	That condition which safeguards persons when work is to be carried out on or near a System from the dangers which are inherent in the System .
<u>Safety Key</u>	A key unique at the Location capable of operating a lock which will cause an Isolating Device and/or Earthing Device to be Locked .
<u>Safety Log</u>	A chronological record of messages relating to safety co-ordination sent and received by each Safety Co-ordinator under OC8 .
<u>Safety Precautions</u>	Isolation and/or Earthing .
<u>Safety Rules</u>	The rules of NGET (in England and Wales) and the Relevant Transmission Licensee (in Scotland or Offshore) or a User that seek to ensure that persons working on Plant and/or Apparatus to which the rules apply are safeguarded from hazards arising from the System .

<u>Scottish Offshore Transmission System</u>	An Offshore Transmission System with an Interface Point in Scotland.
<u>Scottish Offshore Transmission Licensee</u>	A person who owns or operates a Scottish Offshore Transmission System pursuant to a Transmission Licence .
<u>Scottish Transmission System</u>	Collectively SPT's Transmission System and SHETL's Transmission System and any Scottish Offshore Transmission Systems
<u>Scottish User</u>	A User in Scotland or any Offshore User who owns or operates Plant and/or Apparatus connected to a Scottish Offshore Transmission System
<u>Secondary Response</u>	The automatic increase in Active Power output of a Genset or, as the case may be, the decrease in Active Power Demand in response to a System Frequency fall. This increase in Active Power output or, as the case may be, the decrease in Active Power Demand must be in accordance with the provisions of the relevant Ancillary Services Agreement which will provide that it will be fully available by 30 seconds from the time of the start of the Frequency fall and be sustainable for at least a further 30 minutes. The interpretation of the Secondary Response to a -0.5 Hz frequency change is shown diagrammatically in Figure CC.A.3.2.
<u>Secretary of State</u>	Has the same meaning as in the Act .
<u>Secured Event</u>	Has the meaning set out in the Security and Quality of Supply Standard .
<u>Security and Quality of Supply Standard</u>	The version of the document entitled 'Security and Quality of Supply Standard' established pursuant to the Transmission Licence in force at the time of entering into the relevant Bilateral Agreement .
<u>Setpoint Voltage</u>	The value of voltage at the Grid Entry Point , or User System Entry Point if Embedded , on the automatic control system steady state operating characteristic, as a percentage of the nominal voltage, at which the transfer of Reactive Power between a Power Park Module , DC Converter or Non-Synchronous Generating Unit and the Transmission System , or Network Operator's system if Embedded , is zero.
<u>Settlement Period</u>	A period of 30 minutes ending on the hour and half-hour in each hour during a day.

<u>Seven Year Statement</u>	A statement, prepared by NGET in accordance with the terms of NGET's Transmission Licence , showing for each of the seven succeeding Financial Years , the opportunities available for connecting to and using the National Electricity Transmission System and indicating those parts of the National Electricity Transmission System most suited to new connections and transport of further quantities of electricity.
<u>SF₆ Gas Zone</u>	A segregated zone surrounding electrical conductors within a casing containing SF ₆ gas.
<u>SHETL</u>	Scottish Hydro-Electric Transmission Limited
<u>Shutdown</u>	The condition of a Generating Unit where the generator rotor is at rest or on barring.
<u>Significant Incident</u>	An Event which either: <ul style="list-style-type: none"> a) was notified by a User to NGET under OC7, and which NGET considers has had or may have had a significant effect on the National Electricity Transmission System, and NGET requires the User to report that Event in writing in accordance with OC10 and notifies the User accordingly; or b) was notified by NGET to a User under OC7, and which that User considers has had or may have had a significant effect on that User's System, and that User requires NGET to report that Event in writing in accordance with the provisions of OC10 and notifies NGET accordingly.
<u>Simultaneous Tap Change</u>	A tap change implemented on the generator step-up transformers of Synchronised Gensets , effected by Generators in response to an instruction from NGET issued simultaneously to the relevant Power Stations . The instruction, preceded by advance notice, must be effected as soon as possible, and in any event within one minute of receipt from NGET of the instruction.
<u>Single Line Diagram</u>	A schematic representation of a three-phase network in which the three phases are represented by single lines. The diagram shall include (but not necessarily be limited to) busbars, overhead lines, underground cables, power transformers and reactive compensation equipment. It shall also show where Large Power Stations are connected, and the points at which Demand is supplied.
<u>Single Point of Connection</u>	A single Point of Connection , with no interconnection through the User's System to another Point of Connection .

Site Common Drawings

Drawings prepared for each **Connection Site** (and in the case of **OTSDUW, Transmission Interface Site**) which incorporate **Connection Site** (and in the case of **OTSDUW, Transmission Interface Site**) layout drawings, electrical layout drawings, common protection/ control drawings and common services drawings.

Site Responsibility Schedule

A schedule containing the information and prepared on the basis of the provisions set out in Appendix 1 of the **CC**.

Slope

The ratio of the steady state change in voltage, as a percentage of the nominal voltage, to the steady state change in **Reactive Power** output, in per unit of **Reactive Power** capability. For the avoidance of doubt, the value indicates the percentage voltage reduction that will result in a 1 per unit increase in **Reactive Power** generation.

Small Power Station

A **Power Station** which is

(A) directly connected to:

- (a) **NGET's Transmission System** where such **Power Station** has a **Registered Capacity** of less than 50MW; or
- (b) **SPT's Transmission System** where such **Power Station** has a **Registered Capacity** of less than 30MW; or
- (c) **SHETL's Transmission System** where such a **Power Station** has a **Registered Capacity** of less than 10 MW; or
- (d) an **Offshore Transmission System** where such **Power Station** has a **Registered Capacity** of less than 10MW;

or,

(B) **Embedded** within a **User System** (or part thereof) where such **User System** (or part thereof) is connected under normal operating conditions to:

- (a) **NGET's Transmission System** and such **Power Station** has a **Registered Capacity** of less than 50MW; or
- (b) **SPT's Transmission System** and such **Power Station** has a **Registered Capacity** of less than 30MW; or
- (c) **SHETL's Transmission System** and such **Power Station** has a **Registered Capacity** of less than 10MW;

or,

(C) **Embedded** within a **User System** (or part thereof) where the **User System** (or part thereof) is not connected to the **National Electricity Transmission System**, although such Power Station is in:

- (a) **NGET's Transmission Area** and such **Power Station** has a **Registered Capacity** of less than 50MW; or
- (b) **SPT's Transmission Area** and such **Power Station** has a **Registered Capacity** of less than 30MW; or
- (c) **SHETL's Transmission Area** and such **Power Station** has a **Registered Capacity** of less than 10MW;

Speeder Motor Setting Range

The minimum and maximum no-load speeds (expressed as a percentage of rated speed) to which the turbine is capable of being controlled, by the speeder motor or equivalent, when the **Generating Unit** terminals are on open circuit.

SPT

SP Transmission Limited

Standard Planning Data

The general data required by **NGET** under the **PC**. It is generally also the data which **NGET** requires from a new **User** in an application for a **CUSC Contract**, as reflected in the **PC**.

<u>Start Time</u>	The time named as such in an instruction issued by NGET pursuant to the BCs .
<u>Start-Up</u>	The action of bringing a Generating Unit from Shutdown to Synchronous Speed .
<u>Statement of Readiness</u>	Has the meaning set out in the Bilateral Agreement and/or Construction Agreement .
<u>Station Board</u>	A switchboard through which electrical power is supplied to the Auxiliaries of a Power Station , and which is supplied by a Station Transformer . It may be interconnected with a Unit Board .
<u>Station Transformer</u>	A transformer supplying electrical power to the Auxiliaries of <ul style="list-style-type: none"> • a Power Station, which is not directly connected to the Generating Unit terminals (typical voltage ratios being 132/11kV or 275/11kV), or • a DC Converter Station.
<u>STC Committee</u>	The committee established under the STC .
<u>Steam Unit</u>	A Generating Unit whose prime mover converts the heat-energy in steam to mechanical energy.
<u>Subtransmission System</u>	The part of a User's System which operates at a single transformation below the voltage of the relevant Transmission System .
<u>Supergrid Voltage</u>	Any voltage greater than 200kV.
<u>Supplier</u>	<p>(a) A person supplying electricity under an Electricity Supply Licence; or</p> <p>(b) A person supplying electricity under exemption under the Act;</p> <p>in each case acting in its capacity as a supplier of electricity to Customers in Great Britain.</p>

Surplus

A MW figure relating to a **System Zone** equal to the total **Output Usable** in the **System Zone**:

- a) minus the forecast of **Active Power Demand** in the **System Zone**, and
- b) minus the export limit in the case of an export limited **System Zone**,
or
plus the import limit in the case of an import limited **System Zone**,
and
- c) (only in the case of a **System Zone** comprising the **National Electricity Transmission System**) minus the **Operational Planning Margin**.

For the avoidance of doubt, a **Surplus** of more than zero in an export limited **System Zone** indicates an excess of generation in that **System Zone**; and a **Surplus** of less than zero in an import limited **System Zone** indicates insufficient generation in that **System Zone**.

Synchronised

- a) The condition where an incoming **Generating Unit or Power Park Module or DC Converter or System** is connected to the busbars of another **System** so that the **Frequencies** and phase relationships of that **Generating Unit, Power Park Module, DC Converter or System**, as the case may be, and the **System** to which it is connected are identical, like terms shall be construed accordingly e.g. "**Synchronism**".
- b) The condition where an importing **BM Unit** is consuming electricity.

Synchronising Generation

The amount of MW (in whole MW) produced at the moment of synchronising.

Synchronising Group

A group of two or more **Gensets**) which require a minimum time interval between their **Synchronising** or **De-Synchronising** times.

Synchronous Compensation

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

Synchronous Generating Unit

Any **Onshore Synchronous Generating Unit** or **Offshore Synchronous Generating Unit**.

Synchronous Speed

That speed required by a **Generating Unit** to enable it to be **Synchronised** to a **System**.

<u>System</u>	Any User System and/or the National Electricity Transmission System , as the case may be.
<u>System Ancillary Services</u>	Collectively Part 1 System Ancillary Services and Part 2 System Ancillary Services .
<u>System Constraint</u>	A limitation on the use of a System due to lack of transmission capacity or other System conditions.
<u>System Constrained Capacity</u>	That portion of Registered Capacity or Registered Import Capacity not available due to a System Constraint .
<u>System Constraint Group</u>	A part of the National Electricity Transmission System which, because of System Constraints , is subject to limits of Active Power which can flow into or out of (as the case may be) that part.
<u>System Fault Dependability Index or Dp</u>	A measure of the ability of Protection to initiate successful tripping of circuit-breakers which are associated with a faulty item of Apparatus . It is calculated using the formula: $Dp = 1 - F_1/A$ <p>Where: A = Total number of System faults F₁ = Number of System faults where there was a failure to trip a circuit-breaker.</p>
<u>System Margin</u>	The margin in any period between (a) the sum of Maximum Export Limits and (b) forecast Demand and the Operating Margin , for that period.
<u>System Negative Reserve Active Power Margin or System NRAPM</u>	That margin of Active Power sufficient to allow the largest loss of Load at any time.
<u>System Operator - Transmission Owner Code or STC</u>	Has the meaning set out in NGET's Transmission Licence

System Telephony

An alternative method by which a **User's Responsible Engineer/Operator** and **NGET Control Engineer(s)** speak to one and another for the purposes of control of the **Total System** in both normal operating conditions and where practicable, emergency operating conditions.

System Tests

Tests which involve simulating conditions, or the controlled application of irregular, unusual or extreme conditions, on the **Total System**, or any part of the **Total System**, but which do not include commissioning or recommissioning tests or any other tests of a minor nature.

System to Demand Intertrip Scheme

An intertrip scheme which disconnects **Demand** when a **System** fault has arisen to prevent abnormal conditions occurring on the **System**.

System to Generator Operational Intertripping

A **Balancing Service** involving the initiation by a **System to Generator Operational Intertripping Scheme** of automatic tripping of the **User's** circuit breaker(s), or **Relevant Transmission Licensee's** circuit breaker(s) where agreed by **NGET**, the **User** and the **Relevant Transmission Licensee**, resulting in the tripping of **BM Unit(s)** or (where relevant) **Generating Unit(s)** comprised in a **BM Unit** to prevent abnormal system conditions occurring, such as over voltage, overload, **System** instability, etc, after the tripping of other circuit-breakers following power **System** fault(s).

System to Generator Operational Intertripping Scheme

A **System to Generating Unit** or **System to CCGT Module** or **System to Power Park Module Intertripping Scheme** forming a condition of connection and specified in Appendix F3 of the relevant **Bilateral Agreement**, being either a **Category 1 Intertripping Scheme**, **Category 2 Intertripping Scheme**, **Category 3 Intertripping Scheme** or **Category 4 Intertripping Scheme**.

System Zone

A region of the **National Electricity Transmission System** within a described boundary or the whole of the **National Electricity Transmission System**, as further provided for in OC2.2.4, and the term "**Zonal**" will be construed accordingly.

Target Frequency

That **Frequency** determined by **NGET**, 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 **NGET**, in its reasonable opinion when this may be 49.90 or 50.10Hz. An example of exceptional circumstances may be difficulties caused in operating the **System** during disputes affecting fuel supplies.

<u>Technical Specification</u>	In relation to Plant and/or Apparatus , a) the relevant European Specification ; or b) if there is no relevant European Specification , other relevant standards which are in common use in the European Community.
<u>Test Co-ordinator</u>	A person who co-ordinates System Tests .
<u>Test Panel</u>	A panel, whose composition is detailed in OC12 , which is responsible, inter alia, for considering a proposed System Test , and submitting a Proposal Report and a Test Programme .
<u>Test Programme</u>	A programme submitted by the Test Panel to NGET , the Test Proposer , and each User identified by NGET under OC12.4.2.1, which states the switching sequence and proposed timings of the switching sequence, a list of those staff involved in carrying out the System Test (including those responsible for the site safety) and such other matters as the Test Panel deems appropriate.
<u>Test Proposer</u>	The person who submits a Proposal Notice .
<u>Total Shutdown</u>	The situation existing when all generation has ceased and there is no electricity supply from External Interconnections 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 NGET's directions relating to a Black Start .
<u>Total System</u>	The National Electricity Transmission System and all User Systems in the National Electricity Transmission System Operator Area .
<u>Trading Point</u>	A commercial and, where so specified in the Grid Code , an operational interface between a User and NGET , which a User has notified to NGET .
<u>Transfer Date</u>	Such date as may be appointed by the Secretary of State by order under section 65 of the Act .

<u>Transmission</u>	Means, when used in conjunction with another term relating to equipment or a site, whether defined or not, that the associated term is to be read as being part of or directly associated with the National Electricity Transmission System , and not of or with the User System .
<u>Transmission Area</u>	Has the meaning set out in the Transmission Licence of a Transmission Licensee .
<u>Transmission DC Converter</u>	Any Transmission Licensee Apparatus used to convert alternating current electricity to direct current electricity, or vice versa. A Transmission Network DC Converter is a standalone operative configuration at a single site comprising one or more converter bridges, together with one or more converter transformers, converter control equipment, essential protective and switching devices and auxiliaries, if any, used for conversion.
<u>Transmission Entry Capacity</u>	Has the meaning set out in the CUSC .
<u>Transmission Interface Circuit</u>	In NGET's Transmission Area , a Transmission circuit which connects a System operating at a voltage above 132kV to a System operating at a voltage of 132kV or below In SHETL's Transmission Area and SPT's Transmission Area , a Transmission circuit which connects a System operating at a voltage of 132kV or above to a System operating at a voltage below 132kV.
<u>Transmission Interface Point</u>	means the electrical point of connection between the Offshore Transmission System and an Onshore Transmission System .
<u>Transmission Interface Site</u>	the site at which the Transmission Interface Point is located.
<u>Transmission Licence</u>	A licence granted under Section 6(1)(b) of the Act .
<u>Transmission Licensee</u>	Any Onshore Transmission Licensee or Offshore Transmission Licensee

<u>Transmission Site</u>	In England and Wales, means a site owned (or occupied pursuant to a lease, licence or other agreement) by NGET in which there is a Connection Point . For the avoidance of doubt, a site owned by a User but occupied by NGET as aforesaid, is a Transmission Site .
	In Scotland and Offshore , means a site owned (or occupied pursuant to a lease, licence or other agreement) by a Relevant Transmission Licensee in which there is a Connection Point . For the avoidance of doubt, a site owned by a User but occupied by the Relevant Transmission Licensee as aforesaid, is a Transmission Site .
<u>Transmission System</u>	Has the same meaning as the term "licensee's transmission system" in the Transmission Licence of a Transmission Licensee .
<u>Turbine Time Constant</u>	Determined at Registered Capacity , the turbine time constant will be construed in accordance with the principles of the IEEE Committee Report "Dynamic Models for Steam and Hydro Turbines in Power System Studies" published in 1973 which apply to such phrase.
<u>Two Shifting Limit</u>	The maximum number of times in any Operational Day that a Genset may De-Synchronise .
<u>Unbalanced Load</u>	The situation where the Load on each phase is not equal.
<u>Under-excitation Limiter</u>	Shall have the meaning ascribed to that term in IEC 34-16-1:1991 [equivalent to British Standard BS4999 Section 116.1 : 1992].
<u>Under Frequency Relay</u>	An electrical measuring relay intended to operate when its characteristic quantity (Frequency) reaches the relay settings by decrease in Frequency .
<u>Unit Board</u>	A switchboard through which electrical power is supplied to the Auxiliaries of a Generating Unit and which is supplied by a Unit Transformer . It may be interconnected with a Station Board .
<u>Unit Transformer</u>	A transformer directly connected to a Generating Unit's terminals, and which supplies power to the Auxiliaries of a Generating Unit . Typical voltage ratios are 23/11kV and 15/6.6Kv.
<u>Unit Load Controller Response Time Constant</u>	The time constant, expressed in units of seconds, of the power output increase which occurs in the Secondary Response timescale in response to a step change in System Frequency .

User

A term utilised in various sections of the **Grid Code** to refer to the persons using the **National Electricity Transmission System**, as more particularly identified in each section of the **Grid Code** concerned. In the **Preface** and the **General Conditions** the term means any person to whom the **Grid Code** applies.

User Development

In the **PC** means either **User's Plant** and/or **Apparatus** to be connected to the **National Electricity Transmission System**, or a **Modification** relating to a **User's Plant** and/or **Apparatus** already connected to the **National Electricity Transmission System**, or a proposed new connection or **Modification** to the connection within the **User System**.

User Site

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

In Scotland and **Offshore**, a site owned (or occupied pursuant to a lease, licence or other agreement) by a **User** in which there is a **Connection Point**. For the avoidance of doubt, a site owned by a **Relevant Transmission Licensee** but occupied by a **User** as aforesaid, is a **User Site**.

User System

Any system owned or operated by a **User** comprising:-

- (a) **Generating Units**; and/or
- (b) Systems consisting (wholly or mainly) of electric lines used for the distribution of electricity from **Grid Supply Points** or **Generating Units** or other entry points to the point of delivery to **Customers**, or other **Users**;

and **Plant** and/or **Apparatus** connecting:-

- (c) The system as described above; or
- (d) **Non-Embedded Customers** equipment;

to the **National Electricity Transmission System** or to the relevant other **User System**, as the case may be.

The **User System** includes any **Remote Transmission Assets** operated by such **User** or other person and any **Plant** and/or **Apparatus** and meters owned or operated by the **User** or other person in connection with the distribution of electricity but does not include any part of the **National Electricity Transmission System**.

User System Entry Point

A point at which a **Generating Unit**, a **CCGT Module** or a **CCGT Unit** or a **Power Park Module** or a **DC Converter**, as the case may be, which is **Embedded** connects to the **User System**.

Water Time Constant

Bears the meaning ascribed to the term "Water inertia time" in IEC308.

Weekly ACS Conditions

Means that particular combination of weather elements that gives rise to a level of peak **Demand** within a week, taken to commence on a Monday and end on a Sunday, which has a particular chance of being exceeded as a result of weather variation alone. This particular chance is determined such that the combined probabilities of **Demand** in all weeks of the year exceeding the annual peak **Demand** under **Annual ACS Conditions** is 50%, and in the week of maximum risk the weekly peak **Demand** under **Weekly ACS Conditions** is equal to the annual peak **Demand** under **Annual ACS Conditions**.

Zonal System Security Requirements

That generation required, within the boundary circuits defining the **System Zone**, which when added to the secured transfer capability of the boundary circuits exactly matches the **Demand** within the **System Zone**.

A number of the terms listed above are defined in other documents, such as the **Balancing and Settlement Code** and the **Transmission Licence**. Appendix 1 sets out the current definitions from the other documents of those terms so used in the **Grid Code** and defined in other documents for ease of reference, but does not form part of the **Grid Code**.

2. Construction of References

In the **Grid Code**:

- (i) a table of contents, a Preface, a Revision section, headings, and the Appendix to this **Glossary and Definitions** 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, subparagraph, Appendix or Schedule shall be a reference to that paragraph, subparagraph 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 Act of Parliament or any Section of or Schedule to, or other provision of 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 under or deriving validity from the relevant Act of Parliament;
- (vi) 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 in that part of the **Grid Code** will prevail (unless otherwise stated) over the definition in the **Glossary & Definitions** in the event of any inconsistency;
- (vii) 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;
- (viii) nothing in the **Grid Code** is intended to or shall derogate from **NGET's** statutory or licence obligations;
- (ix) 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 and, if that latter section is not in force at the **Transfer Date**, as if such latter section were in force at such date;
- (x) 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 and, if that latter section is not in force at the **Transfer Date**, as if such latter section were in force at such date;
- (xi) references to time are to London time; and

- (xii) (a) Save where (b) below applies, where there is a reference to an item of data being expressed in a whole number of MW, fractions of a MW below 0.5 shall be rounded down to the nearest whole MW and fractions of a MW of 0.5 and above shall be rounded up to the nearest whole MW;
- (b) In the case of the definition of **Registered Capacity**, fractions of a MW below 0.05 shall be rounded down to one decimal place and fractions of a MW of 0.05 and above shall be rounded up to one decimal place.

<End of GD>

REVISIONS

(This section does not form part of the Grid Code)

NGET's Transmission Licence sets out the way in which changes to the Grid Code are to be made and reference is also made to NGET's obligations under the General Conditions.

All pages re-issued have the revision number on the lower left hand corner of the page and date of the revision on the lower right hand corner of the page. The changes to the text since the previous page issue are indicated by a vertical line to the right hand side of the text. Where repagination or repositioning of the text on other pages has been found necessary but the text itself has remained unchanged the re-issued pages have only the revision number and date of the revision included.

The Grid Code was introduced in March 1990 and the first issue was revised 31 times. In March 2001 the New Electricity Trading Arrangements were introduced and Issue 2 of the Grid Code was introduced which was revised 16 times. At British Electricity Trading and Transmission Arrangements (BETTA) Go-Active Issue 3 of the Grid Code was introduced and subsequently revised 35 times. At Offshore Go-active Issue 4 of the Grid Code was introduced.

The following 'index to revisions' provides a checklist to the pages and sections of the Grid Code changed by each revision to Issue 4 of the Grid Code.

All inquiries in relation to revisions to the Grid Code, including revisions to Issues 1, 2, 3 and 4, should be addressed to the Grid Code development team at the address given at the front of the Grid Code.

Revision 1Effective Date: 10th February 2010

CODE	PAGE	CLAUSE
CC.A.5	80	CC.A.5.1.1 (b) replaced
CC.A.5	81	CC.A.5.3.2 added
CC.A.5	81-82	CC.A.5.5.1 amended
OC.6	8	OC6.6.1 amended
DRC	51	Schedule 12 table amended
DRC	51	Schedule 12A table added

Revision 2Effective Date: 22nd March 2010

CODE	PAGE	CLAUSE
G & D	8	Definition for "Commercial Boundary" added
G & D	40	Definitions for "Reactive Despatch Instruction" and "Reactive Despatch Network Restriction" added
BC2	14	Clause BC2.8.5 added
BC2	30	Clause B2.A.3.2(a) amended
BC2	32	Annex 2 amended
BC2	33	Annex 3 added
PC.A.3	30	Clause PC.A.3.1.3 amended
PC.A.3	31	Clause PC.A.3.2.1(b) amended
PC.A.3	32	Clause PC.A.3.2.2(c) amended
PC.A.3	33	Clause PC.A.3.2.2(f) amended
OC2	31 & 32	Appendix 1 and 2 amended
DRC	48	Schedule 11 amended

Revision 3Effective Date: 6th September 2010

CODE	PAGE	CLAUSE
CC6	18	Clause CC6.3.2 (a) amended

CODE	PAGE	CLAUSE
G&D	12	Definitions for “DPD I” and “DPDII” added and definition for “Detailed Planning Data” amended
PC.4	9 & 10	PC.4.4.2 amended
PC.4	10	PC.4.4.4 amended
PC.A.1	17	PC.A.1.4 amended
PC.A.5	45	PC.A.5.1.5 added
DRC	1	DRC 1.5 - New section and text
DRC	2	DRC 4.3.1 amended
DRC	9-22	DRC Schedule 1 amended
DRC	23-25	DRC Schedule 2 amended
DRC	30-38	DRC Schedule 5 amended
DRC	49-50	DRC Schedule 12 amended
DRC	57-59	DRC Schedule 15 amended
DRC	60	DRC Schedule 16 amended

CODE	PAGE	CLAUSE
G&D	Various	Definitions added for: “Interface Point Capacity”, “Offshore Development Information Statement”, “Offshore Tender Process”, “Offshore Works Assumptions”, “OTSDUW”, “OTSDUW Arrangements”, “OTSDUW Data and Information”, “OTSDUW DC Converter”, “OTSDUW Development and Data Timetable”, “OTSDUW Network Data and Information”, “OTSDUW Plant and Apparatus”, “OTSUA”, “OTSUA Transfer Time”, “Transmission Interface Point” and “Transmission Interface Site”
G&D	Various	Definitions amended for: “Low Voltage”, “Gas Zone Diagram”, “Network Operator”, “Offshore Transmission System”, “Operation Diagrams” and “Site Common Drawings”
PC.1	3-4	Clauses PC.1.1 and 1.4 amended and Clauses PC.1.1A and PC.1.1B added

PC.2	5-6	Clause PC.2.1 amended
PC.3	6-8	Clauses PC.3.1 and 3.4 amended
PC.4	10-12	Clauses PC.4.2, 4.3 and 4.4 amended
PC.5	14-15	Clause PC.5.4 amended
PC.6	15-16	Clause PC.6.1 Amended. Clauses PC.6.4 to 6.7 added
PC.7	17-18	Clauses 7.5, 7.6 and 7.7 amended
PC.8	18-19	Clause PC.8 added
PC.A.1	19-22	Clause PC.A.1.4 amended
PC.A.2	23-30	Clause PC.A.2.1 and 2.2 amended
PC.A.3	33, 35 & 38	Clause PC.A.3.1, 3.2 and 3.3 amended
PC.A.4	40	Clause PC.A4.1 amended
PC.A.5	56-61	Clause PC.A.5.4 amended
PC.A.6	65-69	Clauses PC.A.6.2 to 6.6 amended
PC.A.7	69-70	Clause PC.A.7 amended
PC.A.8	71-73	Clauses PC.A.8, 8.1, 8.2 and 8.3 amended
PC.F	83-85	Planning Code Appendix F added
CC.1	1	Clause CC.1.1 amended
CC.2	1	Clauses CC.2.2 – 2.4 added
CC.3	1	Clause CC.3.1 amended
CC.5	5	Clause CC.5.2 amended
CC.6	6-44	Clauses CC.6.1, 6.2, 6.3, 6.5 and 6.6 amended
CC.7	44-50	Clauses CC.7.2, 7.4 and 7.5 amended
CC.8	52	Clause CC.8.1(b) amended
CC.A.1	54	Clause CC.A.1.1 amended
CC.A.3	68-69	Clause CC.A.3.1 amended
CC.A.4A	73 -74	Clauses CC.A.4A.2 and 4A.3 amended
CC.A.7	88-93	Clauses CC.A.7.1 and A.7.2 amended
DRC	2	Schedule 11 note 3 amended

OC.11	2-5	Clauses OC.11.1, 11.2, 11.3 and 11.4 amended
GC.4	3	Clause GC.4.5 Amended

Revision 6

Effective Date: 18th July 2011

CODE	PAGE	CLAUSE
G&D	Various	Definitions added: "External Interconnection Circuit", "Interconnector Export Capacity", "Interconnector Import Capacity" and "Interconnector Owner". Definitions amended "Final Generation Outage Programme", "Offshore Grid Entry Point", "Onshore Grid Entry Point" and "Output Useable or OU".
OC2	2-26	Clauses OC2.1, OC2.2, OC2.3 and OC2.4 amended
CC.6	6, 7 & 37	Clauses CC.6.1.3, CC.6.1.4 and CC.6.3.15 amended

Revision 7

Effective Date: 12th August 2011

CODE	PAGE	CLAUSE
OC9	4 & 9	Clauses OC9.4.6 and OC9.4.7.9 amended

Revision 8

Effective Date: 23rd September 2011

CODE	PAGE	CLAUSE
CC6	42 & 43	Clause CC6.5.8 amended
BC2	9 & 25	Clause BC2.6.1 and BC2.A.2.3 amended

Revision 9

Effective Date: 4th November 2011

CODE	PAGE	CLAUSE
OC7	14	Clause OC7.4.8.3 amended

Revision 10Effective Date: 3rd January 2012

CODE	PAGE	CLAUSE
BC2	14	Clause BC2.8.5 amended
G&D	45	Definition added: "Reactive Despatch to Zero MVAR Network Restriction" Definition amended: "Reactive Despatch Network Restriction"

Revision 11Effective Date: 16th March 2012

CODE	PAGE	CLAUSE
G&D	10	Definition amended: "Data Validation, Consistency and Defaulting Rules"

Revision 12 (F/11)Effective Date: 15th May 2012

CODE	PAGE	CLAUSE
G&D	34 & 45	Definition amended: "OTSDUW" Definition amended: "OTSUA"
PC	Various	PC3, PC6, PC.A.1, PC.A.2, PC.A.3, PC.A.4, PC.A.5, PC.A.6, PC.A.8, Appendix E and Appendix F amended
CC	Various	CC.3, CC.5, CC.6, CC.7, Appendix 4A, and Appendix 7 amended
DRC	Various	DRC3, DRC6, Schedule 1, Schedule 4, Schedule 5, Schedule 12 and Schedule 18 amended

Revision 13 (D/11)Effective Date: 7th June 2012

CODE	PAGE	CLAUSE
G&D	52	Definition amended: "System to Generator Operational Intertripping"