

All Recipients of the Serviced Grid Code

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Dear Sir/Madam

THE SERVICED GRID CODE – ISSUE 5 REVISION 19

Issue 5 Revision 19 of the Grid Code has been approved by the Authority for implementation on **30 September 2016**. This is subsequent to Ofgem's decision on 22 September 2016 which was made on the basis of a slight amended Final Report v1.1 incorporating minor non-material legal text changes.

In order to ensure your copy of the Grid Code remains up to date, you will need to replace the sections affected with the revised versions available on the National Grid website.

The revisions document provides an overview of the changes made to the Grid Code since the previous issue.

Yours faithfully,

Taran Heir

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THE GRID CODE – ISSUE 5 REVISION 19

INCLUSION OF REVISED SECTIONS

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Glossary & Definitions

Operating Condition No. 7 – Operational Liaison

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SUMMARY OF CHANGES

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

GC0093 – Assessment of System Warnings

Summary of Proposal

This proposal seeks to modify the Grid Code to make a change to the name of a Notice of Inadequate System Margin (NISM) as part of a wider work package (outside the Grid Code) designed to provide clarity to system warning hierarchy and protocols.

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

- System Operator
- Generators
- Transmission Owners
- Distribution Network Operators

THE GRID CODE

ISSUE 5

REVISION 19

30 September 2016

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GLOSSARY & DEFINITIONS

(GD)

GD.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**

- (a) An interconnection and/or
- (b) 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.

AF Rules Has the meaning given to “allocation framework” in section 13(2) of the Energy Act 2013.

Ancillary Service	A System Ancillary Service and/or a Commercial Ancillary Service , as the case may be.
Ancillary Services 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 Ancillary Services .
Annual Average Cold Spell Conditions or ACS Conditions	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.
Apparent Power	The product of voltage and of alternating current measured in units of voltamperes and standard multiples thereof, ie: 1000 VA = 1 kVA 1000 kVA = 1 MVA
Apparatus	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 .
Authorised Electricity Operator	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.
Automatic Voltage Regulator or AVR	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.
Authority for Access	An authority which grants the holder the right to unaccompanied access to sites containing exposed HV conductors.
Authority, The	The Authority established by section 1 (1) of the Utilities Act 2000.
Auxiliaries	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.
Auxiliary Diesel Engine	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.
Auxiliary Gas Turbine	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.
Average Conditions	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).
Back-Up Protection	A Protection system which will operate when a system fault is not cleared by other Protection .

Balancing and Settlement Code or BSC	The code of that title as from time to time amended.
Balancing Code or BC	That portion of the Grid Code which specifies the Balancing Mechanism process.
Balancing Mechanism	Has the meaning set out in NGET's Transmission Licence
Balancing Mechanism Reporting Agent or BMRA	Has the meaning set out in the BSC .
Balancing Mechanism Reporting Service or BMRS	Has the meaning set out in the BSC .
Balancing Principles Statement	A statement prepared by NGET in accordance with Condition C16 of NGET's Transmission Licence .
Baseline Forecast	Has the meaning given to the term 'baseline forecast' in Section G of the BSC .
Bid-Offer Acceptance	(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.
Bid-Offer Data	Has the meaning set out in the BSC .
Bilateral Agreement	Has the meaning set out in the CUSC
Black Start	The procedure necessary for a recovery from a Total Shutdown or Partial Shutdown .
Black Start Capability	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.
Black Start Stations	Power Stations which are registered, pursuant to the Bilateral Agreement with a User , as having a Black Start Capability .
Black Start Test	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 .
Block Load Capability	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.
BM Participant	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 .
BM Unit	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 .

BM Unit Data	The collection of parameters associated with each BM Unit , as described in Appendix 1 of BC1 .
Boiler Time Constant	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.
British Standards or BS	Those standards and specifications approved by the British Standards Institution.
BSCCo	Has the meaning set out in the BSC .
BSC Panel	Has meaning set out for "Panel" in the BSC .
BS Station Test	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.
Capacity Market Documents	The Capacity Market Rules , The Electricity Capacity Regulations 2014 and any other Regulations made under Chapter 3 of Part 2 of the Energy Act 2013 which are in force from time to time.
Capacity Market Rules	The rules made under section 34 of the Energy Act 2013 as modified from time to time in accordance with that section and The Electricity Capacity Regulations 2014.
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: <ul style="list-style-type: none"> (a) Moriston (b) Killin (c) Garry (d) Conon (e) Clunie (f) 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	<p>A System to Generator Operational Intertripping Scheme which is:-</p> <ul style="list-style-type: none"> (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, <p>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).</p>
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.
CfD Counterparty	A person designated as a "CfD counterparty" under section 7(1) of the Energy Act 2013.
CfD Documents	The AF Rules , The Contracts for Difference (Allocation) Regulations 2014, The Contracts for Difference (Definition of Eligible Generator) Regulations 2014 and The Contracts for Difference (Electricity Supplier Obligations) Regulations 2014 and any other regulations made under Chapter 2 of Part 2 of the Energy Act 2013 which are in force from time to time.
CfD Settlement Services Provider	<p>means any person:</p> <ul style="list-style-type: none"> (i) appointed for the time being and from time to time by a CfD Counterparty; or (ii) who is designated by virtue of Section C1.2.1B of the Balancing and Settlement Code, <p>in either case to carry out any of the CFD settlement activities (or any successor entity performing CFD settlement activities).</p>
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.
CM Administrative Parties	The Secretary of State , the CM Settlement Body , and any CM Settlement Services Provider .
CM Settlement Body	the Electricity Settlements Company Ltd or such other person as may from time to time be appointed as Settlement Body under regulation 80 of the Electricity Capacity Regulations 2014.
CM Settlement Services Provider	any person with whom the CM Settlement Body has entered into a contract to provide services to it in relation to the performance of its functions under the Capacity Market Documents .
Code Administration Code of Practice	Means the code of practice approved by the Authority and: <ul style="list-style-type: none"> (a) developed and maintained by the code administrators in existence from time to time; and (b) amended subject to the Authority's approval from time to time; and (c) re-published from time to time;
Code Administrator	Means NGET carrying out the role of Code Administrator in accordance with the General Conditions.
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.

Completion Date	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 .
Complex	A Connection Site together with the associated Power Station and/or Network Operator substation and/or associated Plant and/or Apparatus , as appropriate.
Compliance Processes or CP	That portion of the Grid Code which is identified as the Compliance Processes .
Compliance Statement	A statement completed by the relevant User confirming compliance with each of the relevant Grid Code provisions, and the supporting evidence in respect of such compliance, of its: Generating Unit(s) ; or, CCGT Module(s) ; or, Power Park Module(s) ; or, DC Converter(s) in the form provided by NGET to the relevant User or another format as agreed between the User and NGET .
Connection Conditions or CC	That portion of the Grid Code which is identified as the Connection Conditions .
Connection Entry Capacity	Has the meaning set out in the CUSC
Connected Planning Data	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 .
Connection Point	A Grid Supply Point or Grid Entry Point , as the case may be.
Connection Site	A Transmission Site or User Site , as the case may be.
Construction Agreement	Has the meaning set out in the CUSC
Contingency Reserve	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.
Control Calls	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.
Control Centre	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	<p>The point from which:-</p> <p>(a) A Non-Embedded Customer's Plant and Apparatus is controlled; or</p> <p>(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:</p> <p style="margin-left: 40px;">(i) 50MW or more in NGET's Transmission Area; or</p> <p style="margin-left: 40px;">(ii) 30MW or more in SPT's Transmission Area; or</p> <p style="margin-left: 40px;">(iii) 10MW or more in SHETL's Transmission Area,</p> <p style="margin-left: 40px;">(iv) 10MW or more which is connected to an Offshore Transmission System</p> <p>is physically controlled by a BM Participant; or</p> <p>(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,</p> <p>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.</p>
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
CUSC Contract	<p>One or more of the following agreements as envisaged in Standard Condition C1 of NGET's Transmission Licence:</p> <p>(a) the CUSC Framework Agreement;</p> <p>(b) a Bilateral Agreement;</p> <p>(c) a Construction Agreement</p> <p>or a variation to an existing Bilateral Agreement and/or Construction Agreement;</p>
CUSC Framework Agreement	Has the meaning set out in NGET's Transmission Licence
Customer	A person to whom electrical power is provided (whether or not he is the same person as the person who provides the electrical power).

Customer Demand Management	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 .
Customer Demand Management Notification Level	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.
Customer Generating Plant	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 .
Data Registration Code or DRC	That portion of the Grid Code which is identified as the Data Registration Code .
Data Validation, Consistency and Defaulting Rules	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 .
DC Converter	Any Onshore DC Converter or Offshore DC Converter .
DC Converter Station	An installation comprising one or more Onshore DC Converters connecting a direct current interconnector: to the NGET Transmission System ; or, (if the installation has a rating of 50MW or more) to a User System , and it shall form part of the External Interconnection to which it relates.
DC Network	All items of Plant and Apparatus connected together on the direct current side of a DC Converter .
DCUSA	The Distribution Connection and Use of System Agreement approved by the Authority and required to be maintained in force by each Electricity Distribution Licence holder.
De-Load	The condition in which a Genset has reduced or is not delivering electrical power to the System to which it is Synchronised .
Demand	The demand of MW and Mvar of electricity (i.e. both Active and Reactive Power), unless otherwise stated.
Demand Capacity	Has the meaning as set out in the BSC .
Demand Control	Any or all of the following methods of achieving a Demand reduction: <ul style="list-style-type: none"> (a) Customer voltage reduction initiated by Network Operators (other than following an instruction from NGET); (b) Customer Demand reduction by Disconnection initiated by Network Operators (other than following an instruction from NGET); (c) Demand reduction instructed by NGET; (d) automatic low Frequency Demand Disconnection; (e) emergency manual Demand Disconnection.

Demand Control Notification Level	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.
Designed Minimum Operating Level	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.
De-Synchronise	(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 (b) The act of ceasing to consume electricity at an importing BM Unit ; and the term " De-Synchronising " shall be construed accordingly.
De-synchronised Island(s)	Has the meaning set out in OC9.5.1(a)
Detailed Planning Data	Detailed additional data which NGET requires under the PC in support of Standard Planning Data , comprising DPD I and DPD II
Detailed Planning Data Category I or DPD I	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.
Detailed Planning Data Category II or DPD II	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.
Discrimination	The quality where a relay or protective system is enabled to pick out and cause to be disconnected only the faulty Apparatus .
Disconnection	The physical separation of Users (or Customers) from the National Electricity Transmission System or a User System as the case may be.
Disputes Resolution Procedure	The procedure described in the CUSC relating to disputes resolution.
Distribution Code	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 .
Droop	The ratio of the per unit steady state change in speed, or in Frequency to the per unit steady state change in power output.
Dynamic Parameters	Those parameters listed in Appendix 1 to BC1 under the heading BM Unit Data – Dynamic Parameters .
E&W Offshore Transmission System	An Offshore Transmission System with an Interface Point in England and Wales.
E&W Offshore Transmission Licensee	A person who owns or operates an E&W Offshore Transmission System pursuant to a Transmission Licence .
E&W Transmission System	Collectively NGET's Transmission System and any E&W Offshore Transmission Systems .

E&W User	A User in England and Wales or any Offshore User who owns or operates Plant and/or Apparatus connected (or which will at the OTSUA Transfer Time be connected) to an E&W Offshore Transmission System .
Earth Fault Factor	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.
Earthing	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.
Earthing Device	A means of providing a connection between a conductor and earth being of adequate strength and capability.
Electrical Standard	A standard listed in the Annex to the General Conditions .
Electricity Council	That body set up under the Electricity Act, 1957.
Electricity Distribution Licence	The licence granted pursuant to Section 6(1) (c) of the Act .
Electricity Supply Industry Arbitration Association	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.
Electricity Supply Licence	The licence granted pursuant to Section 6(1) (d) of the Act .
Electromagnetic Compatibility Level	Has the meaning set out in Engineering Recommendation G5/4 .
Embedded	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).
Embedded Development	Has the meaning set out in PC.4.4.3(a)

Embedded Development Agreement	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 .
Embedded Person	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 .
Emergency Deenergisation Instruction	an Emergency Instruction issued by NET to De-Synchronise a Generating Unit, Power Park Module or DC Converter in circumstances specified in the CUSC .
Emergency Instruction	An instruction issued by NET 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 .
EMR Administrative Parties	Has the meaning given to "administrative parties" in The Electricity Capacity Regulations 2014 and each CfD Counterparty and CfD Settlement Services Provider .
EMR Documents	The Energy Act 2013, The Electricity Capacity Regulations 2014, the Capacity Market Rules , The Contracts for Difference (Allocation) Regulations 2014, The Contracts for Difference (Definition of Eligible Generator) Regulations 2014, The Contracts for Difference (Electricity Supplier Obligations) Regulations 2014, The Electricity Market Reform (General) Regulations 2014, the AF Rules and any other regulations or instruments made under Chapter 2 (contracts for difference), Chapter 3 (capacity market) or Chapter 4 (investment contracts) of Part 2 of the Energy Act 2013 which are in force from time to time.
EMR Functions	Has the meaning given to "EMR functions" in Chapter 5 of Part 2 of the Energy Act 2013.
Engineering Recommendations	The documents referred to as such and issued by the Energy Networks Association or the former Electricity Council.
Energisation Operational Notification or EON	A notification (in respect of Plant and Apparatus (including OTSUA) which is directly connected to the National Electricity Transmission System) from NET to a User confirming that the User can in accordance with the Bilateral Agreement and/or Construction Agreement , energise such User's Plant and Apparatus (including OTSUA) specified in such notification.
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.
EU Transparency Availability Data	Such data as Customers and Generators are required to provide under Articles 7.1(a) and 7.1(b) and Articles 15.1(a), 15.1(b), 15.1(c), 15.1(d) of European Commission Regulation (EU) No. 543/2013 respectively (known as the Transparency Regulation), and which also forms part of DRC Schedule 6 (Users' Outage Data).

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):- <ul style="list-style-type: none"> (a) Dungeness B (b) Hinkley Point B (c) Heysham 1 (d) Heysham 2 (e) Hartlepool (f) Hunterston B (g) 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):- <ul style="list-style-type: none"> (a) Calder Hall (b) Chapelcross (c) Dungeness A (d) Hinkley Point A (e) Oldbury-on-Severn (f) Bradwell (g) Sizewell A (h) 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.
External Interconnection Circuit	Plant or Apparatus which comprises a circuit and which operates in parallel with another circuit and which forms part of the External Interconnection .
Externally Interconnected System Operator or EISO	A person who operates an External System which is connected to the National Electricity Transmission System or a User System by an External Interconnection .
External System	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 .
Fault Current Interruption Time	The time interval from fault inception until the end of the break time of the circuit breaker (as declared by the manufacturers).

Fast Start	A start by a Genset with a Fast Start Capability .
Fast Start Capability	The ability of a Genset to be Synchronised and Loaded up to full Load within 5 minutes.
Final Generation Outage Programme	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.
Final Operational Notification or FON	<p>A notification from NGET to a Generator or DC Converter Station owner confirming that the User has demonstrated compliance:</p> <p>(a) with the Grid Code, (or where they apply, that relevant derogations have been granted), and</p> <p>(b) where applicable, with Appendices F1 to F5 of the Bilateral Agreement,</p> <p>in each case in respect of the Plant and Apparatus specified in such notification.</p>
Final Physical Notification Data	Has the meaning set out in the BSC .
Final Report	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 .
Financial Year	Bears the meaning given in Condition A1 (Definitions and Interpretation) of NGET's Transmission Licence .
Flicker Severity (Long Term)	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 .
Flicker Severity (Short Term)	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.
Forecast Data	Those items of Standard Planning Data and Detailed Planning Data which will always be forecast.
Frequency	The number of alternating current cycles per second (expressed in Hertz) at which a System is running.
Frequency Sensitive AGR Unit	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 .

Frequency Sensitive AGR Unit Limit	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.
Frequency Sensitive Mode	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 .
Fuel Security Code	The document of that title designated as such by the Secretary of State , as from time to time amended.
Gas Turbine Unit	A Generating Unit driven by a gas turbine (for instance by an aero-engine).
Gas Zone Diagram	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.
Gate Closure	Has the meaning set out in the BSC .
GC Modification Proposal	A proposal to modify the Grid Code which is not rejected pursuant to the terms of the Grid Code and has not yet been implemented.
General Conditions or GC	That portion of the Grid Code which is identified as the General Conditions .
Generating Plant Demand Margin	The difference between Output Usable and forecast Demand .
Generating Unit	An Onshore Generating Unit and/or an Offshore Generating Unit .
Generating Unit Data	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
Generation Capacity	Has the meaning set out in the BSC .

Generation Planning Parameters	Those parameters listed in Appendix 2 of OC2 .
Generator	A person who generates electricity under licence or exemption under the Act acting in its capacity as a generator in Great Britain or Offshore .
Generator Performance Chart	A diagram which shows the MW and Mvar capability limits within which a Generating Unit will be expected to operate under steady state conditions.
Genset	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 .
Good Industry Practice	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.
Governor Deadband	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.
Great Britain or GB	The landmass of England and Wales and Scotland, including internal waters.
Grid Code Review Panel or Panel	The panel with the functions set out in GC.4.
Grid Entry Point	An Onshore Grid Entry Point or an Offshore Grid Entry Point .
Grid Supply Point	A point of supply from the National Electricity Transmission System to Network Operators or Non-Embedded Customers .
Group	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 .
Headroom	The Power Available (in MW) less the actual Active Power exported from the Power Park Module (in MW).
High Frequency Response	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.

High Voltage or HV	For E&W Transmission Systems , a voltage exceeding 650 volts. For Scottish Transmission Systems , a voltage exceeding 1000 volts.
HV Connections	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 .
HP Turbine Power Fraction	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 .
IEC	International Electrotechnical Commission.
IEC Standard	A standard approved by the International Electrotechnical Commission.
Implementing Safety Co-ordinator	The Safety Co-ordinator implementing Safety Precautions .
Import Usable	That portion of Registered Import Capacity which is expected to be available and which is not unavailable due to a Planned Outage .
Incident Centre	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.
Independent Back-Up Protection	A Back-Up Protection system which utilises a discrete relay, different current transformers and an alternate operating principle to the Main Protection systems(s) such that it can operate autonomously in the event of a failure of the Main Protection .
Independent Main Protection	A Main Protection system which utilises a physically discrete relay and different current transformers to any other Main Protection .
Indicated Constraint Boundary Margin	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.
Indicated Imbalance	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 .
Indicated Margin	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
Instructor Facilities	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; <ul style="list-style-type: none"> (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 .
Interim Operational Notification or ION	A notification from NGET to a Generator or DC Converter Station owner acknowledging that the User has demonstrated compliance, except for the Unresolved Issues ; <ul style="list-style-type: none"> (a) with the Grid Code, and (b) where applicable, with Appendices F1 to F5 of the Bilateral Agreement, <p>in each case in respect of the Plant and Apparatus (including OTSUA) specified in such notification and provided that in the case of the OTSDUW Arrangements such notification shall be provided to a Generator in two parts dealing with the OTSUA and Generator's Plant and Apparatus (called respectively "Interim Operational Notification Part A" or "ION A" and "Interim Operational Notification Part B" or "ION B") as provided for in the CP.</p>
Intermittent Power Source	The primary source of power for a Generating Unit that can not be considered as controllable, e.g. wind, wave or solar.

Intertripping	<ul style="list-style-type: none"> (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.
Intertrip Apparatus	Apparatus which performs Intertripping .
IP Turbine Power Fraction	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 .
Isolating Device	A device for achieving Isolation .
Isolation	<p>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:</p> <ul style="list-style-type: none"> (a) an Isolating Device maintained in an isolating position. The isolating position must either be: <ul style="list-style-type: none"> (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.
Joint BM Unit Data	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:
 - (i) **NGET's Transmission System** where such **Power Station** has a **Registered Capacity** of 100MW or more; or
 - (ii) **SPT's Transmission System** where such **Power Station** has a **Registered Capacity** of 30MW or more; or
 - (iii) **SHETL's Transmission System** where such **Power Station** has a **Registered Capacity** of 10MW or more; or
 - (iv) 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:
 - (i) **NGET's Transmission System** and such **Power Station** has a **Registered Capacity** of 100MW or more; or
 - (ii) **SPT's Transmission System** and such **Power Station** has a **Registered Capacity** of 30MW or more; or
 - (iii) **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:
 - (i) **NGET's Transmission Area** where such **Power Station** has a **Registered Capacity** of 100MW or more; or
 - (ii) **SPT's Transmission Area** where such **Power Station** has a **Registered Capacity** of 30MW or more; or
 - (iii) **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.

Limited Operational Notification or LON	<p>A notification from NGET to a Generator or DC Converter Station owner stating that the User's Plant and/or Apparatus specified in such notification may be, or is, unable to comply:</p> <p>(a) with the provisions of the Grid Code specified in the notice, and</p> <p>(b) where applicable, with Appendices F1 to F5 of the Bilateral Agreement ,</p> <p>and specifying the Unresolved Issues.</p>
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	<p>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.</p> <p>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.</p>
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 .
Localised Negative Reserve Active Power Margin or Localised NRAPM	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.
Location	Any place at which Safety Precautions are to be applied.
Locked	A condition of HV Apparatus that cannot be altered without the operation of a locking device.
Locking	The application of a locking device which enables HV Apparatus to be Locked .

Low Frequency Relay	Has the same meaning as Under Frequency Relay .
Low Voltage or LV	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.
LV Side of the Offshore Platform	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.
Main Protection	A Protection system which has priority above other Protection in initiating either a fault clearance or an action to terminate an abnormal condition in a power system.
Manufacturer's Data & Performance Report	A report submitted by a manufacturer to NGET relating to a specific version of a Power Park Unit demonstrating the performance characteristics of such Power Park Unit in respect of which NGET has evaluated its relevance for the purposes of the Compliance Processes .
Market Operation Data Interface System (MODIS)	A computer system operated by NGET and made available for use by Customers connected to or using the National Electricity Transmission System for the purpose of submitting EU Transparency Availability Data to NGET .
Market Suspension Threshold	Has the meaning given to the term 'Market Suspension Threshold' in Section G of the BSC .
Material Effect	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.
Maximum Export 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 .
Maximum Generation Service or MGS	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 to an Offshore Transmission System connected to a Network Operator's User System , from that User System .

Medium Power Station	<p>A Power Station which is</p> <p>(a) directly connected to NGET's Transmission System where such Power Station has a Registered Capacity of 50MW or more but less than 100MW;</p> <p>or,</p> <p>(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;</p> <p>or,</p> <p>(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.</p>
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	<p>The amount of electricity supplied from the Grid Supply Points plus:-</p> <ul style="list-style-type: none"> • that supplied by Embedded Large Power Stations, and • National Electricity Transmission System Losses, <p>minus:-</p> <ul style="list-style-type: none"> • the Demand taken by Station Transformers and Pumped Storage Units' <p>and, for the purposes of this definition, does not include:-</p> <ul style="list-style-type: none"> • any exports from the National Electricity Transmission System across External Interconnections.
National Electricity Transmission System	The Onshore Transmission System and, where owned by Offshore Transmission Licensees , Offshore Transmission Systems .
National Electricity Transmission System Demand	<p>The amount of electricity supplied from the Grid Supply Points plus:-</p> <ul style="list-style-type: none"> • that supplied by Embedded Large Power Stations, and • exports from the National Electricity Transmission System across External Interconnections, and • National Electricity Transmission System Losses, <p>and, for the purposes of this definition, includes:-</p> <ul style="list-style-type: none"> • 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	<p>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 :</p> <ol style="list-style-type: none"> (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 Electricity Margin Notice .
National Electricity Transmission System Warning - Electricity Margin Notice	A warning issued by NGET , in accordance with OC7.4.8.5, which is intended to invite a response from and to alert recipients to a decreased System Margin .
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
Notification of User's Intention to Synchronise	A notification from a Generator or DC Converter Station owner to NGET informing NGET of the date upon which any OTSUA , a Generating Unit(s) , CCGT Module(s) , Power Park Module(s) or DC Converter(s) will be ready to be Synchronised to the Total System .
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.
Non-Synchronous Generating Unit	An Onshore Non-Synchronous Generating Unit or Offshore Non-Synchronous Generating Unit .
Normal CCGT Module	A CCGT Module other than a Range CCGT Module .
Novel Unit	A tidal, wave, wind, geothermal, or any similar, Generating Unit .

OC9 De-synchronised Island Procedure	Has the meaning set out in OC9.5.4.
Offshore	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.
Offshore DC Converter	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.
Offshore Development Information Statement	A statement prepared by NGET in accordance with Special Condition C4 of NGET's Transmission Licence .
Offshore Generating Unit	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 .
Offshore Grid Entry Point	In the case of:- <ul style="list-style-type: none"> (a) 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; (b) 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; (c) an External Interconnection which is directly connected to an Offshore Transmission System, the point at which it connects to that Offshore Transmission System.
Offshore Non-Synchronous Generating Unit	An Offshore Generating Unit that is not an Offshore Synchronous Generating Unit including for the avoidance of doubt a Power Park Unit located Offshore .
Offshore Platform	A single structure comprising of Plant and Apparatus located Offshore which includes one or more Offshore Grid Entry Points .
Offshore Power Park Module	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.

Offshore Power Park String	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 .
Offshore Synchronous Generating Unit	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 .
Offshore Tender Process	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.
Offshore Transmission Distribution Connection Agreement	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 .
Offshore Transmission Licensee	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 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 (including OTSUA) and meters in connection with the transmission of electricity but does not include any Remote Transmission Assets . An Offshore Transmission System extends from the Interface Point , or 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 1 st 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 Non-Synchronous 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 directly to the Onshore Transmission System (or User System if Embedded) with no intermediate Offshore Transmission System connections. 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 Notifications	Any Energisation Operational Notification , Interim Operational Notification , Final Operational Notification or Limited Operational Notification issued from NGET to a User .
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 5 th 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 .
Operational Switching	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 .
Other Relevant Data	The data listed in BC1.4.2(f) under the heading Other Relevant Data .
Offshore Transmission System Development User Works or OTSDUW	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 .

OTSDUW Arrangements	The arrangements whereby certain aspects of the design, consenting, construction, installation and/or commissioning 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 .
OTSDUW Data and Information	The data and information to be provided by Users undertaking OTSDUW , to NGET in accordance with Appendix F of the Planning Code .
OTSDUW DC Converter	A Transmission DC Converter designed and/or constructed and/or installed by a User under the OTSDUW Arrangements and/or operated by the User until the OTSUA Transfer Time .
OTSDUW Development and Data Timetable	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 .
OTSDUW Network Data and Information	The data and information to be provided by NGET to Users undertaking OTSDUW in accordance with Appendix F of the Planning Code .
OTSDUW Plant and Apparatus	Plant and Apparatus , including any OTSDUW DC Converter , designed by the User under the OTSDUW Arrangements .
Offshore Transmission System User Assets or OTSUA	OTSDUW Plant and Apparatus constructed and/or installed by a User under the OTSDUW Arrangements which form an Offshore Transmission System that once transferred to a Relevant Transmission Licensee under an Offshore Tender Process will become part of the National Electricity Transmission System .
OTSUA Transfer Time	The time and date at which the OTSUA are transferred to a Relevant Transmission Licensee .
Out of Synchronism	The condition where a System or Generating Unit cannot meet the requirements to enable it to be Synchronised .
Output Usable or OU	<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. In addition, for a Genset powered by an Intermittent Power Source the forecast value is based upon the Intermittent Power Source being at a level which would enable the Genset to generate at Registered Capacity.</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>
Over-excitation Limiter	Shall have the meaning ascribed to that term in IEC 34-16-1:1991 [equivalent to British Standard BS4999 Section 116.1 : 1992].
Part 1 System Ancillary Services	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.

Part 2 System Ancillary Services	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.
Part Load	The condition of a Genset , or Cascade Hydro Scheme which is Loaded but is not running at its Maximum Export Limit.
Permit for Work for proximity work	<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>
Partial Shutdown	The same as a Total Shutdown except that all generation has ceased in a separate part of the Total System and there is no electricity supply 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 .
Phase (Voltage) Unbalance	The ratio (in percent) between the rms values of the negative sequence component and the positive sequence component of the voltage.
Physical Notification	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 , the accuracy of the Physical Notification being commensurate with Good Industry Practice .
Planning Code or PC	That portion of the Grid Code which is identified as the Planning Code .
Planned Maintenance Outage	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.
Planned Outage	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 .
Plant	Fixed and movable items used in the generation and/or supply and/or transmission of electricity, other than Apparatus .

Point of Common Coupling	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.
Point of Connection	An electrical point of connection between the National Electricity Transmission System and a User's System .
Point of Isolation	The point on Apparatus (as defined in OC8A.1.6.2 and OC8B.1.7.2) at which Isolation is achieved.
Post-Control Phase	The period following real time operation.
Power Available	A signal prepared in accordance with good industry practice, representing the instantaneous sum of the potential Active Power available from each individual Power Park Unit within the Power Park Module calculated using any applicable combination of meteorological (including wind speed), electrical or mechanical data measured at each Power Park Unit at a specified time. Power Available shall be a value between 0MW and Registered Capacity which is the sum of the potential Active Power available of each Power Park Unit within the Power Park Module . A turbine that is not generating will be considered as not available. For the avoidance of doubt, the Power Available signal would be the Active Power output that a Power Park Module could reasonably be expected to export at the Grid Entry Point or User System Entry Point taking all the above criteria into account including Power Park Unit constraints such as optimisation modes but would exclude a reduction in the Active Power export of the Power Park Module instructed by NGET (for example) for the purposes selecting a Power Park Module to operate in Frequency Sensitive Mode or when an Emergency Instruction has been issued.
Power Factor	The ratio of Active Power to Apparent Power .
Power Island	Gensets at an isolated Power Station , together with complementary local Demand . In Scotland a Power Island may include more than one Power Station .
Power Park Module	Any Onshore Power Park Module or Offshore Power Park Module .
Power Park Module Availability Matrix	The matrix described in Appendix 1 to BC1 under the heading Power Park Module Availability Matrix .
Power Park Module Planning Matrix	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.
Power Park Unit	A Generating Unit within a Power Park Module .
Power Station	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 .
Power System Stabiliser or PSS	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).

Preface	The preface to the Grid Code (which does not form part of the Grid Code and therefore is not binding).
Preliminary Notice	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 .
Preliminary Project Planning Data	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: <ul style="list-style-type: none"> (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. <p>The report may include requirements for indemnities to be given in respect of claims and losses arising from a System Test.</p>
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: <ul style="list-style-type: none"> (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 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 the Generator or DC Converter Station owner in question (as applicable) from complying with any Reactive Despatch Instruction with respect to that Generating Unit, Power Park Module or DC Converter at a DC Converter Station , whether to provide Mvars over the range referred to in CC 6.3.2 or otherwise.
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: <p>1000 VAr = 1 kVAr</p> <p>1000 kVAr = 1 Mvar</p>
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: <ul style="list-style-type: none"> (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.
Requesting Safety Co-ordinator	The Safety Co-ordinator requesting Safety Precautions .
Responsible Engineer/Operator	A person nominated by a User to be responsible for System control.
Responsible Manager	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 .
Re-synchronisation	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.
Safety Co-ordinator	A person or persons nominated by a Relevant E&W Transmission Licensee and each E&W User in relation to Connection Points (or in the case of OTSUA operational prior to the OTSUA Transfer Time, Transmission Interface Points) on an E&W Transmission System and/or by the Relevant Scottish Transmission Licensee and each Scottish User in relation to Connection Points (or in the case of OTSUA operational prior to the OTSUA Transfer Time, Transmission Interface Points) on a Scottish Transmission System to be responsible for the co-ordination of Safety Precautions at each Connection Point (or in the case of OTSUA operational prior to the OTSUA Transfer Time, Transmission Interface Points) 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 .

Safety From The System	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 .
Safety Key	A key unique at the Location capable of operating a lock which will cause an Isolating Device and/or Earthing Device to be Locked .
Safety Log	A chronological record of messages relating to safety co-ordination sent and received by each Safety Co-ordinator under OC8 .
Safety Precautions	Isolation and/or Earthing .
Safety Rules	The rules of NET (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 .
Scottish Offshore Transmission System	An Offshore Transmission System with an Interface Point in Scotland.
Scottish Offshore Transmission Licensee	A person who owns or operates a Scottish Offshore Transmission System pursuant to a Transmission Licence .
Scottish Transmission System	Collectively SPT's Transmission System and SHETL's Transmission System and any Scottish Offshore Transmission Systems .
Scottish User	A User in Scotland or any Offshore User who owns or operates Plant and/or Apparatus connected (or which will at the OTSUA Transfer Time be connected) to a Scottish Offshore Transmission System
Secondary 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 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.
Secretary of State	Has the same meaning as in the Act .
Secured Event	Has the meaning set out in the Security and Quality of Supply Standard .
Security and Quality of Supply Standard	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 .
Setpoint Voltage	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.
Settlement Period	A period of 30 minutes ending on the hour and half-hour in each hour during a day.

Seven Year Statement	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.
SF₆ Gas Zone	A segregated zone surrounding electrical conductors within a casing containing SF ₆ gas.
SHETL	Scottish Hydro-Electric Transmission Limited
Shutdown	The condition of a Generating Unit where the generator rotor is at rest or on barring.
Significant Code Review	Means a review of one or more matters which the Authority considers is likely to: <ul style="list-style-type: none"> (a) relate to the Grid Code (either on its own or in conjunction with any other industry codes); and (b) be of particular significance in relation to its principal objective and/or general duties (under section 3A of the Act), statutory functions and/or relevant obligations arising under EU law, and concerning which the Authority has issued a notice to NGET (among others, as appropriate) stating: <ul style="list-style-type: none"> (i) that the review will constitute a Significant Code Review; (ii) the start date of the Significant Code Review; and (iii) the matters that will fall within the scope of the review;
Significant Code Review Phase	Means the period commencing on the start date of a Significant Code Review as stated in the notice issued by the Authority , and ending either: <ul style="list-style-type: none"> (a) on the date on which the Authority issues a statement that no directions will be issued in relation to the Grid Code; or (b) if no statement is made under (a), and the Authority has directed NGET to raise GC Modification Proposal associated with the Significant Code Review, on the date on which NGET has raise such a GC Modification Proposal; or (c) immediately, if neither a statement nor directions are issued by the Authority within (and including) twenty eight (28) days from the Authority's publication of its Significant Code Review conclusions.
Significant Incident	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.

Simultaneous Tap Change	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.
Single Line Diagram	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.
Single Point of Connection	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:
 - (i) **NGET's Transmission System** where such **Power Station** has a **Registered Capacity** of less than 50MW; or
 - (ii) **SPT's Transmission System** where such **Power Station** has a **Registered Capacity** of less than 30MW; or
 - (iii) **SHETL's Transmission System** where such a **Power Station** has a **Registered Capacity** of less than 10 MW; or
 - (iv) 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:
 - (i) **NGET's Transmission System** and such **Power Station** has a **Registered Capacity** of less than 50MW; or
 - (ii) **SPT's Transmission System** and such **Power Station** has a **Registered Capacity** of less than 30MW; or
 - (iii) **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:
 - (i) **NGET's Transmission Area** and such **Power Station** has a **Registered Capacity** of less than 50MW; or
 - (ii) **SPT's Transmission Area** and such **Power Station** has a **Registered Capacity** of less than 30MW; or
 - (iii) **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**.

Start Time

The time named as such in an instruction issued by **NGET** pursuant to the **BC**.

Start-Up

The action of bringing a **Generating Unit** from **Shutdown** to **Synchronous Speed**.

Statement of Readiness

Has the meaning set out in the **Bilateral Agreement** and/or **Construction Agreement**.

Station Board	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 .
Station Transformer	A transformer supplying electrical power to the Auxiliaries of <ul style="list-style-type: none"> (a) a Power Station, which is not directly connected to the Generating Unit terminals (typical voltage ratios being 132/11kV or 275/11kV), or (b) a DC Converter Station.
STC Committee	The committee established under the STC .
Steam Unit	A Generating Unit whose prime mover converts the heat-energy in steam to mechanical energy.
Subtransmission System	The part of a User's System which operates at a single transformation below the voltage of the relevant Transmission System .
Supergrid Voltage	Any voltage greater than 200kV.
Supplier	<ul style="list-style-type: none"> (a) A person supplying electricity under an Electricity Supply Licence; or (b) A person supplying electricity under exemption under the Act; in each case acting in its capacity as a supplier of electricity to Customers in Great Britain .
Surplus	<p>A MW figure relating to a System Zone equal to the total Output Usable in the System Zone:</p> <ul style="list-style-type: none"> (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 <ul style="list-style-type: none"> plus the import limit in the case of an import limited System Zone, and <ul style="list-style-type: none"> (c) (only in the case of a System Zone comprising the National Electricity Transmission System) minus the Operational Planning Margin. <p>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.</p>
Synchronised	<ul style="list-style-type: none"> (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 .
System	Any User System and/or the National Electricity Transmission System , as the case may be.
System Ancillary Services	Collectively Part 1 System Ancillary Services and Part 2 System Ancillary Services .
System Constraint	A limitation on the use of a System due to lack of transmission capacity or other System conditions.
System Constrained Capacity	That portion of Registered Capacity or Registered Import Capacity not available due to a System Constraint .
System Constraint Group	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.
System Fault Dependability Index or Dp	<p>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:</p> $Dp = 1 - F_1/A$ <p>Where:</p> <p>A = Total number of System faults</p> <p>F₁ = Number of System faults where there was a failure to trip a circuit-breaker.</p>
System Margin	<p>The margin in any period between</p> <p>(a) the sum of Maximum Export Limits and</p> <p>(b) forecast Demand and the Operating Margin,</p> <p>for that period.</p>
System Negative Reserve Active Power Margin or System NRAPM	That margin of Active Power sufficient to allow the largest loss of Load at any time.
System Operator - Transmission Owner Code or STC	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.
Technical Specification	In relation to Plant and/or Apparatus , <ul style="list-style-type: none"> (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.
Test Co-ordinator	A person who co-ordinates System Tests .
Test Panel	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 .

Test Programme	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.
Test Proposer	The person who submits a Proposal Notice .
Total Shutdown	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 .
Total System	The National Electricity Transmission System and all User Systems in the National Electricity Transmission System Operator Area .
Trading Point	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 .
Transfer Date	Such date as may be appointed by the Secretary of State by order under section 65 of the Act .
Transmission	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 .
Transmission Area	Has the meaning set out in the Transmission Licence of a Transmission Licensee .
Transmission DC Converter	Any Transmission Licensee Apparatus (or OTSUA that will become Transmission Licensee Apparatus at the OTSUA Transfer Time) 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.
Transmission Entry Capacity	Has the meaning set out in the CUSC .
Transmission Interface Circuit	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.
Transmission Interface Point	means the electrical point of connection between the Offshore Transmission System and an Onshore Transmission System .
Transmission Interface Site	the site at which the Transmission Interface Point is located.
Transmission Licence	A licence granted under Section 6(1)(b) of the Act .

Transmission Licensee	Any Onshore Transmission Licensee or Offshore Transmission Licensee
Transmission Site	<p>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.</p> <p>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.</p>
Transmission System	Has the same meaning as the term "licensee's transmission system" in the Transmission Licence of a Transmission Licensee .
Turbine Time Constant	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.
Unbalanced Load	The situation where the Load on each phase is not equal.
Under-excitation Limiter	Shall have the meaning ascribed to that term in IEC 34-16-1:1991 [equivalent to British Standard BS4999 Section 116.1 : 1992].
Under Frequency Relay	An electrical measuring relay intended to operate when its characteristic quantity (Frequency) reaches the relay settings by decrease in Frequency .
Unit Board	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 .
Unit Transformer	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.
Unit Load Controller Response Time Constant	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 .
Unresolved Issues	Any relevant Grid Code provisions or Bilateral Agreement requirements identified by NGET with which the relevant User has not demonstrated compliance to NGET's reasonable satisfaction at the date of issue of the Interim Operational Notification and/or Limited Operational Notification and which are detailed in such Interim Operational Notification and/or Limited Operational Notification .
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 Data File Structure	The file structure given at DRC 18 which will be specified by NGET which a Generator or DC Converter Station owner must use for the purposes of CP to submit DRC data Schedules and information demonstrating compliance with the Grid Code and, where applicable, with the CUSC Contract(s) , unless otherwise agreed by NGET .
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 Self Certification of Compliance	A certificate, in the form attached at CP.A.2.(1) completed by a Generator or DC Converter Station owner to which the Compliance Statement is attached which confirms that such Plant and Apparatus complies with the relevant Grid Code provisions and where appropriate, with the CUSC Contract(s), as identified in the Compliance Statement and, if appropriate, identifies any Unresolved Issues and/or any exceptions to such compliance and details the derogation(s) granted in respect of such exceptions.
User Site	<p>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.</p> <p>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.</p>
User System	<p>Any system owned or operated by a User comprising:-</p> <p>(a) Generating Units; and/or</p> <p>(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;</p> <p>and Plant and/or Apparatus Apparatus (including prior to the OTSUA Transfer Time, any OTSUA) connecting:-</p> <p>(c) The system as described above; or</p> <p>(d) Non-Embedded Customers equipment;</p> <p>to the National Electricity Transmission System or to the relevant other User System, as the case may be.</p> <p>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.</p>
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.

GD.2 Construction of References

GD.2.1 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, sub-paragraph, Appendix or Schedule shall be a reference to that paragraph, sub-paragraph Appendix or Schedule in or to that part of the Grid Code in which the reference is made;
- (iii) unless the context otherwise requires, the singular shall include the plural and vice versa, references to any gender shall include all other genders and references to persons shall include any individual, body corporate, corporation, joint venture, trust, unincorporated association, organisation, firm or partnership and any other entity, in each case whether or not having a separate legal personality;
- (iv) references to the words "include" or "including" are to be construed without limitation to the generality of the preceding words;
- (v) unless there is something in the subject matter or the context which is inconsistent therewith, any reference to an 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 GLOSSARY & DEFINITIONS >

OPERATING CODE NO. 7

(OC7)

OPERATIONAL LIAISON

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(This contents page does not form part of the Grid Code)

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OC7.1 INTRODUCTION

OC7.1.1 **Operating Code No. 7 ("OC7")** sets out the requirements for the exchange of information in relation to **Operations** and/or **Events** on the **Total System** which have had (or may have had) or will have (or may have) an **Operational Effect**:

- (a) on the **National Electricity Transmission System** in the case of an **Operation** and/or **Event** occurring on the **System** of a **User** or **Users**; and
- (b) on the **System** of a **User** or **Users** in the case of an **Operation** and/or **Event** occurring on the **National Electricity Transmission System**.

It also describes the types of **National Electricity Transmission System Warning** which may be issued by **NGET**.

OC7.1.2 The requirement to notify in **OC7** relates generally to notifying of what is expected to happen or what has happened and not the reasons why. However, as **OC7** provides, when an **Event** or **Operation** has occurred on the **National Electricity Transmission System** which itself has been caused by (or exacerbated by) an **Operation** or **Event** on a **User's System**, **NGET** in reporting the **Event** or **Operation** on the **National Electricity Transmission System** to another **User** can pass on what it has been told by the first **User** in relation to the **Operation** or **Event** on the first **User's System**.

OC7.1.3 Where an **Event** or **Operation** on the **National Electricity Transmission System** falls to be reported by **NGET** to an **Externally Interconnected System Operator** under an **Interconnection Agreement**, **OC7** provides that in the situation where that **Event** or **Operation** has been caused by (or exacerbated by) an **Operation** or **Event** on a **User's System**, **NGET** can pass on what it has been told by the **User** in relation to the **Operation** or **Event** on that **User's System**.

OC7.1.4 **OC7** also deals with **Integral Equipment Tests**.

OC7.1.5 To reconfigure the **National Electricity Transmission System**, **NGET** may reasonably require the assistance of a **User** to reconfigure parts of the **User System**. To reconfigure its **User System** a **User** may reasonably require the reasonable assistance of **NGET** to direct the reconfiguration of parts of the **National Electricity Transmission System**.

OC7.1.6 **OC7.6** sets down the arrangements for the exchange of information required when configuring **Connection Sites** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time**, **Transmission Interface Sites**) and parts of the **National Electricity Transmission System** adjacent to those **Connection Sites** (or **Transmission Interface Sites**) in Scotland and **Offshore**. It also covers the setting up of a **Local Switching Procedure**. **NGET** shall procure that **Relevant Transmission Licensees** shall comply with section **OC7.6** and any relevant **Local Switching Procedure** where and to the extent that such matters apply to them.

OC7.2 OBJECTIVE

The objectives of **OC7** are:

OC7.2.1 To provide for the exchange of information so that the implications of an **Operation** and/or **Event** can be considered, possible risks arising from it can be assessed and appropriate action taken by the relevant party in order to maintain the integrity of the **Total System**. **OC7** does not seek to deal with any actions arising from the exchange of information, but merely with that exchange.

OC7.2.2 To provide for types of **National Electricity Transmission System Warnings** which may be issued by **NGET**.

OC7.2.3 To provide the framework for the information flow and discussion between **NGET** and certain **Users** in relation to **Integral Equipment Tests**.

OC7.2.4 To provide the procedure to be followed in respect of **Operational Switching** in Scotland and **Offshore**.

OC7.3 SCOPE

OC7.3.1 **OC7** applies to **NGET** and to **Users**, which in **OC7** means:

- (a) **Generators** (other than those which only have **Embedded Small Power Stations** or **Embedded Medium Power Stations**) and including **Generators** undertaking **OTSDUW**;
- (b) **Network Operators**;
- (c) **Non-Embedded Customers**;
- (d) **Suppliers** (for the purposes of **National Electricity Transmission System Warnings**);
- (e) **Externally Interconnected System Operators** (for the purposes of **National Electricity Transmission System Warnings**); and
- (f) **DC Converter Station** owners.

The procedure for operational liaison by **NGET** with **Externally Interconnected System Operators** is set out in the **Interconnection Agreement** with each **Externally Interconnected System Operator**.

In Scotland and **Offshore** OC7.6 also applies to **Relevant Transmission Licensees**.

OC7.4 PROCEDURE

OC7.4.1 The term "**Operation**" means a scheduled or planned action relating to the operation of a **System** (including an **Embedded Power Station**).

OC7.4.2 The term "**Event**" means an unscheduled or unplanned (although it may be anticipated) occurrence on, or relating to, a **System** (including an **Embedded Power Station**) including, without limiting that general description, faults, incidents and breakdowns and adverse weather conditions being experienced.

OC7.4.3 The term "**Operational Effect**" means any effect on the operation of the relevant other **System** which causes the **National Electricity Transmission System** or the **Systems** 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 normally operated in the absence of that effect.

OC7.4.4 References in this **OC7** to a **System** of a **User** or **User's System** shall not include **Embedded Small Power Stations** or **Embedded Medium Power Stations**, unless otherwise stated.

OC7.4.5 Requirement To Notify Operations

OC7.4.5.1 Operation On The National Electricity Transmission System

In the case of an **Operation** on the **National Electricity Transmission System**, which will have (or may have) an **Operational Effect** on the **System(s)** of a **User** or **Users**, **NGET** will notify the **User** or **Users** whose **System(s)** will, or may, in the reasonable opinion of **NGET**, be affected, in accordance with **OC7**.

OC7.4.5.2 Operation On A User's System

In the case of an **Operation** on the **System** of a **User** which will have (or may have) an **Operational Effect** on the **National Electricity Transmission System** (including an equivalent to an **Operation** on the equivalent of a **System** of a **User** or other person connected to that **User's System** which, via that **User System**, will or may have an **Operational Effect** on the **National Electricity Transmission System**), the **User** will notify **NGET** in accordance with **OC7**. Following notification by the **User**, **NGET** will notify any other **User** or **Users** on whose **System(s)** the **Operation** will have, or may have, in the reasonable opinion of **NGET**, an **Operational Effect**, in accordance with **OC7** and will notify any **Externally Interconnected System Operator** on whose **System** the **Operation** will have, or may have, in the reasonable opinion of **NGET**, an **Operational Effect**, if it is required to do so by the relevant **Interconnection Agreement**.

OC7.4.5.3 Examples Of Situations Where Notification By NGET Or A User May Be Required

Whilst in no way limiting the general requirement to notify in advance set out in OC7.4.5.1 and OC7.4.5.2, the following are examples of situations where notification in accordance with OC7.4.5 will be required if they will, or may, have an **Operational Effect**:

- (a) the implementation of a planned outage of **Plant** and/or **Apparatus** which has been arranged pursuant to **OC2**;
- (b) the operation (other than, in the case of a **User**, at the instruction of **NGET**) of any circuit breaker or isolator/disconnector or any sequence or combination of the two; or
- (c) voltage control.

OC7.4.5.4 Operations Caused By Another Operation Or By An Event

An **Operation** may be caused by another **Operation** or an **Event** on another's **System** (including an **Embedded Power Station**) (or by the equivalent of an **Event** or **Operation** on the **System** of an **Externally Interconnected System Operator** or **Interconnector User**) and in that situation the information to be notified is different to that where the **Operation** arose independently of any other **Operation** or **Event**, as more particularly provided in OC7.4.5.6.

OC7.4.5.5 Form

A notification and any response to any questions asked under OC7.4.5, of an **Operation** which has arisen independently of any other **Operation** or of an **Event**, shall be of sufficient detail to describe the **Operation** (although it need not state the cause) and to enable the recipient of the notification reasonably to consider and assess the implications and risks arising (provided that, in the case of an **Operation** on a **User's System** which **NGET** is notifying to other **Users** under OC7.4.5.2, **NGET** will only pass on what it has been told by the **User** which has notified it) and will include the name of the individual reporting the **Operation** on behalf of **NGET** or the **User**, as the case may be. The recipient may ask questions to clarify the notification and the giver of the notification will, insofar as it is able, answer any questions raised, provided that, in the case of an **Operation** on a **User's System** which **NGET** is notifying to other **Users** under OC7.4.5.2, in answering any question, **NGET** will not pass on anything further than that which it has been told by the **User** which has notified it. **NGET** may pass on the information contained in the notification as provided in OC7.4.5.6.

- OC7.4.5.6
- (a) A notification by **NGET** of an **Operation** under OC7.4.5.1 which has been caused by another **Operation** (the "first **Operation**") or by an **Event** on a **User's System**, will describe the **Operation** and will contain the information which **NGET** has been given in relation to the first **Operation** or that **Event** by the **User**. The notification and any response to any questions asked (other than in relation to the information which **NGET** is merely passing on from a **User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Operation** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Operation** on behalf of **NGET**. The recipient may ask questions to clarify the notification and **NGET** will, insofar as it is able, answer any questions raised, provided that in relation to the information which **NGET** is merely passing on from a **User**, in answering any question **NGET** will not pass on anything further than that which it has been told by the **User** which has notified it.
 - (b) Where a **User** is reporting an **Operation** or an **Event** which itself has been caused by an incident or scheduled or planned action affecting (but not on) its **System**, the notification to **NGET** will contain the information which the **User** has been given by the person connected to its **System** in relation to that incident or scheduled or planned action (which the **User** must require, contractually or otherwise, the person connected to its **System** to give to it) and **NGET** may pass on the information contained in the notification as provided in this OC7.4.5.6.

- OC7.4.5.7 Where an **Operation** on the **National Electricity Transmission System** falls to be reported by **NGET** under an **Interconnection Agreement** and the **Operation** has been caused by another **Operation** (the "first **Operation**") or by an **Event** on a **User's System**, **NGET** will include in that report the information which **NGET** has been given in relation to the first **Operation** or that **Event** by the **User** (including any information relating to an incident or scheduled or planned action, as provided in OC7.4.5.6).
- OC7.4.5.8 (a) A notification to a **User** by **NGET** of an **Operation** under OC7.4.5.1 which has been caused by the equivalent of an **Operation** or of an **Event** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, will describe the **Operation** on the **National Electricity Transmission System** and will contain the information which **NGET** has been given, in relation to the equivalent of an **Operation** or of an **Event** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, by that **Externally Interconnected System Operator** or **Interconnector User**.
- (b) The notification and any response to any question asked (other than in relation to the information which **NGET** is merely passing on from that **Externally Interconnected System Operator** or **Interconnector User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Operation** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Operation** on behalf of **NGET**. The recipient may ask questions to clarify the notification and **NGET** will, insofar as it is able, answer any questions raised, provided that, in relation to the information which **NGET** is merely passing on from an **Externally Interconnected System Operator** or **Interconnector User**, in answering any question **NGET** will not pass on anything further than that which it has been told by the **Externally Interconnected System Operator** or **Interconnector User** which has notified it.
- OC7.4.5.9 (a) A **Network Operator** may pass on the information contained in a notification to it from **NGET** under OC7.4.5.1, to a **Generator** with a **Generating Unit** or a **Power Park Module** connected to its **System**, or to a **DC Converter Station** owner with a **DC Converter** connected to its **System**, or to the operator of another **User System** connected to its **System** (which, for the avoidance of doubt, could be another **Network Operator**), in connection with reporting the equivalent of an **Operation** under the **Distribution Code** (or the contract pursuant to which that **Generating Unit** or **Power Park Module** or other **User System**, or to a **DC Converter Station** is connected to the **System** of that **Network Operator**) (if the **Operation** on the **National Electricity Transmission System** caused it).
- (b) A **Generator** may pass on the information contained in a notification to it from **NGET** under OC7.4.5.1, to another **Generator** with a **Generating Unit** or a **Power Park Module** connected to its **System**, or to the operator of a **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), if it is required (by a contract pursuant to which that **Generating Unit** or that **Power Park Module** or that **User System** is connected to its **System**) to do so in connection with the equivalent of an **Operation** on its **System** (if the **Operation** on the **National Electricity Transmission System** caused it).
- OC7.4.5.10 (a) Other than as provided in OC7.4.5.9, a **Network Operator** or a **Generator** may not pass on any information contained in a notification to it from **NGET** under OC7.4.5.1 (and an operator of a **User System** or **Generator** receiving information which was contained in a notification to a **Generator** or a **Network Operator**, as the case may be, from **NGET** under OC7.4.5.1, as envisaged in OC7.4.5.9 may not pass on this information) to any other person, but may inform persons connected to its **System** (or in the case of a **Generator** which is also a **Supplier**, inform persons to which it supplies electricity which may be affected) that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected) an estimated time of return to service.

- (b) In the case of a **Generator** which has an **Affiliate** which is a **Supplier**, the **Generator** may inform it that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected in a particular area) an estimated time of return to service in that area, and that **Supplier** may pass this on to persons to which it supplies electricity which may be affected).
- (c) Each **Network Operator** and **Generator** shall use its reasonable endeavours to procure that any **Generator** or operator of a **User System** receiving information which was contained in a notification to a **Generator** or **Network Operator**, as the case may be, from **NGET** under OC7.4.5.1, which is not bound by the **Grid Code**, does not pass on any information other than as provided above.

OC7.4.5.11 The notification will, if either party requests, be recorded by the sender and dictated to the recipient, who shall record and repeat each phrase as it is received and on completion of the dictation shall repeat back the notification in full to the sender who shall confirm that it has been accurately recorded.

OC7.4.5.12 Timing

A notification under OC7.4.5 will be given as far in advance as possible and in any event shall be given in sufficient time as will reasonably allow the recipient to consider and assess the implications and risks arising.

OC7.4.6 Requirements To Notify Events

OC7.4.6.1 Events On The National Electricity Transmission System

In the case of an **Event** on the **National Electricity Transmission System** which has had (or may have had) an **Operational Effect** on the **System(s)** of a **User** or **Users**, **NGET** will notify the **User** or **Users** whose **System(s)** have been, or may have been, in the reasonable opinion of **NGET**, affected, in accordance with **OC7**.

OC7.4.6.2 Events On A User's System

In the case of an **Event** on the **System** of a **User** which has had (or may have had) an **Operational Effect** on the **National Electricity Transmission System**, the **User** will notify **NGET** in accordance with **OC7**.

OC7.4.6.3 Events Caused By Another Event Or By An Operation

An **Event** may be caused (or exacerbated by) another **Event** or by an **Operation** on another's **System** (including on an **Embedded Power Station**) (or by the equivalent of an **Event** or **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**) and in that situation the information to be notified is different to that where the **Event** arose independently of any other **Event** or **Operation**, as more particularly provided in OC7.4.6.7.

OC7.4.6.4 **NGET** or a **User**, as the case may be, may enquire of the other whether an **Event** has occurred on the other's **System**. If it has, and the party on whose **System** the **Event** has occurred is of the opinion that it may have had an **Operational Effect** on the **System** of the party making the enquiry, it shall notify the enquirer in accordance with **OC7**.

OC7.4.6.5 Examples Of Situations Where Notification By NGET Or A User May Be Required

Whilst in no way limiting the general requirement to notify set out in OC7.4.6.1, OC7.4.6.2 and OC7.4.6.3, the following are examples of situations where notification in accordance with OC7.4.6 will be required if they have an **Operational Effect**:

- (a) where **Plant** and/or **Apparatus** is being operated in excess of its capability or may present a hazard to personnel;
- (b) the activation of any alarm or indication of any abnormal operating condition;
- (c) adverse weather conditions being experienced;
- (d) breakdown of, or faults on, or temporary changes in the capabilities of, **Plant** and/or **Apparatus**;

- (e) breakdown of, or faults on, control, communication and metering equipment; or
- (f) increased risk of inadvertent protection operation.

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- OC7.4.6.6 A notification and any response to any questions asked under OC7.4.6.1 and OC7.4.6.2 of an **Event** which has arisen independently of any other **Event** or of an **Operation**, will describe the **Event**, although it need not state the cause of the **Event**, and, subject to that, will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising and will include the name of the individual reporting the **Event** on behalf of **NGET** or the **User**, as the case may be. The recipient may ask questions to clarify the notification and the giver of the notification will, insofar as it is able (although it need not state the cause of the **Event**) answer any questions raised. **NGET** may pass on the information contained in the notification as provided in OC7.4.6.7.
- OC7.4.6.7 (a) A notification (and any response to any questions asked under OC7.4.6.1) by **NGET** of (or relating to) an **Event** under OC7.4.6.1 which has been caused by (or exacerbated by) another **Event** (the "first **Event**") or by an **Operation** on a **User's System** will describe the **Event** and will contain the information which **NGET** has been given in relation to the first **Event** or that **Operation** by the **User** (but otherwise need not state the cause of the **Event**). The notification and any response to any questions asked (other than in relation to the information which **NGET** is merely passing on from a **User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Event** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Event** on behalf of **NGET**. The recipient may ask questions to clarify the notification and **NGET** will, insofar as it is able, answer any questions raised, provided that in relation to the information which **NGET** is merely passing on from a **User**, in answering any question **NGET** will not pass on anything further than that which it has been told by the **User** which has notified it.
- (b) Where a **User** is reporting an **Event** or an **Operation** which itself has been caused by (or exacerbated by) an incident or scheduled or planned action affecting (but not on) its **System** the notification to **NGET** will contain the information which the **User** has been given by the person connected to its **System** in relation to that incident or scheduled or planned action (which the **User** must require, contractually or otherwise, the person connected to its **System** to give to it) and **NGET** may pass on the information contained in the notification as provided in this OC7.4.6.7.
- OC7.4.6.8 Where an **Event** on the **National Electricity Transmission System** falls to be reported by **NGET** under an **Interconnection Agreement** and the **Event** has been caused by (or exacerbated by) another **Event** (the "first **Event**") or by an **Operation** on a **User's System**, **NGET** will include in that report the information which **NGET** has been given in relation to the first **Event** or that **Operation** by the **User** (including any information relating to an incident or scheduled or planned action on that **User's System**, as provided in OC7.4.6.7).
- OC7.4.6.9 (a) A notification to a **User** (and any response to any questions asked under OC7.4.6.1) by **NGET** of (or relating to) an **Event** under OC7.4.6.1 which has been caused by (or exacerbated by) the equivalent of an **Event** or of an **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, will describe the **Event** on the **National Electricity Transmission System** and will contain the information which **NGET** has been given, in relation to the equivalent of an **Event** or of an **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, by that **Externally Interconnected System Operator** or **Interconnector User** (but otherwise need not state the cause of the **Event**).

- (b) The notification and any response to any questions asked (other than in relation to the information which **NGET** is merely passing on from that **Externally Interconnected System Operator** or **Interconnector User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Event** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Event** on behalf of **NGET**. The recipient may ask questions to clarify the notification and **NGET** will, insofar as it is able (although it need not state the cause of the **Event**) answer any questions raised, provided that, in relation to the information which **NGET** is merely passing on from an **Externally Interconnected System Operator** or **Interconnector User**, in answering any question **NGET** will not pass on anything further than that which it has been told by the **Externally Interconnected System Operator** or **Interconnector User** which has notified it.

OC7.4.6.10 (a) A **Network Operator** may pass on the information contained in a notification to it from **NGET** under OC7.4.6.1, to a **Generator** with a **Generating Unit** or a **Power Park Module** connected to its **System** or to a **DC Converter Station** owner with a **DC Converter** connected to its **System** or to the operator of another **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), in connection with reporting the equivalent of an **Event** under the **Distribution Code** (or the contract pursuant to which that **Generating Unit** or **Power Park Module** or **DC Converter** or other **User System** is connected to the **System** of that **Network Operator**) (if the **Event** on the **National Electricity Transmission System** caused or exacerbated it).

- (b) A **Generator** may pass on the information contained in a notification to it from **NGET** under OC7.4.6.1, to another **Generator** with a **Generating Unit** or a **Power Park Module** connected to its **System** or to the operator of a **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), if it is required (by a contract pursuant to which that **Generating Unit** or that **Power Park Module** or that **User System** is connected to its **System**) to do so in connection with the equivalent of an **Event** on its **System** (if the **Event** on the **National Electricity Transmission System** caused or exacerbated it).

OC7.4.6.11 (a) Other than as provided in OC7.4.6.10, a **Network Operator** or a **Generator**, may not pass on any information contained in a notification to it from **NGET** under OC7.4.6.1 (and an operator of a **User System** or **Generator** receiving information which was contained in a notification to a **Generator** or a **Network Operator**, as the case may be, from **NGET** under OC7.4.6.1, as envisaged in OC7.4.6.10 may not pass on this information) to any other person, but may inform persons connected to its **System** (or in the case of a **Generator** which is also a **Supplier**, inform persons to which it supplies electricity which may be affected) that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected) an estimated time of return to service.

- (b) In the case of a **Generator** which has an **Affiliate** which is a **Supplier**, the **Generator** may inform it that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected in a particular area) an estimated time of return to service in that area, and that **Supplier** may pass this on to persons to which it supplies electricity which may be affected).

- (c) Each **Network Operator** and **Generator** shall use its reasonable endeavours to procure that any **Generator** or operator of a **User System** receiving information which was contained in a notification to a **Generator** or **Network Operator**, as the case may be, from **NGET** under OC7.4.6.1, which is not bound by the **Grid Code**, does not pass on any information other than as provided above.

OC7.4.6.12 When an **Event** relating to a **Generating Unit**, a **Power Park Module** or a **DC Converter** (or **OTSUA** operational prior to the **OTSUA Transfer Time**), has been reported to **NGET** by a **Generator** or **DC Converter Station** owner under OC7.4.6 and it is necessary in order for the **Generator** or **DC Converter Station** owner to assess the implications of the **Event** on its **System** more accurately, the **Generator** or **DC Converter Station** owner may ask **NGET** for details of the fault levels from the **National Electricity Transmission System** to that **Generating Unit**, **Power Park Module** or **DC Converter** (or **OTSUA** operational prior to the **OTSUA Transfer Time**) at the time of the **Event**, and **NGET** will, as soon as reasonably practicable, give the **Generator** or **DC Converter Station** owner that information provided that **NGET** has that information.

OC7.4.6.13 Except in an emergency situation the notification of an **Event** will, if either party requests, be recorded by the sender and dictated to the recipient, who shall record and repeat each phrase as it is received and on completion of the dictation shall repeat the notification in full to the sender who shall confirm that it has been accurately recorded.

Timing

OC7.4.6.14 A notification under OC7.4.6 shall be given as soon as possible after the occurrence of the **Event**, or time that the **Event** is known of or anticipated by the giver of the notification under **OC7**, and in any event within 15 minutes of such time.

OC7.4.7 Significant Incidents

OC7.4.7.1 Where a **User** notifies **NGET** of an **Event** under **OC7** which **NGET** considers has had or may have had a significant effect on the **National Electricity Transmission System**, **NGET** will require the **User** to report that **Event** in writing in accordance with the provisions of **OC10** and will notify that **User** accordingly.

OC7.4.7.2 Where **NGET** notifies a **User** of an **Event** under **OC7** which the **User** considers has had or may have had a significant effect on that **User's System**, that **User** will require **NGET** to report that **Event** in writing in accordance with the provisions of **OC10** and will notify **NGET** accordingly.

OC7.4.7.3 **Events** which **NGET** requires a **User** to report in writing pursuant to OC7.4.7.1, and **Events** which a **User** requires **NGET** to report in writing pursuant to OC7.4.7.2, are known as "**Significant Incidents**".

OC7.4.7.4 Without limiting the general description set out in OC7.4.7.1 and OC7.4.7.2, a **Significant Incident** will include **Events** having an **Operational Effect** which result in, or may result in, the following:

- (a) operation of **Plant** and/or **Apparatus** either manually or automatically;
- (b) voltage outside statutory limits;
- (c) **Frequency** outside statutory limits; or
- (d) **System** instability.

OC 7.4.8 National Electricity Transmission System Warnings

OC7.4.8.1 Role Of National Electricity Transmission System Warnings

National Electricity Transmission System Warnings as described below provide information relating to **System** conditions or **Events** and are intended to:

- (i) alert **Users** to possible or actual **Plant** shortage, **System** problems and/or **Demand** reductions;
- (ii) inform of the applicable period;
- (iii) indicate intended consequences for **Users**; and
- (iv) enable specified **Users** to be in a state of readiness to react properly to instructions received from **NGET**.

A table of **National Electricity Transmission System Warnings**, set out in the Appendix to **OC7**, summarises the warnings and their usage. In the case of a conflict between the table and the provisions of the written text of **OC7**, the written text will prevail.

OC7.4.8.2 Recipients Of National Electricity Transmission System Warnings

- (a) Where **National Electricity Transmission System Warnings**, (except those relating to **Demand Control Imminent**), are applicable to **System** conditions or **Events** which have widespread effect, **NGET** will notify all **Users** under **OC7**.
- (b) Where in **NGET's** judgement **System** conditions or **Events** may only have a limited effect, the **National Electricity Transmission System Warning** will only be issued to those **Users** who are or may in **NGET's** judgement be affected.
- (c) Where a **National Electricity Transmission System Warning - Demand Control Imminent** is issued it will only be sent to those **Users** who are likely to receive **Demand Control** instructions from **NGET**.

OC7.4.8.3 Preparatory Action

- (a) Where possible, and if required, recipients of the warnings should take such preparatory action as they deem necessary taking into account the information contained in the **National Electricity Transmission System Warning**. All warnings will be of a form determined by **NGET** and will remain in force from the stated time of commencement until the cancellation, amendment or re-issue, as the case may be, is notified by **NGET**.
- (b) Where a **National Electricity Transmission System Warning** has been issued to a **Network Operator** and is current, **Demand Control** should not (subject as provided below) be employed unless instructed by **NGET**. If **Demand Control** is, however, necessary to preserve the integrity of the **Network Operator's System**, then the impact upon the integrity of the **Total System** should be considered by the **Network Operator** and where practicable discussed with **NGET** prior to its implementation.

Where a **National Electricity Transmission System Warning** has been issued to a **Supplier**, further **Customer Demand Management** (in addition to that previously notified under **OC1 - Demand Forecasts**) must only be implemented following notification to **NGET**.

- (c) **National Electricity Transmission System Warnings** will be issued by such data transmission facilities as have been agreed between **NGET** and **Users**. In the case of **Generators** with **Gensets** this will normally be at their **Trading Points** (if they have notified **NGET** that they have a **Trading Point**).
- (d) **Users** may at times be informed by telephone of **National Electricity Transmission System Warnings** and in these circumstances confirmation will be sent to those **Users** so notified by such data transmission facilities as have been agreed between **NGET** and **Users**, as soon as possible.

OC7.4.8.4 Types Of National Electricity Transmission System Warnings

National Electricity Transmission System Warnings consist of the following types:-

- (i) **National Electricity Transmission System Warning - Electricity Margin Notice**
- (ii) **National Electricity Transmission System Warning - High Risk of Demand Reduction**
- (iii) **National Electricity Transmission System Warning - Demand Control Imminent**
- (iv) **National Electricity Transmission System Warning - Risk of System Disturbance**

OC7.4.8.5 National Electricity Transmission System Warning - Electricity Margin Notice

A **National Electricity Transmission System Warning - Electricity Margin Notice** may be issued to **Users** in accordance with OC7.4.8.2, at times when there is a reduced **System Margin**, as determined under BC1.5.4. It will contain the following information:

- (i) the period for which the warning is applicable; and
- (ii) the availability shortfall in MW; and

- (iii) intended consequences for **Users**, including notification that **Maximum Generation Service** may be instructed.

OC 7.4.8.6 National Electricity Transmission System Warning - High Risk of Demand Reduction

- (a) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** may be issued to **Users** in accordance with OC7.4.8.2 at times when there is a reduced **System Margin**, as determined under BC1.5.4 and in **NGET's** judgement there is increased risk of **Demand** reduction being implemented under OC6.5.1. It will contain the following information in addition to the required information in a **National Electricity Transmission System Warning - Electricity Margin Notice**:
 - (i) the possible percentage level of **Demand** reduction required; and
 - (ii) Specify those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.1.
- (b) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** may also be issued by **NGET** to those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.1 relating to a **Demand** reduction in circumstances not related to **System Margin** (for example **Demand** reduction required to manage **System** overloading).

The **National Electricity Transmission System Warning - High Risk of Demand Reduction** will specify the period during which **Demand** reduction may be required and the part of the **Total System** to which it applies and any other matters specified in OC6.5.

OC7.4.8.6.1 Protracted Periods Of Generation Shortage

- (a) Whenever **NGET** anticipates that a protracted period of generation shortage may exist a **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** may be issued, to give as much notice as possible to those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.
- (b) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** will in these instances include an estimate of the percentage of **Demand** reduction that may be required and the anticipated duration of the **Demand** reduction. It may also include information relating to estimates of any further percentage of **Demand** reduction that may be required.
- (c) The issue of the **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** is intended to enable recipients to plan ahead on the various aspects of **Demand** reduction.

OC7.4.8.7 National Electricity Transmission System Warning - Demand Control Imminent

- (a) A **National Electricity Transmission System Warning - Demand Control Imminent**, relating to a **Demand** reduction under OC6.5, will be issued by **NGET** to **Users** in accordance with OC7.4.8.2. It will specify those **Network Operators** who may subsequently receive instructions under OC6.5.
- (b) A **National Electricity Transmission System Warning - Demand Control Imminent**, need not be preceded by any other **National Electricity Transmission System Warning** and will be issued when a **Demand** reduction is expected within the following 30 minutes, but will not cease to have effect after 30 minutes from its issue. However, **NGET** will either reissue the **National Electricity Transmission System Warning - Demand Control Imminent** or cancel the **National Electricity Transmission System Warning - Demand Control Imminent** no later than 2 hours from first issue, or from re-issue, as the case may be.

OC7.4.8.8 National Electricity Transmission System Warning - Risk of System Disturbance

- (a) A **National Electricity Transmission System Warning - Risk of System Disturbance** will be issued by **NGET** to **Users** who may be affected when **NGET** knows there is a risk of widespread and serious disturbance to the whole or part of, the **National Electricity Transmission System**;
- (b) The **National Electricity Transmission System Warning - Risk of System Disturbance** will contain such information as **NGET** deems appropriate;
- (c) for the duration of the **National Electricity Transmission System Warning - Risk of System Disturbance**, each **User** in receipt of the **National Electricity Transmission System Warning - Risk of System Disturbance** shall take the necessary steps to warn its operational staff and to maintain its **Plant** and/or **Apparatus** in the condition in which it is best able to withstand the anticipated disturbance;
- (d) During the period that the **National Electricity Transmission System Warning - Risk of System Disturbance** is in effect, **NGET** may issue **Emergency Instructions** in accordance with **BC2** and it may be necessary to depart from normal **Balancing Mechanism** operation in accordance with **BC2** in issuing **Bid-Offer Acceptances**.

OC7.4.8.9 Cancellation of National Electricity Transmission System Warning

- (a) **NGET** will give notification of a **Cancellation of National Electricity Transmission System Warning** to all **Users** issued with the **National Electricity Transmission System Warning** when in **NGET's** judgement **System** conditions have returned to normal.
- (b) A **Cancellation of National Electricity Transmission System Warning** will identify the type of **National Electricity Transmission System Warning** being cancelled and the period for which it was issued. The **Cancellation of National Electricity Transmission System Warning** will also identify any **National Electricity Transmission System Warnings** that are still in force.

OC7.4.8.10 General Management Of National Electricity Transmission System Warnings

- (a) **National Electricity Transmission System Warnings** remain in force for the period specified unless superseded or cancelled by **NGET**.
- (b) A **National Electricity Transmission System Warning** issued for a particular period may be superseded by further related warnings. This will include **National Electricity Transmission System Warning - Electricity Margin Notice** being superseded by **National Electricity Transmission System Warning - High Risk of Demand Reduction** and vice-versa.
- (c) In circumstances where it is necessary for the period of a **National Electricity Transmission System Warning** to be changed:
 - (i) the period applicable may be extended by the issue of a **National Electricity Transmission System Warning** with a period which follows on from the original period, or
 - (ii) revised or updated **National Electricity Transmission System Warnings** will be issued where there is an overlap with the period specified in an existing **National Electricity Transmission System Warning**, but only if the revised period also includes the full period of the existing **National Electricity Transmission System Warning**.

In any other case the existing **National Electricity Transmission System Warning** will be cancelled and a new one issued.

- (d) A **National Electricity Transmission System Warning** is no longer applicable once the period has passed and to confirm this **NGET** will issue a **Cancellation of National Electricity Transmission System Warning**.

OC7.5.1 This section of the **Grid Code** deals with **Integral Equipment Tests**. It is designed to provide a framework for the exchange of relevant information and for discussion between **NGET** and certain **Users** in relation to **Integral Equipment Tests**.

OC7.5.2 An **Integral Equipment Test** :

- (a) is carried out in accordance with the provisions of this OC7.5 at:
 - (i) a **User Site**,
 - (ii) a **Transmission Site**,
 - (iii) an **Embedded Large Power Station**, or,
 - (iv) an **Embedded DC Converter Station**;
- (b) will normally be undertaken during commissioning or re-commissioning of **Plant** and/or **Apparatus**;
- (c) may, in the reasonable judgement of the person wishing to perform the test, cause, or have the potential to cause, an **Operational Effect** on a part or parts of the **Total System** but which with prior notice is unlikely to have a materially adverse effect on any part of the **Total System**; and
- (d) may form part of an agreed programme of work.

In the case of **OTSUA** operational prior to the **OTSUA Transfer Time**, a **User's Site** or **Transmission Site** shall, for the purposes of this **OC7**, include a site at which there is an **Interface Point** until the **OTSUA Transfer Time** and the provisions of this OC7.5 and references to **OTSUA** shall be construed and applied accordingly until the **OTSUA Transfer Time**.

OC7.5.3 A set of guidance notes is available from **NGET** on request, which provide further details on suggested procedures, information flows and responsibilities.

Notification Of An IET

OC7.5.4 In order to undertake an **Integral Equipment Test** (and subject to OC7.5.8 below), the **User** or **NGET**, as the case may be, (the proposer) must notify the other (the recipient) of a proposed **IET**. Reasonable advance notification must be given, taking into account the nature of the test and the circumstances which make the test necessary. This will allow recipients time to adequately assess the impact of the **IET** on their **System**.

OC7.5.5 The notification of the **IET** must normally include the following information:-

- (a) the proposed date and time of the **IET**;
- (b) the name of the individual and the organisation proposing the **IET**;
- (c) a proposed programme of testing; and
- (d) such further detail as the proposer reasonably believes the recipient needs in order to assess the effect the **IET** may have on relevant **Plant** and/or **Apparatus**.

OC7.5.6 In the case of an **IET** in connection with commissioning or re-commissioning, the test should be incorporated as part of any overall commissioning programme agreed between **NGET** and the **User**.

Response To Notification Of An IET

OC7.5.7 The recipient of notification of an **IET** must respond within a reasonable timescale prior to the start time of the **IET** and will not unreasonably withhold or delay acceptance of the **IET** proposal.

OC7.5.8 (a) Where **NGET** receives notification of a proposed **IET** from a **User**, **NGET** will consult those other **Users** whom it reasonably believes may be affected by the proposed **IET** to seek their views. Information relating to the proposed **IET** may be passed on by **NGET** with the prior agreement of the proposer. However it is not necessary for **NGET** to obtain the agreement of any such **User** as **IETs** should not involve the application of irregular, unusual or extreme conditions. **NGET** may however consider any comments received when deciding whether or not to agree to an **IET**.

- (b) In the case of an **Embedded Large Power Station** or **Embedded DC Converter Station**, the **Generator** or **DC Converter Station** owner as the case may be must liaise with both **NGET** and the relevant **Network Operator**. **NGET** will not agree to an **IET** relating to such **Plant** until the **Generator** or **DC Converter Station** owner has shown that it has the agreement of the relevant **Network Operator**.
- (c) A **Network Operator** will liaise with **NGET** as necessary in those instances where it is aware of an **Embedded Small Power Station** or an **Embedded Medium Power Station** which intends to perform tests which in the reasonable judgement of the **Network Operator** may cause an **Operational Effect** on the **National Electricity Transmission System**.

- OC7.5.9 The response from the recipient, following notification of an **IET** must be one of the following:
- (a) to accept the **IET** proposal;
 - (b) to accept the **IET** proposal conditionally subject to minor modifications such as date and time;
 - (c) not to agree the **IET**, but to suggest alterations to the detail and timing of the **IET** that are necessary to make the **IET** acceptable.

Final Confirmation Of An IET

- OC7.5.10 The date and time of an **IET** will be confirmed between **NGET** and the **User**, together with any limitations and restrictions on operation of **Plant** and/or **Apparatus**.
- OC7.5.11 The **IET** may subsequently be amended following discussion and agreement between **NGET** and the **User**.

Carrying Out An IET

- OC7.5.12 **IETs** may only take place when agreement has been reached and must be carried out in accordance with the agreed programme of testing.
- OC7.5.13 The implementation of an **IET** will be notified in accordance with OC7.4.5.
- OC7.5.14 Where elements of the programme of testing change during the **IET**, there must be discussion between the appropriate parties to identify whether the **IET** should continue.

OC7.6 PROCEDURE IN RESPECT OF OPERATIONAL SWITCHING IN SCOTLAND AND OFFSHORE

- OC7.6.1 This section OC7.6 of the **Grid Code** sets out the procedure to be followed for **Operational Switching** in Scotland and **Offshore**. Its provisions are supplementary to the provisions of the rest of this **OC7**.

It is designed to set down the arrangements for **NGET**, **Users** and the **Relevant Transmission Licensees** in respect of the **Operational Switching** of **Plant** and **Apparatus** at a **Connection Site** and parts of the **National Electricity Transmission System** adjacent to that **Connection Site**.

- OC7.6.2 In general:
- (i) **NGET** is responsible for directing the configuration of the **National Electricity Transmission System**
 - (ii) Each **Relevant Transmission Licensee** is responsible for the instruction and operation of its **Plant** and **Apparatus** on its **Transmission System**
 - (iii) Each **User** is responsible for the configuration, instruction and operation of its **Plant** and **Apparatus**.

Definitive schedules of these responsibilities for each **Connection Site** are contained in the relevant **Site Responsibility Schedules**.

For the avoidance of doubt, where a **User** operates **Transmission Plant** and **Apparatus** on behalf of a **Relevant Transmission Licensee**, **NGET** cannot instruct the **User** to operate that **Plant** and **Apparatus**.

Planned Operational Switching

OC7.6.3 Following the notification of an **Operation** under OC7.4.5, **NGET** and the **User** shall discuss the **Operational Switching** required. **NGET** will then discuss and agree the details of the **Operational Switching** with the **Relevant Transmission Licensee**. The **Relevant Transmission Licensee** shall then make contact with the **User** to initiate the **Operational Switching**. For the avoidance of doubt, from the time that the **Relevant Transmission Licensee** makes contact with the **User**, the **Relevant Transmission Licensee** shall then become the primary point of operational contact with the **User** in relation to **OC7** for matters which would or could affect, or would or could be affected by the **Operational Switching**.

OC7.6.4 The **User** shall be advised by the **Relevant Transmission Licensee** on the completion of the **Operational Switching**, that **NGET** shall again become the primary point of operational contact for the **User** in relation to **OC7**.

OC7.6.5 During **Operational Switching**, either the **Relevant Transmission Licensee** or the **User** may need to unexpectedly terminate the **Operational Switching**. **NGET** may also need to terminate the **Operational Switching** during the **Operational Switching**. In the event of unexpected termination of the **Operational Switching**, **NGET** shall become the primary point of operational contact for the **User** in relation to **OC7**. Following the termination of the **Operational Switching**, it will not be permitted to restart that **Operational Switching** without the parties again following the process described in OC7.6.3.

Emergencies

OC7.6.6 For **Operations** and/or **Events** that present an immediate hazard to the safety of personnel, **Plant** or **Apparatus**, the **Relevant Transmission Licensee** may:

- (i) as permitted by the **STC**, carry out **Operational Switching** of **Plant** and **Apparatus** on its **Transmission System** without reference to **NGET** and the **User**, and
- (ii) request a **User** to carry out **Operational Switching** without the **User** first receiving notification from **NGET**.

In such emergency circumstances, communication between the **Relevant Transmission Licensee** and the **User** shall normally be by telephone and will include an exchange of names. The **User** shall use all reasonable endeavours to carry out **Operational Switching** on its **Plant** and **Apparatus** without delay. Following completion of the requested **Operational Switching**, the **Relevant Transmission Licensee** shall notify **NGET** of the **Operational Switching** which has taken place. In such emergency circumstances, the **User** may only refuse to carry out **Operational Switching** on safety grounds (relating to personnel or plant) and this must be notified to the **Relevant Transmission Licensee** immediately by telephone.

OC7.6.7 For **Operations** and/or **Events** that present an immediate hazard to the safety of personnel, **Plant** or **Apparatus**, and which require **Operational Switching** of **Plant** or **Apparatus** on a **Transmission System** in order to remove the hazard, the **User** should contact the **Relevant Transmission Licensee** directly to request **Operational Switching** of **Plant** or **Apparatus** on its **Transmission System**.

In such emergency circumstances, communication between the **Relevant Transmission Licensee** and the **User** shall normally be by telephone and will include an exchange of names. The **Relevant Transmission Licensee** shall use all reasonable endeavours to carry out **Operational Switching** on its **Plant** and **Apparatus** without delay. Following completion of the requested **Operational Switching**, the **User** shall notify **NGET** of the **Operational Switching** which has taken place. In such emergency circumstances, the **Relevant Transmission Licensee** may only refuse to carry out **Operational Switching** on safety grounds (relating to personnel or plant) and this must be notified to the **User** immediately by telephone.

Establishment Of A Local Switching Procedure

- (a) **NGET**, a **User** or a **Relevant Transmission Licensee** may reasonably require a **Local Switching Procedure** to be established.
- (b) Where the need for a **Local Switching Procedure** arises the following provisions shall apply:
- (i) **NGET**, **User(s)** and the **Relevant Transmission Licensee** will discuss and agree the detail of the **Local Switching Procedure** as soon as the requirement for a **Local Switching Procedure** is identified. **NGET** will notify the **Relevant Transmission Licensee** and the affected **User(s)** and will initiate these discussions.
 - (ii) Each **Local Switching Procedure** shall be in relation to either one or more **Connection Sites** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time, Transmission Interface Sites**) and parts of the **National Electricity Transmission System** adjacent to the **Connection Site(s)** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time, Transmission Interface Sites**)
 - (iii) A draft **Local Switching Procedure** shall be prepared by the **Relevant Transmission Licensee** to reflect the agreement reached and shall be sent to **NGET**.
 - (iv) When a **Local Switching Procedure** has been prepared, it shall be sent by **NGET** to the **Relevant Transmission Licensee** and **User(s)** for confirmation of its accuracy.
 - (v) The **Local Switching Procedure** shall then be signed on behalf of **NGET** and on behalf of each **User** and **Relevant Transmission Licensee** by way of written confirmation of its accuracy.
 - (vi) Once agreed under this OC7.6.8, the procedure will become a **Local Switching Procedure** under the **Grid Code**, and (subject to any change pursuant to this **OC7**) will apply between **NGET**, **Relevant Transmission Licensee** and the relevant **User(s)** as if it were part of the **Grid Code**.
 - (vii) Once signed, **NGET** will send a copy of the **Local Switching Procedure** to the **Relevant Transmission Licensee** and the **User(s)**.
 - (viii) An agreed **Local Switching Procedure** should be referenced by relevant **Site Responsibility Schedules**.
 - (ix) **NGET**, the **User(s)** and the **Relevant Transmission Licensee** must make the **Local Switching Procedure** readily available to the relevant operational staff.
 - (x) If the **Relevant Transmission Licensee** or the **User(s)** become aware that a change is needed to a **Local Switching Procedure**, they must inform **NGET** immediately. Where **NGET** has been informed of a need for a change, or **NGET** proposes a change, **NGET** shall notify both the affected **User** and the **Relevant Transmission Licensee** and will initiate discussions to agree a change to the **Local Switching Procedure**. The principles applying to the establishment of a new **Local Switching Procedure** shall then apply to the discussion and agreement of any changes.

APPENDIX 1 - NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNINGS TABLE

WARNING TYPE	GRID CODE	FORMAT	TO: FOR ACTION	TO: FOR INFORMATION	TIMESCALE	WARNING OF/OR CONSEQUENCE	RESPONSE FROM RECIPIENTS
NATIONAL ELECTRICITY TRANSMISSION WARNING – ELECTRICITY MARGIN NOTICE	OC7.4.8.5	Fax or other electronic means	Generators, Suppliers, Externally Interconnected System Operators, DC Converter Station owners	Network Operators, Non-Embedded Customers	All timescales when at the time there is not a high risk of Demand reduction. Primarily 1200 hours onwards for a future period.	Insufficient generation available to meet forecast Demand plus Operating Margin. Notification that if not improved Demand reduction may be instructed. (Normal initial warning of insufficient System Margin)	Offers of increased availability from Generators or DC Converter Station owners and Interconnector Users. Suppliers notify NGET of any additional Customer Demand Management that they will initiate.
NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – High risk of Demand Reduction	OC7.4.8.6	Fax or other electronic means	Generators, Suppliers, Network Operators, Non-Embedded Customers, Externally Interconnected System Operators, DC Converter Station Owners		All timescales where there is a high risk of Demand Reduction. Primarily 1200 hours onwards for a future period	Insufficient generation available to meet forecast Demand plus Operating Margin and/or a high risk of Demand Reduction being instructed. (May be issued locally as demand reduction risk only for circuit overloads)	Offers of increased availability from Generators or DC Converter Station owners and Interconnector Users. Suppliers notify NGET of any additional Customer Demand Management that they will initiate. Specified Network Operators and Non-Embedded Customers to prepare their Demand Reduction arrangements and take actions as necessary to enable compliance with NGET instructions that may follow. (Percentages of Demand Reduction above 20% may not be achieved if NGET has not issued the warning by 16:00 hours the previous day.)
NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – Demand Control Imminent	OC7.4.8.7	Fax/Teleph one or other electronic means	Specified Users only: (to whom an instruction is to be given) Network Operators, Non-Embedded Customers	None	Within 30 minutes of anticipated instruction	Possibility of Demand Reduction within 30 minutes	Network Operators specified to prepare to take action as necessary to enable them to comply with any subsequent NGET instruction for Demand reduction.
NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – Risk of System Disturbance	OC7.4.8.8	Fax/Teleph one or other electronic means	Generators, DC Converter Station owners Network Operators, Non-Embedded Customers, Externally Interconnected System Operators who may be affected.	Suppliers	Control room time scales	Risk of, widespread system disturbance to whole or part of the National Electricity Transmission System	Recipients take steps to warn operational staff and maintain plant or apparatus such that they are best able to withstand the disturbance.

^ END OF OPERATING CODE NO. 7 ^

BALANCING CODE NO. 1

(BC1)

PRE GATE CLOSURE PROCESS

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BC1.1 INTRODUCTION

Balancing Code No1 (BC1) sets out the procedure for:

- (a) the submission of **BM Unit Data** and/or **Generating Unit Data** by each **BM Participant**;
 - (b) the submission of certain **System** data by each **Network Operator**; and
 - (c) the provision of data by **NGET**,
- in the period leading up to **Gate Closure**.

BC1.2 OBJECTIVE

The procedure for the submission of **BM Unit Data** and/or **Generating Unit Data** is intended to enable **NGET** to assess which **BM Units** and **Generating Units** are expected to be operating in order that **NGET** can ensure (so far as possible) the integrity of the **National Electricity Transmission System**, and the security and quality of supply.

Where reference is made in this **BC1** to **Generating Units** (unless otherwise stated) it only applies:

- (a) to each **Generating Unit** which forms part of the **BM Unit** of a **Cascade Hydro Scheme**; and
- (b) at an **Embedded Exemptable Large Power Station** where the relevant **Bilateral Agreement** specifies that compliance with **BC1** is required:
 - (i) to each **Generating Unit**, or
 - (ii) to each **Power Park Module** where the **Power Station** comprises **Power Park Modules**.

BC1.3 SCOPE

BC1 applies to **NGET** and to **Users**, which in this **BC1** means:-

- (a) **BM Participants**;
- (b) **Externally Interconnected System Operators**; and
- (c) **Network Operators**.

BC1.4 SUBMISSION OF DATA

In the case of **BM Units** or **Generating Units Embedded** in a **User System**, any data submitted by **Users** under this **BC1** must represent the value of the data at the relevant **Grid Supply Point**.

BC1.4.1 Communication With Users

- (a) Submission of **BM Unit Data** and **Generating Unit Data** by **Users** to **NGET** specified in BC1.4.2 to BC1.4.4 (with the exception of BC1.4.2(f)) is to be by use of electronic data communications facilities, as provided for in CC.6.5.8. However, data specified in BC1.4.2(c) and BC1.4.2(e) only, may be submitted by telephone or fax.
- (b) In the event of a failure of the electronic data communication facilities, the data to apply in relation to a pre-**Gate Closure** period will be determined in accordance with the **Data Validation, Consistency and Defaulting Rules**, based on the most recent data received and acknowledged by **NGET**.
- (c) **Planned Maintenance Outages** will normally be arranged to take place during periods of low data transfer activity.
- (d) Upon any **Planned Maintenance Outage**, or following an unplanned outage described in BC1.4.1(b) (where it is termed a "failure") in relation to a pre-**Gate Closure** period:
 - (i) **BM Participants** should continue to act in relation to any period of time in

accordance with the **Physical Notifications** current at the time of the start of the **Planned Maintenance Outage** or the computer system failure in relation to each such period of time subject to the provisions of BC2.5.1. Depending on when in relation to **Gate Closure** the planned or unplanned maintenance outage arises such operation will either be operation in preparation for the relevant output in real time, or will be operation in real time. No further submissions of **BM Unit Data** and/or **Generating Unit Data** (other than data specified in BC1.4.2(c) and BC1.4.2(e)) should be attempted. Plant failure or similar problems causing significant deviation from **Physical Notification** should be notified to **NGET** by the submission of a revision to **Export and Import Limits** in relation to the **BM Unit** and /or **Generating Unit** so affected;

- (ii) during the outage, revisions to the data specified in BC1.4.2(c) and BC1.4.2(e) may be submitted. Communication between **Users' Control Points** and **NGET** during the outage will be conducted by telephone; and
- (iii) no data will be transferred from **NGET** to the **BMRA** until the communication facilities are re-established.

BC1.4.2 Day Ahead Submissions

Data for any **Operational Day** may be submitted to **NGET** up to several days in advance of the day to which it applies, as provided in the **Data Validation, Consistency and Defaulting Rules**. However, **Interconnector Users** must submit **Physical Notifications**, and any associated data as necessary, each day by 11:00 hours in respect of the next following **Operational Day** in order that the information used in relation to the capability of the respective **External Interconnection** is expressly provided. **NGET** shall not by the inclusion of this provision be prevented from utilising the provisions of BC1.4.5 if necessary.

The data may be modified by further data submissions at any time prior to **Gate Closure**, in accordance with the other provisions of **BC1**. The data to be used by **NGET** for operational planning will be determined from the most recent data that has been received by **NGET** by 11:00 hours on the day before the **Operational Day** to which the data applies, or from the data that has been defaulted at 11:00 hours on that day in accordance with BC1.4.5. Any subsequent revisions received by **NGET** under the Grid Code will also be utilised by **NGET**. In the case of all data items listed below, with the exception of item (e), **Dynamic Parameters** (Day Ahead), the latest submitted or defaulted data, as modified by any subsequent revisions, will be carried forward into operational timescales. The individual data items are listed below:

(a) Physical Notifications

Physical Notifications, being the data listed in **BC1** Appendix 1 under that heading, are required by **NGET** at 11:00 hours each day for each **Settlement Period** of the next following **Operational Day**, in respect of;

(1) **BM Units:**

- (i) with a **Demand Capacity** with a magnitude of 50MW or more in **NGET's Transmission Area** or 10MW or more in **SHETL's Transmission Area** or 30MW or more in **SPT's Transmission Area**; or
- (ii) comprising **Generating Units** (as defined in the Glossary and Definitions and not limited by BC1.2) and/or **CCGT Modules** and/or **Power Park Modules** in each case at **Large Power Stations, Medium Power Stations** and **Small Power Stations** where such **Small Power Stations** are directly connected to an **Offshore Transmission System**; or
- (iii) where the **BM Participant** chooses to submit **Bid-Offer Data** in accordance with BC1.4.2(d) for **BM Units** not falling within (i) or (ii) above,

and

- (2) each **Generating Unit** where applicable under BC1.2.

Physical Notifications may be submitted to **NGET** by **BM Participants**, for the **BM Units**, and **Generating Units**, specified in this BC1.4.2(a) at an earlier time, or **BM Participants** may rely upon the provisions of BC1.4.5 to create the **Physical Notifications** by data defaulting pursuant to the **Grid Code** utilising the rules referred to in that paragraph at 11:00 hours in any day.

Physical Notifications (which must comply with the limits on maximum rates of change listed in **BC1** Appendix 1) must, subject to the following operating limits, represent the **User's** best estimate of expected input or output of **Active Power** and shall be prepared in accordance with **Good Industry Practice**. **Physical Notifications** for any **BM Unit**, and any **Generating Units**, should normally be consistent with the **Dynamic Parameters** and **Export and Import Limits** and must not reflect any **BM Unit** or any **Generating Units**, proposing to operate outside the limits of its **Demand Capacity** and (and in the case of **BM Units**) **Generation Capacity** and, in the case of a **BM Unit** comprising a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC1.2) or **CCGT Module** or **Power Park Module**, its **Registered Capacity**.

These **Physical Notifications** provide, amongst other things, indicative **Synchronising** and **De-Synchronising** times to **NGET** in respect of any **BM Unit** comprising a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC1.2) or **CCGT Module** or **Power Park Module**, and for any **Generating Units**, and provide an indication of significant **Demand** changes in respect of other **BM Units**.

(b) Quiescent Physical Notifications

Each **BM Participant** may, in respect of each of its **BM Units**, submit to **NGET** for each **Settlement Period** of the next following **Operational Day** the data listed in **BC1** Appendix 1 under the heading of "**Quiescent Physical Notifications**" to amend the data already held by **NGET** in relation to **Quiescent Physical Notifications**, which would otherwise apply for those **Settlement Periods**.

(c) Export and Import Limits

Each **BM Participant** may, in respect of each of its **BM Units** and its **Generating Units** submit to **NGET** for any part or for the whole of the next following **Operational Day** the data listed in **BC1** Appendix 1 under the heading of "**Export and Import Limits**" to amend the data already held by **NGET** in relation to **Export and Import Limits**, which would otherwise apply for those **Settlement Periods**.

Export and Import Limits respectively represent the maximum export to or import from the **National Electricity Transmission System** for a **BM Unit** and a **Generating Unit** and are the maximum levels that the **BM Participant** wishes to make available and must be prepared in accordance with **Good Industry Practice**.

(d) Bid-Offer Data

Each **BM Participant** may, in respect of each of its **BM Units**, but must not in respect of its **Generating Units** submit to **NGET** for any **Settlement Period** of the next following **Operational Day** the data listed in **BC1** Appendix 1 under the heading of "**Bid-Offer Data**" to amend the data already held by **NGET** in relation to **Bid-Offer Data**, which would otherwise apply to those **Settlement Periods**. The submitted **Bid-Offer Data** will be utilised by **NGET** in the preparation and analysis of its operational plans for the next following **Operational Day**. **Bid-Offer Data** may not be submitted unless an automatic logging device has been installed at the **Control Point** for the **BM Unit** in accordance with CC.6.5.8(b).

(e) Dynamic Parameters (Day Ahead)

Each **BM Participant** may, in respect of each of its **BM Units**, but must not in respect of its **Generating Units** submit to **NGET** for the next following **Operational Day** the data listed in **BC1** Appendix 1 under the heading of “**Dynamic Parameters**” to amend that data already held by **NGET**.

These **Dynamic Parameters** shall reasonably reflect the expected true operating characteristics of the **BM Unit** and shall be prepared in accordance with **Good Industry Practice**. In any case where non-zero **QPN** data has been provided in accordance with BC1.4.2(b), the **Dynamic Parameters** will apply to the element being offered for control only, i.e. to the component of the **Physical Notification** between the **QPN** and the full level of the **Physical Notification**.

The **Dynamic Parameters** applicable to the next following **Operational Day** will be utilised by **NGET** in the preparation and analysis of its operational plans for the next following **Operational Day** and may be used to instruct certain **Ancillary Services**. For the avoidance of doubt, the **Dynamic Parameters** to be used in the current **Operational Day** will be those submitted in accordance with BC2.5.3.1.

(f) Other Relevant Data

By 11:00 hours each day each **BM Participant**, in respect of each of its **BM Units** and **Generating Units** for which **Physical Notifications** are being submitted, shall, if it has not already done so, submit to **NGET** (save in respect of item (vi) and (vii) where the item shall be submitted only when reasonably required by **NGET**), in respect of the next following **Operational Day** the following:

- (i) in the case of a **CCGT Module**, a **CCGT Module Matrix** as described in **BC1** Appendix 1;
- (ii) details of any special factors which in the reasonable opinion of the **BM Participant** may have a material effect or present an enhanced risk of a material effect on the likely output (or consumption) of such **BM Unit(s)**. Such factors may include risks, or potential interruptions, to **BM Unit** fuel supplies, or developing plant problems, details of tripping tests, etc. This information will normally only be used to assist in determining the appropriate level of **Operating Margin** that is required under OC2.4.6;
- (iii) in the case of **Generators**, any temporary changes, and their possible duration, to the **Registered Data** of such **BM Unit**;
- (iv) in the case of **Suppliers**, details of **Customer Demand Management** taken into account in the preparation of its **BM Unit Data**;
- (v) details of any other factors which **NGET** may take account of when issuing **Bid-Offer Acceptances** for a **BM Unit** (e.g., **Synchronising** or **De-Synchronising Intervals**);
- (vi) in the case of a **Cascade Hydro Scheme**, the **Cascade Hydro Scheme Matrix** as described in **BC1** Appendix 1; and
- (vii) in the case of a **Power Park Module**, a **Power Park Module Availability Matrix** as described in **BC1** Appendix 1.

(g) Joint BM Unit Data

BM Participants may submit **Joint BM Unit Data** in accordance with the provisions of the **BSC**. For the purposes of the Grid Code, such data shall be treated as data submitted under **BC1**.

BC1.4.3

Data Revisions

The **BM Unit Data**, and **Generating Unit Data**, derived at 1100 hours each day under BC1.4.2 above may need to be revised by the **BM Participant** for a number of reasons, including for example, changes to expected output or input arising from revised contractual positions, plant breakdowns, changes to expected **Synchronising** or **De-Synchronising** times, etc, occurring before **Gate Closure**. **BM Participants** should use reasonable endeavours to ensure that the data held by **NGET** in relation to its **BM Units** and **Generating Units**, is accurate at all times. Revisions to **BM Unit Data**, and **Generating Unit Data** for any period of time up to **Gate Closure** should be submitted to **NGET** as soon as reasonably practicable after a change becomes apparent to the **BM Participant**. **NGET** will use reasonable endeavours to utilise the most recent data received from **Users**, subject to the application of the provisions of BC1.4.5, for its preparation and analysis of operational plans.

BC1.4.4

Receipt Of BM Unit Data Prior To Gate Closure

BM Participants submitting **Bid-Offer Data**, in respect of any **BM Unit** for use in the **Balancing Mechanism** for any particular **Settlement Period** in accordance with the **BSC**, must ensure that **Physical Notifications** and **Bid-Offer Data** for such **BM Units** are received in their entirety and logged into **NGET's** computer systems by the time of **Gate Closure** for that **Settlement Period**. In all cases the data received will be subject to the application under the **Grid Code** of the provisions of BC1.4.5.

For the avoidance of doubt, no changes to the **Physical Notification**, **QPN** data or **Bid-Offer Data** for any **Settlement Period** may be submitted to **NGET** after **Gate Closure** for that **Settlement Period**.

BC1.4.5

BM Unit Data Defaulting, Validity And Consistency Checking

In the event that no submission of any or all of the **BM Unit Data** and **Generating Unit Data** in accordance with BC1.4.2 in respect of an **Operational Day**, is received by **NGET** by 11:00 hours on the day before that **Operational Day**, **NGET** will apply the **Data Validation, Consistency and Defaulting Rules**, with the default rules applicable to **Physical Notifications, Quiescent Physical Notifications** and **Export and Import Limits** data selected as follows:

- (a) for an **Interconnector User's BM Unit**, the defaulting rules will set some or all of the data for that **Operational Day** to zero, unless the relevant Interconnector arrangements, as agreed with **NGET**, state otherwise (in which case (b) applies); and
- (b) for all other **BM Units** or **Generating Units**, the defaulting rules will set some or all of the data for that **Operational Day** to the values prevailing in the current **Operational Day**.

A subsequent submission by a **User** of a data item which has been so defaulted under the **Grid Code** will operate as an amendment to that defaulted data and thereby replace it. Any such subsequent submission is itself subject to the application under the **Grid Code** of the **Data Validation, Consistency and Defaulting Rules**.

BM Unit Data and **Generating Unit Data** submitted in accordance with the provisions of BC1.4.2 to BC1.4.4 will be checked under the **Grid Code** for validity and consistency in accordance with the **Data Validation, Consistency and Defaulting Rules**. If any **BM Unit Data** and **Generating Unit Data** so submitted fails the data validity and consistency checking, this will result in the rejection of all data submitted for that **BM Unit** or **Generating Unit** included in the electronic data file containing that data item and that **BM Unit's** or **Generating Unit's** data items will be defaulted under the **Grid Code** in accordance with the **Data Validation, Consistency and Defaulting Rules**. Data for other **BM Units** and **Generating Units** included in the same electronic data file will not be affected by such rejection and will continue to be validated and checked for consistency prior to acceptance. In the event that rejection of any **BM Unit Data** and **Generating Unit Data** occurs, details will be made available to the relevant **BM Participant** via the electronic data communication facilities. In the event of a difference between the **BM Unit Data** for the **Cascade Hydro Scheme** and sum of the data submitted for the **Generating Units** forming part of such **Cascade Hydro Scheme**, the **BM Unit Data** shall take precedence.

BC1.4.6 Special Provisions Relating To Interconnector Users

- (a) The total of the relevant **Physical Notifications** submitted by **Interconnector Users** in respect of any period of time should not exceed the capability (in MW) of the respective **External Interconnection** for that period of time. In the event that it does, then **NGET** shall advise the **Externally Interconnected System Operator** accordingly. In the period between such advice and **Gate Closure**, one or more of the relevant **Interconnector Users** would be expected to submit revised **Physical Notifications** to **NGET** to eliminate any such over-provision.
- (b) In any case where, as a result of a reduction in the capability (in MW) of the **External Interconnection** in any period during an **Operational Day** which is agreed between **NGET** and an **Externally Interconnected System Operator** after 0900 hours on the day before the beginning of such **Operational Day**, the total of the **Physical Notifications** in the relevant period using that **External Interconnection**, as stated in the **BM Unit Data** exceeds the reduced capability (in MW) of the respective **External Interconnection** in that period then **NGET** shall notify the **Externally Interconnected System Operator** accordingly.

BC1.5 INFORMATION PROVIDED BY NGET

NGET shall provide data to the **Balancing Mechanism Reporting Agent** or **BSCCo** each day in accordance with the requirements of the **BSC** in order that the data may be made available to **Users** via the **Balancing Mechanism Reporting Service** (or by such other means) in each case as provided in the **BSC**. Where **NGET** provides such information associated with the secure operation of the **System** to the **Balancing Mechanism Reporting Agent**, the provision of that information is additionally provided for in the following sections of this BC1.5. **NGET** shall be taken to have fulfilled its obligations to provide data under BC1.5.1, BC1.5.2, and BC1.5.3 by so providing such data to the **Balancing Mechanism Reporting Agent**.

BC1.5.1 Demand Estimates

Normally by 0900 hours each day, **NGET** will make available to **Users** a forecast of **National Demand** and the **Demand** for a number of pre-determined constraint groups (which may be updated from time to time, as agreed between **NGET** and **BSCCo**) for each **Settlement Period** of the next following **Operational Day**. Normally by 1200 hours each day, **NGET** will make available to **Users** a forecast of **National Electricity Transmission System Demand** for each **Settlement Period** of the next **Operational Day**. Further details are provided in Appendix 2.

BC1.5.2 Indicated Margin And Indicated Imbalance

Normally by 1200 hours each day, **NGET** will make available to **Users** an **Indicated Margin** and an **Indicated Imbalance** for each **Settlement Period** of the next following **Operational Day**. **NGET** will use reasonable endeavours to utilise the most recent data received from **Users** in preparing for this release of data. Further details are provided in Appendix 2.

BC1.5.3 Provision Of Updated Information

NGET will provide updated information on **Demand** and other information at various times throughout each day, as detailed in Appendix 2. **NGET** will use reasonable endeavours to utilise the most recent data received from **Users** in preparing for this release of data.

BC1.5.4 Reserve And System Margin

Contingency Reserve

- (a) The amount of **Contingency Reserve** required at the day ahead stage and in subsequent timescales will be decided by **NGET** on the basis of historical trends in the reduction in availability of **Large Power Stations** and increases in forecast **Demand** up to real time operation. Where **Contingency Reserve** is to be allocated to thermal **Gensets**, **NGET** will instruct through a combination of **Ancillary Services** instructions and **Bid-Offer Acceptances**, the time at which such **Gensets** are required to synchronise, such instructions to be consistent with **Dynamic Parameters** and other contractual arrangements.

Operating Reserve

- (b) The amount of **Operating Reserve** required at any time will be determined by **NGET** having regard to the **Demand** levels, **Large Power Station** availability shortfalls and the greater of the largest secured loss of generation (ie, the loss of generation against which, as a requirement of the **Licence Standards**, the **National Electricity Transmission System** must be secured) or loss of import from or sudden export to **External Interconnections**. **NGET** will allocate **Operating Reserve** to the appropriate **BM Units** and **Generating Units** so as to fulfil its requirements according to the **Ancillary Services** available to it and as provided in the **BC**.

System Margin

- (c) In the period following 1200 hours each day and in relation to the following **Operational Day**, **NGET** will monitor the total of the Maximum Export Limit component of the **Export and Import Limits** received against forecast **National Electricity Transmission System Demand** and the **Operating Margin** and will take account of **Dynamic Parameters** to see whether the anticipated level of the **System Margin** for any period is insufficient.
- (d) Where the level of the **System Margin** for any period is, in **NGET's** reasonable opinion, anticipated to be insufficient, **NGET** will send (by such data transmission facilities as have been agreed) a **National Electricity Transmission System Warning - Electricity Margin Notice** in accordance with OC7.4.8 to each **Generator**, **Supplier**, **Externally Interconnected System Operator**, **Network Operator** and **Non-Embedded Customer**.
- (e) Where, in **NGET's** judgement the **System Margin** at any time during the current **Operational Day** is such that there is a high risk of **Demand** reduction being instructed, a **National Electricity Transmission System Warning - High Risk of Demand Reduction** will be issued, in accordance with OC7.4.8.
- (f) The monitoring will be conducted on a regular basis and a revised **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** may be sent out from time to time, including within the post **Gate Closure** phase. This will reflect any changes in **Physical Notifications** and **Export and Import Limits** which have been notified to **NGET**, and will reflect any **Demand Control** which has also been so notified. This will also reflect generally any changes in the forecast **Demand** and the relevant **Operating Margin**.

- (g) To reflect changing conditions, a **National Electricity Transmission System Warning - Electricity Margin Notice** may be superseded by a **National Electricity Transmission System Warning - High Risk of Demand Reduction** and vice-versa.
- (h) If the continuing monitoring identifies that the **System Margin** is anticipated, in **NGET's** reasonable opinion, to be sufficient for the period for which previously a **National Electricity Transmission System Warning** had been issued, **NGET** will send (by such data transmission facilities as have been agreed) a **Cancellation of National Electricity Transmission System Warning** to each **User** who had received a **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** for that period. The issue of a **Cancellation of National Electricity Transmission System Warning** is not an assurance by **NGET** that in the event the **System Margin** will be adequate, but reflects **NGET's** reasonable opinion that the insufficiency is no longer anticipated.
- (i) If continued monitoring indicates the **System Margin** becoming reduced **NGET** may issue further **National Electricity Transmission System Warnings - Electricity Margin Notice** or **High Risk of Demand Reduction**.
- (j) **NGET** may issue a **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** for any period, not necessarily relating to the following **Operational Day**, where it has reason to believe there will be a reduced **System Margin** over a period (for example in periods of protracted **Plant** shortage, the provisions of OC7.4.8.6 apply).

BC1.5.5

System And Localised NRAPM (Negative Reserve Active Power Margin)

- (a) (i) System Negative Reserve Active Power Margin
Synchronised Gensets must at all times be capable of reducing output such that the total reduction in output of all **Synchronised Gensets** is sufficient to offset the loss of the largest secured demand on the **System** and must be capable of sustaining this response;
- (ii) Localised Negative Reserve Active Power Margin
Synchronised Gensets must at all times be capable of reducing output to allow transfers to and from the **System Constraint Group** (as the case may be) to be contained within such reasonable limit as **NGET** may determine and must be capable of sustaining this response.
- (b) **NGET** will monitor the total of **Physical Notifications** of exporting **BM Units** and **Generating Units** (where appropriate) received against forecast **Demand** and, where relevant, the appropriate limit on transfers to and from a **System Constraint Group** and will take account of **Dynamic Parameters** and **Export and Import Limits** received to see whether the level of **System NRAPM** or **Localised NRAPM** for any period is likely to be insufficient. In addition, **NGET** may increase the required margin of **System NRAPM** or **Localised NRAPM** to allow for variations in forecast **Demand**. In the case of **System NRAPM**, this may be by an amount (in **NGET's** reasonable discretion) not exceeding five per cent of forecast **Demand** for the period in question. In the case of **Localised NRAPM**, this may be by an amount (in **NGET's** reasonable discretion) not exceeding ten per cent of the forecast **Demand** for the period in question;
- (c) Where the level of **System NRAPM** or **Localised NRAPM** for any period is, in **NGET 's** reasonable opinion, likely to be insufficient **NGET** may contact all **Generators** in the case of low **System NRAPM** and may contact **Generators** in relation to relevant **Gensets** in the case of low **Localised NRAPM**. **NGET** will raise with each **Generator** the problems it is anticipating due to low **System NRAPM** or **Localised NRAPM** and will discuss whether, in advance of **Gate Closure**:-
 - (i) any change is possible in the **Physical Notification** of a **BM Unit** which has been notified to **NGET**; or
 - (ii) any change is possible to the **Physical Notification** of a **BM Unit** within an

Existing AGR Plant within the Existing AGR Plant Flexibility Limit;

in relation to periods of low **System NRAPM** or (as the case may be) low **Localised NRAPM**. **NGET** will also notify each **Externally Interconnected System Operator** of the anticipated low **System NRAPM** or **Localised NRAPM** and request assistance in obtaining changes to **Physical Notifications** from **BM Units** in that **External System**.

- (d) Following **Gate Closure**, the procedure of BC2.9.4 will apply.

BC1.6 SPECIAL PROVISIONS RELATING TO NETWORK OPERATORS

BC1.6.1 User System Data From Network Operators

- (a) By 1000 hours each day each **Network Operator** will submit to **NGET** in writing, confirmation or notification of the following in respect of the next **Operational Day**:
- (i) constraints on its **User System** which **NGET** may need to take into account in operating the **National Electricity Transmission System**. In this BC1.6.1 the term "constraints" shall include restrictions on the operation of **Embedded CCGT Units**, and/or **Embedded Power Park Modules** as a result of the **User System** to which the **CCGT Unit** and/or **Power Park Module** is connected at the **User System Entry Point** being operated or switched in a particular way, for example, splitting the relevant busbar. It is a matter for the **Network Operator** and the **Generator** to arrange the operation or switching, and to deal with any resulting consequences. The **Generator**, after consultation with the **Network Operator**, is responsible for ensuring that no **BM Unit Data** submitted to **NGET** can result in the violation of any such constraint on the **User System**.
 - (ii) the requirements of voltage control and MVAR reserves which **NGET** may need to take into account for **System** security reasons.
 - (iii) where applicable, updated best estimates of **Maximum Export Capacity** and **Maximum Import Capacity** and **Interface Point Target Voltage/Power Factor** for any **Interface Point** connected to its **User System** including any requirement for post-fault actions to be implemented on the relevant **Offshore Transmission System** by **NGET**.
- (b) The form of the submission will be:
- (i) that of a **BM Unit** output or consumption (for MW and for MVAR, in each case a fixed value or an operating range, on the **User System** at the **User System Entry Point**, namely in the case of a **BM Unit** comprising a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC1.2) on the higher voltage side of the generator step-up transformer, or in the case of a **Power Park Module**, at the point of connection) required for particular **BM Units** (identified in the submission) connected to that **User System** for each **Settlement Period** of the next **Operational Day**;

- (ii) adjusted in each case for MW by the conversion factors applicable for those **BM Units** to provide output or consumption at the relevant **Grid Supply Points**.
- (c) At any time and from time to time, between 1000 hours each day and the expiry of the next **Operational Day**, each **Network Operator** must submit to **NGET** in writing any revisions to the information submitted under this BC1.6.1.

BC1.6.2 Notification Of Times To Network Operators

NGET will make available indicative **Synchronising** and **De-Synchronising** times to each **Network Operator**, but only relating to **BM Units** comprising a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC1.2) or a **Power Park Module** or a **CCGT Module Embedded** within that **Network Operator's User System** and those **Gensets** directly connected to the **National Electricity Transmission System** which **NGET** has identified under **OC2** as being those which may, in the reasonable opinion of **NGET**, affect the integrity of that **User System**. If in preparing for the operation of the **Balancing Mechanism**, **NGET** becomes aware that a **BM Unit** directly connected to the **National Electricity Transmission System** may, in its reasonable opinion, affect the integrity of that other **User System** which, in the case of a **BM Unit** comprising a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC1.2) or a **CCGT Module** or a **Power Park Module**, it had not so identified under **OC2**, then **NGET** may make available details of its indicative **Synchronising** and **De-Synchronising** times to that other **User** and shall inform the relevant **BM Participant** that it has done so, identifying the **BM Unit** concerned.

BC1.7 SPECIAL ACTIONS

BC1.7.1 **NGET** may need to identify special actions (either pre- or post-fault) that need to be taken by specific **Users** in order to maintain the integrity of the **National Electricity Transmission System** in accordance with the **Licence Standards** and **NGET Operational Strategy**.

- (a) For a **Generator** special actions will generally involve a **Load** change or a change of required Notice to Deviate from Zero NDZ, in a specific timescale on individual or groups of **Gensets**.
- (b) For **Network Operators** these special actions will generally involve **Load** transfers between **Grid Supply Points** or arrangements for **Demand** reduction by manual or automatic means.
- (c) For **Externally Interconnected System Operators** (in their co-ordinating role for **Interconnector Users** using their **External System**) these special actions will generally involve an increase or decrease of net power flows across an **External Interconnection** by either manual or automatic means.

BC1.7.2 These special actions will be discussed and agreed with the relevant **User** as appropriate. The actual implementation of these special actions may be part of an "emergency circumstances" procedure described under **BC2**. If not agreed, generation or **Demand** may be restricted or may be at risk.

BC1.7.3 **NGET** will normally issue the list of special actions to the relevant **Users** by 1700 hours on the day prior to the day to which they are to apply.

BC1.8 PROVISION OF REACTIVE POWER CAPABILITY

BC1.8.1 Under certain operating conditions **NGET** may identify through its **Operational Planning** that an area of the **National Electricity Transmission System** may have insufficient **Reactive Power** capability available to ensure that the operating voltage can be maintained in accordance with **NGET's Licence Standards**.

In respect of **Onshore Synchronous Generating Unit(s)**

- (i) that have a **Connection Entry Capacity** in excess of **Rated MW** (or the **Connection Entry Capacity** of the **CCGT Module** exceeds the sum of **Rated MW** of the **Generating Units** comprising the **CCGT Module**); and

- (ii) that are not capable of continuous operation at any point between the limits 0.85 **Power Factor** lagging and 0.95 **Power Factor** leading at the **Onshore Synchronous Generating Unit** terminals at **Active Power** output levels higher than **Rated MW**; and
- (iii) that have either a **Completion Date** on or after 1st May 2009, or where its **Connection Entry Capacity** has been increased above **Rated MW** (or the **Connection Entry Capacity** of the **CCGT Module** has increased above the sum of **Rated MW** of the **Generating Units** comprising the **CCGT Module**) such increase takes effect on or after 1st May 2009; and
- (iv) that are in an area of potentially insufficient **Reactive Power** capability as described in this clause BC1.8.1,

NGET may instruct the **Onshore Synchronous Generating Unit(s)** to limit its submitted **Physical Notifications** to no higher than **Rated MW** (or the **Active Power** output at which it can operate continuously between the limits 0.85 **Power Factor** lagging to 0.95 **Power Factor** leading at its terminals if this is higher) for a period specified by **NGET**. Such an instruction must be made at least 1 hour prior to **Gate Closure**, although **NGET** will endeavour to give as much notice as possible. The instruction may require that a **Physical Notification** is re-submitted. The period covered by the instruction will not exceed the expected period for which the potential deficiency has been identified. Compliance with the instruction will not incur costs to **NGET** in the **Balancing Mechanism**. The detailed provisions relating to such instructions will normally be set out in the relevant **Bilateral Agreement**.

APPENDIX 1 - BM UNIT DATA

BC1.A.1 More detail about valid values required under the **Grid Code** for **BM Unit Data** and **Generating Unit Data** may be identified by referring to the **Data Validation, Consistency and Defaulting Rules**. In the case of **Embedded BM Units** and **Generating Units** the **BM Unit Data** and the **Generating Unit Data** shall represent the value at the relevant **Grid Supply Point**. Where data is submitted on a **Generating Unit** basis, the provisions of this Appendix 1 shall in respect of such data submission apply as if references to **BM Unit** were replaced with **Generating Unit**. Where **NGET** and the relevant **User** agree, submission on a **Generating Unit** basis (in whole or in part) may be otherwise than in accordance with the provisions of the Appendix 1.

BC1.A.1.1 Physical Notifications

For each **BM Unit**, the **Physical Notification** is a series of MW figures and associated times, making up a profile of intended input or output of **Active Power** at the **Grid Entry Point** or **Grid Supply Point**, as appropriate. For each **Settlement Period**, the first “from time” should be at the start of the **Settlement Period** and the last “to time” should be at the end of the **Settlement Period**.

The input or output reflected in the **Physical Notification** for a single **BM Unit** (or the aggregate **Physical Notifications** for a collection of **BM Units** at a **Grid Entry Point** or **Grid Supply Point** or to be transferred across an **External Interconnection**, owned or controlled by a single **BM Participant**) must comply with the following limits regarding maximum rates of change, either for a single change or a series of related changes :

- for a change of up to 300MW no limit;
- for a change greater than 300MW and less than 1000MW 50MW per minute;
- for a change of 1000MW or more 40MW per minute,

unless prior arrangements have been discussed and agreed with **NGET**. This limitation is not intended to limit the Run-Up or Run-Down Rates provided as **Dynamic Parameters**.

An example of the format of **Physical Notification** is shown below. The convention to be applied is that where it is proposed that the **BM Unit** will be importing, the **Physical Notification** is negative.

Data Name	BMU name	Time From	From level (MW)	Time To	To Level (MW)
PN , TAGENT ,	BMUNIT01 ,	2001-11-03 06:30 ,	77 ,	2001-11-03 07:00 ,	100
PN , TAGENT ,	BMUNIT01 ,	2001-11-03 07:00 ,	100 ,	2001-11-03 07:12 ,	150
PN , TAGENT ,	BMUNIT01 ,	2001-11-03 07:12 ,	150 ,	2001-11-03 07:30 ,	175

A linear interpolation will be assumed between the **Physical Notification** From and To levels specified for the **BM Unit** by the **BM Participant**.

BC1.A.1.2 Quiescent Physical Notifications (QPN)

For each **BM Unit** (optional) A series of MW figures and associated times, which describe 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.

An example of the format of data is shown below.

Data Name	BMU name	Time From	From level (MW)	Time To	To level (MW)
QPN , TAGENT ,	BMUNIT04 ,	2001-11-03 06:30 ,	-200 ,	2001-11-03 07:00 ,	-220
QPN , TAGENT ,	BMUNIT04 ,	2001-11-03 07:00 ,	-220 ,	2001-11-03 07:18 ,	-245
QPN , TAGENT ,	BMUNIT04 ,	2001-11-03 07:18 ,	-245 ,	2001-11-03 07:30 ,	-300

A linear interpolation will be assumed between the **QPN** From and To levels specified for the **BM Unit** by the **BM Participant**.

BC1.A.1.3 Export And Import Limits

BC1.A.1.3.1 Maximum Export Limit (MEL)

A series of MW figures and associated times, making up a profile of the maximum level at which the **BM Unit** may be exporting (in MW) to the **National Electricity Transmission System** at the **Grid Entry Point** or **Grid Supply Point**, as appropriate.

For a **Power Park Module**, the Maximum Export Limit should reflect the maximum possible **Active Power** output from each **Power Park Module** consistent with the data submitted within the **Power Park Module Availability Matrix** as defined under BC.1.A.1.8. For the avoidance of doubt, in the case of a **Power Park Module** this would equate to the **Registered Capacity** less the unavailable **Power Park Units** within the **Power Park Module** and not include weather corrected MW output from each **Power Park Unit**.

BC1.A.1.3.2 Maximum Import Limit (MIL)

A series of MW figures and associated times, making up a profile of the maximum level at which the **BM Unit** may be importing (in MW) from the **National Electricity Transmission System** at the **Grid Entry Point** or **Grid Supply Point**, as appropriate.

An example format of data is shown below. MEL must be positive or zero, and MIL must be negative or zero.

Data Name	BMU name	Time From	From level (MW)	Time To	To level (MW)
MEL , TAGENT ,	BMUNIT01 ,	2001-11-03 05:00 ,	410 ,	2001-11-03 09:35 ,	410
MEL , TAGENT ,	BMUNIT01 ,	2001-11-03 09:35 ,	450 ,	2001-11-03 12:45 ,	450
MIL , TAGENT ,	BMUNIT04 ,	2001-11-03 06:30 ,	-200 ,	2001-11-03 07:00 ,	-220

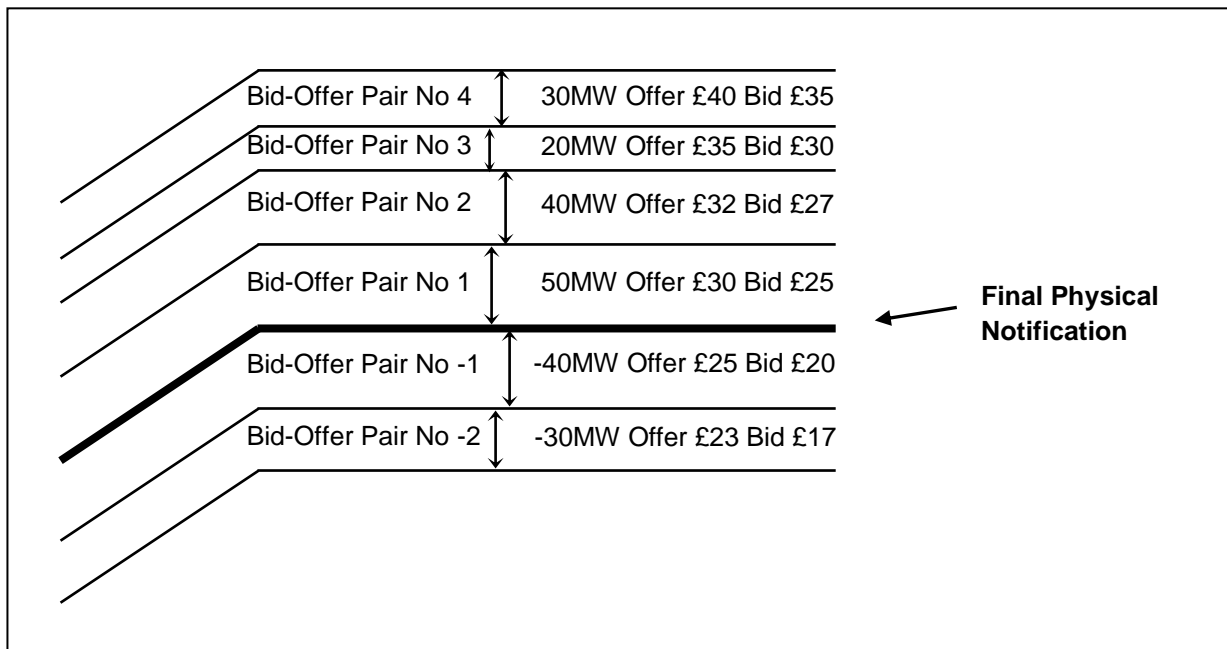
For each **BM Unit** for each **Settlement Period**:

Up to 10 Bid-Offer Pairs as defined in the **BSC**.

An example of the format of data is shown below.

Data	Name	BMU name	Time from	Time to	Pair ID	From Level (MW)	To Level (MW)	Offer (£/ MWh)	Bid (£/ MWh)
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	4	30	30	40	35
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	3	20	20	35	30
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	2	40	40	32	27
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	1	50	50	30	25
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	-1	-40	-40	25	20
BOD, TAGENT		BMUNIT01	2000-10-28 12:00	2000-10-28 13:30	-2	-30	-30	23	17

This example of Bid-Offer data is illustrated graphically below:



BC1.A.1.5 Dynamic Parameters

The **Dynamic Parameters** comprise:

- Up to three Run-Up Rate(s) and up to three Run-Down Rate(s), expressed in MW/minute and associated Run-Up Elbow(s) and Run-Down Elbow(s), expressed in MW for output and the same for input. It should be noted that Run-Up Rate(s) are applicable to a MW figure becoming more positive;
- Notice to Deviate from Zero (NDZ) output or input, being the notification time required for a **BM Unit** to start importing or exporting energy, from a zero **Physical Notification** level as a result of a **Bid-Offer Acceptance**, expressed in minutes;
- Notice to Deliver Offers (NTO) and Notice to Deliver Bids (NTB), expressed in minutes, indicating the notification time required for a **BM Unit** to start delivering Offers and Bids respectively from the time that the **Bid-Offer Acceptance** is issued. In the case of a **BM Unit** comprising a **Genset**, NTO and NTB will be set to a maximum period of two minutes;
- Minimum Zero Time (MZT), being either the minimum time that a **BM Unit** which has been exporting must operate at zero or be importing, before returning to exporting or the minimum time that a **BM Unit** which has been importing must operate at zero or be exporting before returning to importing, as a result of a **Bid-Offer Acceptance**, expressed in minutes;
- Minimum Non-Zero Time (MNZT), expressed in minutes, being the minimum time that a **BM Unit** can operate at a non-zero level as a result of a **Bid-Offer Acceptance**;
- Stable Export Limit (SEL) expressed in MW at the **Grid Entry Point** or **Grid Supply Point**, as appropriate, being the minimum value at which the **BM Unit** can, under stable conditions, export to the **National Electricity Transmission System**;
- Stable Import Limit (SIL) expressed in MW at the **Grid Entry Point** or **Grid Supply Point**, as appropriate, being the minimum value at which the **BM Unit** can, under stable conditions, import from the **National Electricity Transmission System**;
- Maximum Delivery Volume (MDV), expressed in MWh, being the maximum number of MWh of Offer (or Bid if MDV is negative) that a particular **BM Unit** may deliver within the associated Maximum Delivery Period (MDP), expressed in minutes, being the maximum period over which the MDV applies.
- Last Time to Cancel Synchronisation, expressed in minutes with an upper limit of 60 minutes, being the notification time required to cancel a **BM Unit's** transition from operation at zero. This parameter is only applicable where the transition arises either from a **Physical Notification** or, in the case where the **Physical Notification** is zero, a **Bid-Offer Acceptance**. There can be up to three Last Time to Cancel Synchronisation(s) each applicable for a range of values of Notice to Deviate from Zero.

BC1.A.1.6 CCGT Module Matrix

BC1.A.1.6.1 **CCGT Module Matrix** showing the combination of **CCGT Units** running in relation to any given MW output, in the form of the diagram illustrated below. The **CCGT Module Matrix** is designed to achieve certainty in knowing the number of **CCGT Units** synchronised to meet the **Physical Notification** and to achieve a **Bid-Offer Acceptance**.

BC1.A.1.6.2 In the case of a **Range CCGT Module**, and if the **Generator** so wishes, a request for the single **Grid Entry Point** at which power is provided from the **Range CCGT Module** to be changed in accordance with the provisions of BC1.A.1.6.4 below:

CCGT Module Matrix example form

CCGT MODULE ACTIVE POWER	CCGT GENERATING UNITS* AVAILABLE								
	1st GT	2 nd GT	3 rd GT	4th GT	5th GT	6th GT	1st ST	2nd ST	3rd ST
	ACTIVE POWER OUTPUT								
MW	150	150	150				100		
0MW to 150MW	/								
151MW to 250MW	/						/		
251MW to 300MW	/	/							
301MW to 400MW	/	/					/		
401MW to 450MW	/	/	/						
451MW to 550MW	/	/	/				/		

* as defined in the Glossary and Definitions and not limited by BC1.2

BC1.A.1.6.3 In the absence of the correct submission of a **CCGT Module Matrix** the last submitted (or deemed submitted) **CCGT Module Matrix** shall be taken to be the **CCGT Module Matrix** submitted hereunder.

BC1.A.1.6.4 The data may also include in the case of a **Range CCGT Module**, a request for the **Grid Entry Point** at which the power is provided from the **Range CCGT Module** to be changed with effect from the beginning of the following **Operational Day** to another specified single **Grid Entry Point** (there can be only one) to that being used for the current **Operational Day**. **NGET** will respond to this request by 1600 hours on the day of receipt of the request. If **NGET** agrees to the request (such agreement not to be unreasonably withheld), the **Generator** will operate the **Range CCGT Module** in accordance with the request. If **NGET** does not agree, the **Generator** will, if it produces power from that **Range CCGT Module**, continue to provide power from the **Range CCGT Module** to the **Grid Entry Point** being used at the time of the request. The request can only be made up to 1100 hours in respect of the following **Operational Day**. No subsequent request to change can be made after 1100 hours in respect of the following **Operational Day**. Nothing in this paragraph shall prevent the busbar at the **Grid Entry Point** being operated in separate sections.

BC1.A.1.6.5 The principles set out in PC.A.3.2.3 apply to the submission of a **CCGT Module Matrix** and accordingly the **CCGT Module Matrix** can only be amended as follows:

(a) Normal CCGT Module

if the **CCGT Module** is a **Normal CCGT Module**, the **CCGT Units** within that **CCGT Module** can only be amended such that the **CCGT Module** comprises different **CCGT Units** if **NGET** gives its prior consent in writing. Notice of the wish to amend the **CCGT Units** within such a **CCGT Module** must be given at least 6 months before it is wished for the amendment to take effect;

(b) Range CCGT Module

if the **CCGT Module** is a **Range CCGT Module**, the **CCGT Units** within that **CCGT Module** can only be amended such that the **CCGT Module** comprises different **CCGT Units** for a particular **Operational Day** if the relevant notification is given by 1100 hours on the day prior to the **Operational Day** in which the amendment is to take effect. No subsequent amendment may be made to the **CCGT Units** comprising the **CCGT Module** in respect of that particular **Operational Day**.

- BC1.A.1.6.6 In the case of a **CCGT Module Matrix** submitted (or deemed to be submitted) as part of the other data for **CCGT Modules**, the output of the **CCGT Module** at any given instructed MW output must reflect the details given in the **CCGT Module Matrix**. It is accepted that in cases of change in MW in response to instructions issued by **NGET** there may be a transitional variance to the conditions reflected in the **CCGT Module Matrix**. In achieving an instruction the range of number of **CCGT Units** envisaged in moving from one MW output level to the other must not be departed from. Each **Generator** shall notify **NGET** as soon as practicable after the event of any such variance. It should be noted that there is a provision above for the **Generator** to revise the **CCGT Module Matrix**, subject always to the other provisions of this **BC1**;
- BC1.A.1.6.7 Subject as provided above, **NGET** will rely on the **CCGT Units** specified in such **CCGT Module Matrix** running as indicated in the **CCGT Module Matrix** when it issues an instruction in respect of the **CCGT Module**;
- BC1.A.1.6.8 Subject as provided in BC1.A.1.6.5 above, any changes to the **CCGT Module Matrix** must be notified immediately to **NGET** in accordance with the relevant provisions of **BC1**.
- BC1.A.1.7 Cascade Hydro Scheme Matrix
- BC1.A.1.7.1 A **Cascade Hydro Scheme Matrix** showing the performance of individual **Generating Units** forming part of a **Cascade Hydro Scheme** in response to **Bid-Offer Acceptance**. An example table is shown below:

Cascade Hydro Scheme Matrix example form

Plant	Synchronises when offer is greater than.....
Generating Unit 1MW
Generating Unit 2MW
Generating Unit 3MW
Generating Unit 4MW
Generating Unit 5MW

- BC1.A.1.8 Power Park Module Availability Matrix
- BC1.A.1.8.1 **Power Park Module Availability Matrix** showing the number of each type of **Power Park Units** expected to be available is illustrated in the example form below. The **Power Park Module Availability Matrix** is designed to achieve certainty in knowing the number of **Power Park Units Synchronised** to meet the **Physical Notification** and to achieve a **Bid-Offer Acceptance** by specifying which **BM Unit** each **Power Park Module** forms part of. The **Power Park Module Availability Matrix** may have as many columns as are required to provide information on the different make and model for each type of **Power Park Unit** in a **Power Park Module** and as many rows as are required to provide information on the **Power Park Modules** within each **BM Unit**. The description is required to assist identification of the **Power Park Units** within the **Power Park Module** and correlation with data provided under the **Planning Code**.

Power Park Module Availability Matrix example form

BM Unit Name				
Power Park Module [unique identifier]				
POWER PARK UNIT AVAILABILITY	POWER PARK UNITS			
	Type A	Type B	Type C	Type D
Description (Make/Model)				
Number of units				
Power Park Module [unique identifier]				
POWER PARK UNIT AVAILABILITY	POWER PARK UNITS			
	Type A	Type B	Type C	Type D
Description (Make/Model)				
Number of units				

- BC1.A.1.8.2 In the absence of the correct submission of a **Power Park Module Availability Matrix** the last submitted (or deemed submitted) **Power Park Module Availability Matrix** shall be taken to be the **Power Park Module Availability Matrix** submitted hereunder.
- BC1.A.1.8.3 **NGET** will rely on the **Power Park Units, Power Park Modules** and **BM Units** specified in such **Power Park Module Availability Matrix** running as indicated in the **Power Park Module Availability Matrix** when it issues an instruction in respect of the **BM Unit**.
- BC1.A.1.8.4 Subject as provided in PC.A.3.2.4 any changes to **Power Park Module** or **BM Unit** configuration, or availability of **Power Park Units** which affects the information set out in the **Power Park Module Availability Matrix** must be notified immediately to **NGET** in accordance with the relevant provisions of **BC1**. Initial notification may be by telephone. In some circumstances, such as a significant re-configuration of a **Power Park Module** due to an unplanned outage, a revised **Power Park Module Availability Matrix** must be supplied on **NGET's** request.

APPENDIX 2 - DATA TO BE MADE AVAILABLE BY NGET

BC1.A.2.1 Initial Day Ahead Demand Forecast

Normally by 09:00 hours each day, values (in MW) for each **Settlement Period** of the next following **Operational Day** of the following data items:-

- (i) Initial forecast of **National Demand**;
- (ii) Initial forecast of **Demand** for a number of predetermined constraint groups.

BC1.A.2.2 Initial Day Ahead Market Information

Normally by 12:00 hours each day, values (in MW) for each **Settlement Period** of the next following **Operational Day** of the following data items:-

- (i) Initial National **Indicated Margin**
This is the difference between the sum of **BM Unit** MELs and the forecast of **National Electricity Transmission System Demand**.
- (ii) Initial National **Indicated Imbalance**
This is the difference between the sum of **Physical Notifications** for **BM Units** comprising **Generating Units** (as defined in the Glossary and Definitions and not limited by BC1.2) or **CCGT Modules** or **Power Park Modules** and the forecast of **National Electricity Transmission System Demand**.
- (iii) Forecast of **National Electricity Transmission System Demand**.

BC1.A.2.3 Current Day And Day Ahead Updated Market Information

Data will normally be made available by the times shown below for the associated periods of time:

Target Data Release Time	Period Start Time	Period End Time
02:00	02:00 D0	05:00 D+1
10:00	10:00 D0	05:00 D+1
16:00	05:00 D+1	05:00 D+2
16:30	16:30 D0	05:00 D+1
22:00	22:00 D0	05:00 D+2

In this table, D0 refers to the current day, D+1 refers to the next day and D+2 refers to the day following D+1.

In all cases, data will be ½ hourly average MW values calculated by **NGET**. Information to be released includes:

National Information

- (i) National **Indicated Margin**;
- (ii) National **Indicated Imbalance**;
- (iii) Updated forecast of **National Electricity Transmission System Demand**.

Constraint Boundary Information (For Each Constraint Boundary)

(i) **Indicated Constraint Boundary Margin;**

This is the difference between the Constraint Boundary Transfer limit and the difference between the sum of **BM Unit** MELs and the forecast of local **Demand** within the constraint boundary.

(ii) **Local Indicated Imbalance;**

This is the difference between the sum of **Physical Notifications** for **BM Units** comprising **Generating Units** (as defined in the Glossary and Definitions and not limited by BC1.2) or **CCGT Modules** or **Power Park Modules** and the forecast of local **Demand** within the constraint boundary.

(iii) Updated forecast of the local **Demand** within the constraint boundary.

< END OF BALANCING CODE NO. 1 >

BALANCING CODE NO. 2

(BC2)

POST GATE CLOSURE PROCESS

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BC2.1 INTRODUCTION

Balancing Code No 2 (BC2) sets out the procedure for:

- (a) the physical operation of **BM Units** and **Generating Units** in the absence of any instructions from **NGET**;
- (b) the acceptance by **NGET** of **Balancing Mechanism** Bids and Offers,
- (c) the calling off by **NGET** of **Ancillary Services**;
- (d) the issuing and implementation of **Emergency Instructions**; and
- (e) the issuing by **NGET** of other operational instructions and notifications.

In addition, **BC2** deals with any information exchange between **NGET** and **BM Participants** or specific **Users** that takes place after **Gate Closure**.

In this **BC2**, “consistent” shall be construed as meaning to the nearest integer MW level.

In this **BC2**, references to “a **BM Unit** returning to its **Physical Notification**” shall take account of any **Bid-Offer Acceptances** already issued to the **BM Unit** in accordance with BC2.7 and any **Emergency Instructions** already issued to the **BM Unit** or **Generating Unit** in accordance with BC2.9.

BC2.2 OBJECTIVE

The procedure covering the operation of the **Balancing Mechanism** and the issuing of instructions to **Users** is intended to enable **NGET** as far as possible to maintain the integrity of the **National Electricity Transmission System** together with the security and quality of supply.

Where reference is made in this **BC2** to **Generating Units** (unless otherwise stated) it only applies:

- (a) to each **Generating Unit** which forms part of the **BM Unit** of a **Cascade Hydro Scheme**; and
- (b) at an **Embedded Exemptable Large Power Station** where the relevant **Bilateral Agreement** specifies that compliance with **BC2** is required:
 - (i) to each **Generating Unit**, or
 - (ii) to each **Power Park Module** where the **Power Station** comprises **Power Park Modules**.

BC2.3 SCOPE

BC2 applies to **NGET** and to **Users**, which in this **BC2** means:-

- (a) **BM Participants**;
- (b) **Externally Interconnected System Operators**, and
- (c) **Network Operators**.

BC2.4 INFORMATION USED

BC2.4.1 The information which **NGET** shall use, together with the other information available to it, in assessing:

- (a) which bids and offers to accept;
- (b) which **BM Units** and/or **Generating Units** to instruct to provide **Ancillary Services**;
- (c) the need for and formulation of **Emergency Instructions**; and
- (d) other operational instructions and notifications which **NGET** may need to issue

will be:

- (a) the **Physical Notification** and **Bid-Offer Data** submitted under **BC1**;
- (b) **Export and Import Limits, QPNs, and Joint BM Unit Data** in respect of that **BM Unit** and/or **Generating Unit** supplied under **BC1** (and any revisions under **BC1** and **BC2** to the data); and
- (c) **Dynamic Parameters** submitted or revised under this **BC2**.

BC2.4.2 As provided for in BC1.5.4, **NGET** will monitor the total of the Maximum Export Limit component of the **Export and Import Limits** against forecast **Demand** and the **Operating Margin** and will take account of **Dynamic Parameters** to see whether the anticipated level of **System Margin** is insufficient. This will reflect any changes in **Export and Import Limits** which have been notified to **NGET**, and will reflect any **Demand Control** which has also been so notified. **NGET** may issue new or revised **National Electricity Transmission System Warnings – Electricity Margin Notice** or **High Risk of Demand Reduction** in accordance with BC1.5.4.

BC2.5 PHYSICAL OPERATION OF BM UNITS

BC2.5.1 Accuracy Of Physical Notifications

As described in BC1.4.2(a), **Physical Notifications** must represent the **BM Participant's** best estimate of expected input or output of **Active Power** and shall be prepared in accordance with **Good Industry Practice**.

Each **BM Participant** must, applying **Good Industry Practice**, ensure that each of its **BM Units** follows the **Physical Notification** in respect of that **BM Unit** (and each of its **Generating Units** follows the **Physical Notification** in the case of **Physical Notifications** supplied under BC1.4.2(a)(2)) that is prevailing at **Gate Closure** (the data in which will be utilised in producing the **Final Physical Notification Data** in accordance with the **BSC**) subject to variations arising from:

- (a) the issue of **Bid-Offer Acceptances** which have been confirmed by the **BM Participant**; or
- (b) instructions by **NGET** in relation to that **BM Unit** (or a **Generating Unit**) which require, or compliance with which would result in, a variation in output or input of that **BM Unit** (or a **Generating Unit**); or
- (c) compliance with provisions of **BC1, BC2** or **BC3** which provide to the contrary.

Except where variations from the **Physical Notification** arise from matters referred to at (a),(b) or (c) above, in respect only of **BM Units** (or **Generating Units**) powered by an **Intermittent Power Source**, where there is a change in the level of the **Intermittent Power Source** from that forecast and used to derive the **Physical Notification**, variations from the **Physical Notification** prevailing at **Gate Closure** may, subject to remaining within the **Registered Capacity**, occur providing that the **Physical Notification** prevailing at **Gate Closure** was prepared in accordance with **Good Industry Practice**.

If variations and/or instructions as described in (a),(b) or (c) apply in any instance to **BM Units** (or **Generating Units**) powered by an **Intermittent Power Source** (e.g. a **Bid Offer Acceptance** is issued in respect of such a **BM Unit** and confirmed by the **BM Participant**) then such provisions will take priority over the third paragraph of BC2.5.1 above such that the **BM Participant** must ensure that the **Physical Notification** as varied in accordance with (a), (b) or (c) above applies and must be followed, subject to this not being prevented as a result of an unavoidable event as described below.

For the avoidance of doubt, this gives rise to an obligation on each **BM Participant** (applying **Good Industry Practice**) to ensure that each of its **BM Units** (and **Generating Units**), follows the **Physical Notifications** prevailing at **Gate Closure** as amended by such variations and/or instructions unless in relation to any such obligation it is prevented from so doing as a result of an unavoidable event (existing or anticipated) in relation to that **BM Unit** (or a **Generating Unit**) which requires a variation in output or input of that **BM Unit** (or a **Generating Unit**).

Examples (on a non-exhaustive basis) of such an unavoidable event are:

- plant breakdowns;
- events requiring a variation of input or output on safety grounds (relating to personnel or plant);
- events requiring a variation of input or output to maintain compliance with the relevant Statutory Water Management obligations; and
- uncontrollable variations in output of **Active Power**.

Any anticipated variations in input or output post **Gate Closure** from the **Physical Notification** for a **BM Unit** (or a **Generating Unit**) prevailing at **Gate Closure** (except for those arising from instructions as outlined in (a), (b) or (c) above) must be notified to **NGET** without delay by the relevant **BM Participant** (or the relevant person on its behalf). For the avoidance of doubt, where a change in the level of the **Intermittent Power Source** from that forecast and used to derive the **Physical Notification** results in the **Shutdown** or **Shutdown** of part of the **BM Unit** (or **Generating Unit**), the change must be notified to **NGET** without delay by the relevant **BM Participant** (or the relevant person on its behalf).

Implementation of this notification should normally be achieved by the submission of revisions to the **Export and Import Limits** in accordance with BC2.5.3 below.

BC2.5.2 Synchronising And De-Synchronising Times

BC2.5.2.1 The **Final Physical Notification Data** provides indicative **Synchronising** and **De-Synchronising** times to **NGET** in respect of any **BM Unit** which is **De-Synchronising** or is anticipated to be **Synchronising** post **Gate Closure**.

Any delay of greater than five minutes to the **Synchronising** or any advancement of greater than five minutes to the **De-Synchronising** of a **BM Unit** must be notified to **NGET** without delay by the submission of a revision of the **Export and Import Limits**.

BC2.5.2.2 Except in the circumstances provided for in BC2.5.2.3, BC2.5.2.4, BC2.5.5.1 or BC2.9, no **BM Unit** (nor a **Generating Unit**) is to be **Synchronised** or **De-Synchronised** unless:-

- (a) a **Physical Notification** had been submitted to **NGET** prior to **Gate Closure** indicating that a **Synchronisation** or **De-Synchronisation** is to occur; or
- (b) **NGET** has issued a **Bid-Offer Acceptance** requiring **Synchronisation** or **De-Synchronisation** of that **BM Unit** (or a **Generating Unit**).

BC2.5.2.3 **BM Participants** must only **Synchronise** or **De-Synchronise BM Units** (or a **Generating Unit**);

- (a) at the times indicated to **NGET**, or
- (b) at times consistent with variations in output or input arising from provisions described in BC2.5.1,

(within a tolerance of +/- 5 minutes) or unless that occurs automatically as a result of **Operational Intertripping** or **Low Frequency Relay** operations or an **Ancillary Service** pursuant to an **Ancillary Services Agreement**

BC2.5.2.4 **De-Synchronisation** may also take place without prior notification to **NGET** as a result of plant breakdowns or if it is done purely on safety grounds (relating to personnel or plant). If that happens **NGET** must be informed immediately that it has taken place and a revision to **Export and Import Limits** must be submitted in accordance with BC2.5.3.3. Following any **De-Synchronisation** occurring as a result of plant failure, no **Synchronisation** of that **BM Unit** (or a **Generating Unit**) is to take place without **NGET's** agreement, such agreement not to be unreasonably withheld.

In the case of **Synchronisation** following an unplanned **De-Synchronisation** within the preceding 15 minutes, a minimum of 5 minutes notice of its intention to **Synchronise** should normally be given to **NGET** (via a revision to **Export and Import Limits**). In the case of any other unplanned **De-Synchronisation** where the **User** plans to **Synchronise** before the expiry of the current **Balancing Mechanism** period, a minimum of 15 minutes notice of **Synchronisation** should normally be given to **NGET** (via a revision to **Export and Import Limits**). In addition, the rate at which the **BM Unit** is returned to its **Physical Notification** is not to exceed the limits specified in **BC1**, Appendix 1 without **NGET's** agreement.

NGET will either agree to the **Synchronisation** or issue a **Bid-Offer Acceptance** in accordance with BC2.7 to delay the **Synchronisation**. **NGET** may agree to an earlier **Synchronisation** if **System** conditions allow.

BC2.5.2.5 Notification Of Times To Network Operators

NGET will make changes to the **Synchronising** and **De-Synchronising** times available to each **Network Operator**, but only relating to **BM Units Embedded** within its **User System** and those **BM Units** directly connected to the **National Electricity Transmission System** which **NGET** has identified under **OC2** and/or **BC1** as being those which may, in the reasonable opinion of **NGET**, affect the integrity of that **User System** and shall inform the relevant **BM Participant** that it has done so, identifying the **BM Unit** concerned.

Each **Network Operator** must notify **NGET** of any changes to its **User System** Data as soon as practicable in accordance with BC1.6.1(c).

BC2.5.3 Revisions To BM Unit Data

Following **Gate Closure** for any **Settlement Period**, no changes to the **Physical Notification**, to the **QPN** data or to **Bid-Offer Data** for that **Settlement Period** may be submitted to **NGET**.

BC2.5.3.1 At any time, any **BM Participant** (or the relevant person on its behalf) may, in respect of any of its **BM Units**, submit to **NGET** the data listed in **BC1**, Appendix 1 under the heading of **Dynamic Parameters** from the **Control Point** of its **BM Unit** to amend the data already held by **NGET** (including that previously submitted under this BC2.5.3.1) for use in preparing for and operating the **Balancing Mechanism**. The change will take effect from the time that it is received by **NGET**. For the avoidance of doubt, the **Dynamic Parameters** submitted to **NGET** under BC1.4.2(e) are not used within the current **Operational Day**. The **Dynamic Parameters** submitted under this BC2.5.3.1 shall reasonably reflect the true current operating characteristics of the **BM Unit** and shall be prepared in accordance with **Good Industry Practice**.

Following the **Operational Intertripping** of a **System** to **Generating Unit** or a **System** to **CCGT Module**, the **BM Participant** shall as soon as reasonably practicable re-declare its MEL to reflect more accurately its output capability.

BC2.5.3.2 Revisions to **Export and Import Limits** or **Other Relevant Data** supplied (or revised) under **BC1** must be notified to **NGET** without delay as soon as any change becomes apparent to the **BM Participant** (or the relevant person on its behalf) via the **Control Point** for the **BM Unit** (or a **Generating Unit**) to ensure that an accurate assessment of **BM Unit** (or a **Generating Unit**) capability is available to **NGET** at all times. These revisions should be prepared in accordance with **Good Industry Practice** and may be submitted by use of electronic data communication facilities or by telephone.

BC2.5.3.3 Revisions to **Export and Import Limits** must be made by a **BM Participant** (or the relevant person on its behalf) via the **Control Point** in the event of any **De-Synchronisation** of a **BM Unit** (or a **Generating Unit**) in the circumstances described in BC2.5.2.4 if the **BM Unit** (or a **Generating Unit**) is no longer available for any period of time. Revisions must also be submitted in the event of plant failures causing a reduction in input or output of a **BM Unit** (or a **Generating Unit**) even if that does not lead to **De-Synchronisation**. Following the correction of a plant failure, the **BM Participant** (or the relevant person on its behalf) must notify **NGET** via the **Control Point** of a revision to the **Export and Import Limits**, if appropriate, of the **BM Unit** (or a **Generating Unit**), using reasonable endeavours to give a minimum of 5 minutes notice of its intention to return to its **Physical Notification**. The rate at which the **BM Unit** (or a **Generating Unit**) is returned to its **Physical Notification** is not to exceed the limits specified in **BC1**, Appendix 1 without **NGET's** agreement.

BC2.5.4 Operation In The Absence Of Instructions From NGET

In the absence of any **Bid-Offer Acceptances**, **Ancillary Service** instructions issued pursuant to BC2.8 or **Emergency Instructions** issued pursuant to BC2.9:

- (a) as provided for in BC3, each **Synchronised Genset** producing **Active Power** must operate at all times in **Limited Frequency Sensitive Mode** (unless instructed in accordance with BC3.5.4 to operate in **Frequency Sensitive Mode**);
- (b)
 - (i) in the absence of any MVAR **Ancillary Service** instructions, the MVAR output of each **Synchronised Genset** located **Onshore** should be 0 MVAR upon **Synchronisation** at the circuit-breaker where the **Genset** is **Synchronised**. For the avoidance of doubt, in the case of a **Genset** located **Onshore** comprising of **Non-Synchronous Generating Units**, **Power Park Modules** or **DC Converters** the steady state tolerance allowed in CC.6.3.2(b) may be applied
 - (ii) In the absence of any MVAR **Ancillary Service** instructions, the MVAR output of each **Synchronised Genset** comprising **Synchronous Generating Units** located **Offshore** should be 0MVAR at the **Grid Entry Point** upon **Synchronisation**. For the avoidance of doubt, in the case of a **Genset** located **Offshore** comprising of **Non-Synchronous Generating Units**, **Power Park Modules** or **DC Converters** the steady state tolerance allowed in CC.6.3.2(e) may be applied;
- (c)
 - (i) subject to the provisions of 2.5.4(c) (ii) and 2.5.4 (c) (iii) below, the excitation system or the voltage control system of a **Genset** located **Offshore** which has agreed an alternative **Reactive Power** capability range under CC.6.3.2 (e) (iii) or a **Genset** located **Onshore**, unless otherwise agreed with **NGET**, must be operated only in its constant terminal voltage mode of operation with VAR limiters in service, with any constant **Reactive Power** output control mode or constant **Power Factor** output control mode always disabled, unless agreed otherwise with **NGET**. In the event of any change in **System** voltage, a **Generator** must not take any action to override automatic MVAR response which is produced as a result of constant terminal voltage mode of operation of the automatic excitation control system unless instructed otherwise by **NGET** or unless immediate action is necessary to comply with **Stability Limits** or unless constrained by plant operational limits or safety grounds (relating to personnel or plant);
 - (ii) In the case of all **Gensets** comprising **Non-Synchronous Generating Units**, **DC Converters** and **Power Park Modules** that are located **Offshore** and which have agreed an alternative **Reactive Power** capability range under CC.6.3.2 (e) (iii), or that are located **Onshore** only when operating below 20 % of the **Rated MW** output, the voltage control system shall maintain the reactive power transfer at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**) to 0 MVAR. For the avoidance of doubt the relevant steady state tolerance allowed in CC.6.3.2(b) or CC.6.3.2 (e) may be applied. In the case of any such **Gensets** comprising current source **DC Converter** technology or comprising **Power Park Modules** connected to the **Total System** by a current source **DC Converter** when operating at any power output the voltage control system shall maintain the reactive power transfer

at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**) to 0 MVAR. For the avoidance of doubt the relevant steady state tolerance allowed in CC.6.3.2(b) or CC.6.3.2 (c) (i) may be applied.

- (iii) In the case of all **Gensets** located **Offshore** which are not subject to the requirements of BC2.5.4 (c) (i) or BC2.5.4 (c) (ii) the control system shall maintain the **Reactive Power** transfer at the **Offshore Grid Entry Point** at 0MVAR. For the avoidance of doubt the steady state tolerance allowed by CC.6.3.2 (e) may be applied.
- (d) In the absence of any MVAR **Ancillary Service** instructions,
 - (i) the MVAR output of each **Genset** located **Onshore** should be 0 MVAR immediately prior to **De-Synchronisation** at the circuit-breaker where the **Genset** is **Synchronised**, other than in the case of a rapid unplanned **De-Synchronisation** or in the case of a **Genset** comprising of **Non-Synchronous Generating Units, Power Park Modules** or **DC Converters** which is operating at less than 20% of its **Rated MW** output where the requirements of BC2.5.4 (c) part (ii) apply, or;
 - (ii) the MVAR output of each **Genset** located **Offshore** should be 0MVAR immediately prior to **De-Synchronisation** at the **Offshore Grid Entry Point**, other than in the case of a rapid unplanned **De-Synchronisation** or in the case of a **Genset** comprising of **Non-Synchronous Generating Units, Power Park Modules** or **DC Converters** which is operating at less than 20% of its **Rated MW** output and which has agreed an alternative **Reactive Power** capability range under CC.6.3.2 (e) (iii) where the requirements of BC2.5.4 (c) (ii) apply.
- (e) a **Generator** should at all times operate its **CCGT Units** in accordance with the applicable **CCGT Module Matrix**;
- (f) in the case of a **Range CCGT Module**, a **Generator** must operate that **CCGT Module** so that power is provided at the single **Grid Entry Point** identified in the data given pursuant to PC.A.3.2.1 or at the single **Grid Entry Point** to which **NGET** has agreed pursuant to BC1.4.2(f);
- (g) in the event of the **System Frequency** being above 50.3Hz or below 49.7Hz, **BM Participants** must not commence any reasonably avoidable action to regulate the input or output of any **BM Unit** in a manner that could cause the **System Frequency** to deviate further from 50Hz without first using reasonable endeavours to discuss the proposed actions with **NGET**. **NGET** shall either agree to these changes in input or output or issue a **Bid-Offer Acceptance** in accordance with BC2.7 to delay the change.
- (h) a **Generator** should at all times operate its **Power Park Units** in accordance with the applicable **Power Park Module Availability Matrix**.

BC2.5.5 Commencement Or Termination Of Participation In The Balancing Mechanism

BC2.5.5.1

In the event that a **BM Participant** in respect of a **BM Unit** with a **Demand Capacity** with a magnitude of less than 50MW in **NGET's Transmission Area** or less than 10MW in **SHETL's Transmission Area** or less than 30MW in **SPT's Transmission Area** or comprising **Generating Units** (as defined in the Glossary and Definitions and not limited by BC2.2) and/or **CCGT Modules** and/or **Power Park Modules** at a **Small Power Station** notifies **NGET** at least 30 days in advance that from a specified **Operational Day** it will:

- (a) no longer submit **Bid-Offer Data** under BC1.4.2(d), then with effect from that **Operational Day** that **BM Participant** no longer has to meet the requirements of BC2.5.1 nor the requirements of CC.6.5.8(b) in relation to that **BM Unit**. Also, with effect from that **Operational Day**, any defaulted **Physical Notification** and defaulted **Bid-Offer Data** in relation to that **BM Unit** arising from the **Data Validation, Consistency and Defaulting Rules** will be disregarded and the provisions of BC2.5.2 will not apply;
- (b) submit **Bid-Offer Data** under BC1.4.2(d), then with effect from that **Operational Day** that **BM Participant** will need to meet the requirements of BC2.5.1 and the requirements of CC.6.5.8(b) in relation to that **BM Unit**.

BC2.5.5.2 In the event that a **BM Participant** in respect of a **BM Unit** with a **Demand Capacity** with a magnitude of 50MW or more in **NGET's Transmission Area** or 10MW or more in **SHETL's Transmission Area** or 30MW or more in **SPT's Transmission Area** or comprising **Generating Units** (as defined in the Glossary and Definitions and not limited by BC2.2) and/or **CCGT Modules** and/or **Power Park Modules** at a **Medium Power Station** or **Large Power Station** notifies **NGET** at least 30 days in advance that from a specified **Operational Day** it will:

- (a) no longer submit **Bid-Offer Data** under BC1.4.2(d), then with effect from that **Operational Day** that **BM Participant** no longer has to meet the requirements of CC.6.5.8(b) in relation to that **BM Unit**; Also, with effect from that **Operational Day**, any defaulted **Bid-Offer Data** in relation to that **BM Unit** arising from the **Data Validation, Consistency and Defaulting Rules** will be disregarded;
- (b) submit **Bid-Offer Data** under BC1.4.2(d), then with effect from that **Operational Day** that **BM Participant** will need to meet the requirements of CC.6.5.8(b) in relation to that **BM Unit**.

BC2.6 COMMUNICATIONS

Electronic communications are always conducted in GMT. However, the input of data and display of information to **Users** and **NGET** and all other communications are conducted in London time.

BC2.6.1 Normal Communication With Control Points

- (a) With the exception of BC2.6.1(c) below, **Bid-Offer Acceptances** and, unless otherwise agreed with **NGET**, **Ancillary Service** instructions shall be given by automatic logging device and will be given to the **Control Point** for the **BM Unit**. For all **Planned Maintenance Outages** the provisions of BC2.6.5 will apply. For **Generating Units** communications under **BC2** shall be by telephone unless otherwise agreed by **NGET** and the **User**.
- (b) **Bid-Offer Acceptances** and **Ancillary Service** instructions must be formally acknowledged immediately by the **BM Participant** (or the relevant person on its behalf) via the **Control Point** for the **BM Unit** or **Generating Unit** in respect of that **BM Unit** or that **Generating Unit**. The acknowledgement and subsequent confirmation or rejection, within two minutes of receipt, is normally given electronically by automatic logging device. If no confirmation or rejection is received by **NGET** within two minutes of the issue of the **Bid-Offer Acceptance**, then **NGET** will contact the **Control Point** for the **BM Unit** by telephone to determine the reason for the lack of confirmation or rejection. Any rejection must be given in accordance with BC2.7.3 or BC2.8.3.
- (c) In the event of a failure of the logging device or a **NGET** computer system outage, **Bid-Offer Acceptances** and instructions will be given, acknowledged, and confirmed or rejected by telephone. The provisions of BC2.9.7 are also applicable.
- (d) In the event that in carrying out the **Bid-Offer Acceptances** or providing the **Ancillary Services**, or when operating at the level of the **Final Physical Notification Data** as provided in BC2.5.1, an unforeseen problem arises, caused on safety grounds (relating to personnel or plant), **NGET** must be notified without delay by telephone.
- (e) The provisions of BC2.5.3 are also relevant.
- (f) Submissions of revised MVA capability may be made by facsimile transmission, using the format given in Appendix 3 to **BC2**.
- (g) Communication will normally be by telephone for any purpose other than **Bid-Offer Acceptances**, in relation to **Ancillary Services** or for revisions of MVA Data.

- (h) Submissions of revised availability of **Frequency Sensitive Mode** may be made by facsimile transmission, using the format given in Appendix 4 to **BC2**. This process should only be used for technical restrictions to the availability of **Frequency Sensitive Mode**.

BC2.6.2 Communication With Control Points In Emergency Circumstances

NGET will issue **Emergency Instructions** direct to the **Control Point** for each **BM Unit** [or **Generating Unit**] in **Great Britain**. **Emergency Instructions** to a **Control Point** will normally be given by telephone (and will include an exchange of operator names).

BC2.6.3 Communication With Network Operators In Emergency Circumstances

NGET will issue **Emergency Instructions** direct to the **Network Operator** at each **Control Centre** in relation to special actions and **Demand Control**. **Emergency Instructions** to a **Network Operator** will normally be given by telephone (and will include an exchange of operator names). **OC6** contains further provisions relating to **Demand Control** instructions.

BC2.6.4 Communication With Externally Interconnected System Operators In Emergency Circumstances

NGET will issue **Emergency Instructions** directly to the **Externally Interconnected System Operator** at each **Control Centre**. **Emergency Instructions** to an **Externally Interconnected System Operator** will normally be given by telephone (and will include an exchange of operator names).

BC2.6.5 Communications During Planned Outages Of Electronic Data Communication Facilities

Planned Maintenance Outages will normally be arranged to take place during periods of low data transfer activity. Upon any such **Planned Maintenance Outage** in relation to a post **Gate Closure** period:-

- (a) **BM Participants** should operate in relation to any period of time in accordance with the **Physical Notification** prevailing at **Gate Closure** current at the time of the start of the **Planned Maintenance Outage** in relation to each such period of time. Such operation shall be subject to the provisions of BC2.5.1, which will apply as if set out in this BC2.6.5. No further submissions of **BM Unit Data** (other than data specified in BC1.4.2(c) and BC1.4.2(e)) should be attempted or **Generating Unit Data**. Plant failure or similar problems causing significant deviation from **Physical Notification** should be notified to **NGET** by the submission of a revision to **Export and Import Limits** in relation to the **BM Unit** or **Generating Unit** so affected;
- (b) during the outage, revisions to the data specified in BC1.4.2(c) and BC1.4.2(e) may be submitted. Communication between **Users' Control Points** and **NGET** during the outage will be conducted by telephone;
- (c) **NGET** will issue **Bid-Offer Acceptances** by telephone; and
- (d) no data will be transferred from **NGET** to the **BMRA** until the communication facilities are re-established.
- (e) The provisions of BC2.9.7 may also be relevant.

BC2.7 BID-OFFER ACCEPTANCES

BC2.7.1 Acceptance Of Bids And Offers By NGET

Bid-Offer Acceptances may be issued to the **Control Point** at any time following **Gate Closure**. Any **Bid-Offer Acceptance** will be consistent with the **Dynamic Parameters**, **QPNs**, **Export and Import Limits**, and **Joint BM Unit Data** of the **BM Unit** in so far as the **Balancing Mechanism** timescales will allow (see BC2.7.2).

- (a) **NGET** is entitled to assume that each **BM Unit** is available in accordance with the **BM Unit Data** submitted unless and until it is informed of any changes.

- (b) **Bid-Offer Acceptances** sent to the **Control Point** will specify the data necessary to define a MW profile to be provided (ramp rate break-points are not normally explicitly sent to the **Control Point**) and to be achieved consistent with the respective **BM Unit's Export and Import Limits, QPNs and Joint BM Unit Data** provided or modified under **BC1** or **BC2**, and **Dynamic Parameters** given under BC2.5.3 or, if agreed with the relevant **User**, such rate within those **Dynamic Parameters** as is specified by **NGET** in the **Bid-Offer Acceptances**.
- (c) All **Bid-Offer Acceptances** will be deemed to be at the current "**Target Frequency**", namely where a **Genset** is in **Frequency Sensitive Mode** they refer to target output at **Target Frequency**.
- (d) The form of and terms to be used by **NGET** in issuing **Bid-Offer Acceptances** together with their meanings are set out in Appendix 1 in the form of a non-exhaustive list of examples.

BC2.7.2

Consistency With Export And Import Limits, QPNs And Dynamic Parameters

- (a) **Bid-Offer Acceptances** will be consistent with the **Export and Import Limits, QPNs, and Joint BM Unit Data** provided or modified under **BC1** or **BC2** and the **Dynamic Parameters** provided or modified under **BC2**. **Bid-Offer Acceptances** may also recognise **Other Relevant Data** provided or modified under **BC1** or **BC2**
- (b) In the case of consistency with **Dynamic Parameters** this will be limited to the time until the end of the **Settlement Period** for which **Gate Closure** has most recently occurred. If **NGET** intends to issue a **Bid-Offer Acceptance** covering a period after the end of the **Settlement Period** for which **Gate Closure** has most recently occurred, based upon the then submitted **Dynamic Parameters, QPN's, Export and Import Limits, Bid-Offer Data and Joint BM Unit Data** applicable to that period, **NGET** will indicate this to the **BM Participant** at the **Control Point** for the **BM Unit**. The intention will then be reflected in the issue of a **Bid-Offer Acceptance** to return the **BM Unit** to its previously notified **Physical Notification** after the relevant **Gate Closure** provided the submitted data used to formulate this intention has not changed and subject to **System** conditions which may affect that intention. Subject to that, assumptions regarding **Bid-Offer Acceptances** may be made by **BM Participants** for **Settlement Periods** for which **Gate Closure** has not yet occurred when assessing consistency with **Dynamic Parameters** in **Settlement Periods** for which **Gate Closure** has occurred. If no such subsequent **Bid-Offer Acceptance** is issued, the original **Bid-Offer Acceptance** will include an instantaneous return to **Physical Notification** at the end of the **Balancing Mechanism** period.

BC2.7.3

Confirmation And Rejection Of Acceptances

Bid-Offer Acceptances may only be rejected by a **BM Participant** :

- (a) on safety grounds (relating to personnel or plant) as soon as reasonably possible and in any event within five minutes; or
- (b) because they are not consistent with the **Export and Import Limits, QPNs, Dynamic Parameters** or **Joint BM Unit Data** applicable at the time of issue of the **Bid-Offer Acceptance**.

A reason must always be given for rejection by telephone.

Where a **Bid-Offer Acceptance** is not confirmed within two minutes or is rejected, **NGET** will seek to contact the **Control Point** for the **BM Unit**. **NGET** must then, within 15 minutes of issuing the **Bid-Offer Acceptance**, withdraw the **Bid-Offer Acceptance** or log the **Bid-Offer Acceptance** as confirmed. **NGET** will only log a rejected **Bid-Offer Acceptance** as confirmed following discussion and if the reason given is, in **NGET's** reasonable opinion, not acceptable and **NGET** will inform the **BM Participant** accordingly.

BC2.7.4 Action Required From BM Participants

- (a) Each **BM Participant** in respect of its **BM Units** will comply in accordance with BC2.7.1 with all **Bid-Offer Acceptances** given by **NGET** with no more than the delay allowed for by the **Dynamic Parameters** unless the **BM Unit** has given notice to **NGET** under the provisions of BC2.7.3 regarding non-acceptance of a **Bid-Offer Acceptance**.
- (b) Where a **BM Unit's** input or output changes in accordance with a **Bid-Offer Acceptance** issued under BC2.7.1, such variation does not need to be notified to **NGET** in accordance with BC2.5.1.
- (c) In the event that while carrying out the **Bid-Offer Acceptance** an unforeseen problem arises caused by safety reasons (relating to personnel or plant), **NGET** must be notified immediately by telephone and this may lead to revision of **BM Unit Data** in accordance with BC2.5.3

BC2.7.5 Additional Action Required From Generators

- (a) When complying with **Bid-Offer Acceptances** for a **CCGT Module** a **Generator** will operate its **CCGT Units** in accordance with the applicable **CCGT Module Matrix**.
- (b) When complying with **Bid-Offer Acceptances** for a **CCGT Module** which is a **Range CCGT Module**, a **Generator** must operate that **CCGT Module** so that power is provided at the single **Grid Entry Point** identified in the data given pursuant to PC.A.3.2.1 or at the single **Grid Entry Point** to which **NGET** has agreed pursuant to BC1.4.2 (f).
- (c) On receiving a new MW **Bid-Offer Acceptance**, no tap changing shall be carried out to change the MVAR output unless there is a new MVAR **Ancillary Service** instruction issued pursuant to BC2.8.
- (d) When complying with **Bid-Offer Acceptances** for a **Power Park Module** a **Generator** will operate its **Power Park Units** in accordance with the applicable **Power Park Module Availability Matrix**.

BC2.8 ANCILLARY SERVICES

This section primarily covers the call-off of **System Ancillary Services**. The provisions relating to **Commercial Ancillary Services** will normally be covered in the relevant **Ancillary Services Agreement**.

BC2.8.1 Call-Off Of Ancillary Services By NGET

- (a) **Ancillary Service** instructions may be issued at any time.
- (b) **NGET** is entitled to assume that each **BM Unit** (or **Generating Unit**) is available in accordance with the **BM Unit Data** (or the **Generating Unit Data**) and data contained in the **Ancillary Services Agreement** unless and until it is informed of any changes.
- (c) **Frequency** control instructions may be issued in conjunction with, or separate from, a **Bid-Offer Acceptance**.
- (d) The form of and terms to be used by **NGET** in issuing **Ancillary Service** instructions together with their meanings are set out in Appendix 2 in the form of a non-exhaustive list of examples including **Reactive Power** and associated instructions.
- (e) In the case of **Generating Units** that do not form part of a **BM Unit** any change in **Active Power** as a result of, or required to enable, the provision of an **Ancillary Service** will be dealt with as part of that **Ancillary Service Agreement** and/or provisions under the **CUSC**.
- (f) A **System to Generator Operational Intertripping Scheme** will be armed in accordance with BC2.10.2(a)

BC2.8.2 Consistency With Export And Import Limits, QPNs And Dynamic Parameters

Ancillary Service instructions will be consistent with the **Export and Import Limits, QPNs, and Joint BM Unit Data** provided or modified under **BC1** or **BC2** and the **Dynamic Parameters** provided or modified under **BC2**. **Ancillary Service** instructions may also recognise **Other Relevant Data** provided or modified under **BC1** or **BC2**

BC2.8.3 Rejection Of Ancillary Service Instructions

- (a) **Ancillary Service** instructions may only be rejected, by automatic logging device or by telephone, on safety grounds (relating to personnel or plant) or because they are not consistent with the applicable **Export and Import Limits, QPNs, Dynamic Parameters, Joint BM Unit Data, Other Relevant Data** or data contained in the **Ancillary Services Agreement** and a reason must be given immediately for non-acceptance.
- (b) The issue of **Ancillary Service** instructions for **Reactive Power** will be made with due regard to any resulting change in **Active Power** output. The instruction may be rejected if it conflicts with any **Bid-Offer Acceptance** issued in accordance with BC2.7 or with the **Physical Notification**.
- (c) Where **Ancillary Service** instructions relating to **Active Power** and **Reactive Power** are given together, and to achieve the **Reactive Power** output would cause the **BM Unit** to operate outside **Dynamic Parameters** as a result of the **Active Power** instruction being met at the same time, then the timescale of implementation of the **Reactive Power** instruction may be extended to be no longer than the timescale for implementing the **Active Power** instruction but in any case to achieve the MVAR **Ancillary Service** instruction as soon as possible.

BC2.8.4 Action Required From BM Units

- (a) Each **BM Unit** (or **Generating Unit**) will comply in accordance with BC2.8.1 with all **Ancillary Service** instructions relating to **Reactive Power** properly given by **NGET** within 2 minutes or such longer period as **NGET** may instruct, and all other **Ancillary Service** instructions without delay, unless the **BM Unit** or **Generating Unit** has given notice to **NGET** under the provisions of BC2.8.3 regarding non-acceptance of **Ancillary Service** instructions.
- (b) Each **BM Unit** may deviate from the profile of its **Final Physical Notification Data**, as modified by any **Bid-Offer Acceptances** issued in accordance with BC2.7.1, only as a result of responding to **Frequency** deviations when operating in **Frequency Sensitive Mode** in accordance with the **Ancillary Services Agreement**.
- (c) Each **Generating Unit** that does not form part of a **BM Unit** may deviate from the profile of its **Final Physical Notification Data** where agreed by **NGET** and the **User**, including but not limited to, as a result of providing an **Ancillary Service** in accordance with the **Ancillary Service Agreement**.
- (d) In the event that while carrying out the **Ancillary Service** instructions an unforeseen problem arises caused by safety reasons (relating to personnel or plant), **NGET** must be notified immediately by telephone and this may lead to revision of **BM Unit Data** or **Generating Unit Data** in accordance with BC2.5.3.

BC2.8.5 Reactive Despatch Network Restrictions

Where **NGET** has received notification pursuant to the Grid Code that a **Reactive Despatch to Zero MVAR Network Restriction** is in place with respect to any **Embedded Generating Unit, Embedded Power Park Module** or **DC Converter** at an **Embedded DC Converter Station**, then **NGET** will not issue any **Reactive Despatch Instruction** with respect to that **Generating Unit, Power Park Module** or **DC Converter** until such time as notification is given to **NGET** pursuant to the Grid Code that such **Reactive Despatch to Zero MVAR Network Restriction** is no longer affecting that **Generating Unit, Power Park Module** or **DC Converter**.

BC2.9 EMERGENCY CIRCUMSTANCES

BC2.9.1 Emergency Actions

BC2.9.1.1 In certain circumstances (as determined by **NGET** in its reasonable opinion) it will be necessary, in order to preserve the integrity of the **National Electricity Transmission System** and any synchronously connected **External System**, for **NGET** to issue **Emergency Instructions**. In such circumstances, it may be necessary to depart from normal **Balancing Mechanism** operation in accordance with BC2.7 in issuing **Bid-Offer Acceptances**. **BM Participants** must also comply with the requirements of **BC3**.

BC2.9.1.2 Examples of circumstances that may require the issue of **Emergency Instructions** include:-

- (a) **Events** on the **National Electricity Transmission System** or the **System** of another **User**; or
- (b) the need to maintain adequate **System** and **Localised NRAPM** in accordance with BC2.9.4 below; or
- (c) the need to maintain adequate frequency sensitive **Gensets** in accordance with BC2.9.5 below; or
- (d) the need to implement **Demand Control** in accordance with OC6; or
- (e) (i) the need to invoke the **Black Start** process or the **Re-Synchronisation of De-Synchronised Island** process in accordance with OC9; or
 - (ii) the need to request provision of a **Maximum Generation Service**; or
 - (iii) the need to issue an **Emergency Deenergisation Instruction** in circumstances where the condition or manner of operation of any **Transmission Plant** and/or **Apparatus** is such that it may cause damage or injury to any person or to the **National Electricity Transmission System**.

BC2.9.1.3 In the case of **BM Units** and **Generating Units** in **Great Britain**, **Emergency Instructions** will be issued by **NGET** direct to the **User** at the **Control Point** for the **BM Unit** or **Generating Unit** and may require an action or response which is outside its **Other Relevant Data**, **QPNs**, or **Export and Import Limits** submitted under **BC1**, or revised under **BC1** or **BC2**, or **Dynamic Parameters** submitted or revised under **BC2**.

BC2.9.1.4 In the case of a **Network Operator** or an **Externally Interconnected System Operator**, **Emergency Instructions** will be issued to its **Control Centre**.

BC2.9.2 Implementation Of Emergency Instructions

BC2.9.2.1 **Users** will respond to **Emergency Instructions** issued by **NGET** without delay and using all reasonable endeavours to so respond. **Emergency Instructions** may only be rejected by an **User** on safety grounds (relating to personnel or plant) and this must be notified to **NGET** immediately by telephone.

BC2.9.2.2 **Emergency Instructions** will always be prefixed with the words "This is an **Emergency Instruction**" except in the case of:

- (i) **Maximum Generation Service** instructed by electronic data communication facilities where the instruction will be issued in accordance with the provisions of the **Maximum Generation Service Agreement**; and
- (ii) an **Emergency Deenergisation Instruction**, where the **Emergency Deenergisation Instruction** will be pre-fixed with the words 'This is an **Emergency Deenergisation Instruction**'; and
- (iii) during a **Black Start** situation where the **Balancing Mechanism** has been suspended, any instruction given by **NGET** will (unless **NGET** specifies otherwise) be deemed to be an **Emergency Instruction** and need not be pre-fixed with the words 'This is an **Emergency Instruction**'; and

- (iv) during a **Black Start** situation where the **Balancing Mechanism** has not been suspended, any instruction in relation to **Black Start Stations** and to **Network Operators** which are part of an invoked **Local Joint Restoration Plan** will (unless **NGET** specifies otherwise) be deemed to be an **Emergency Instruction** and need not be prefixed with the words 'This is an **Emergency Instruction**'.

In Scotland, any instruction in relation to **Gensets** that are not at **Black Start Stations**, but which are part of an invoked **Local Joint Restoration Plan** and are instructed in accordance with the provisions of that **Local Joint Restoration Plan**, will be deemed to be an **Emergency Instruction** and need not be prefixed with the words 'This is an **Emergency Instruction**'.

- BC2.9.2.3 In all cases under this BC2.9 except BC2.9.1.2 (e) where **NGET** issues an **Emergency Instruction** to a **BM Participant** which is not rejected under BC2.9.2.1, the **Emergency Instruction** shall be treated as a **Bid-Offer Acceptance**. For the avoidance of doubt, any **Emergency Instruction** issued to a **Network Operator** or to an **Externally Interconnected System Operator** or in respect of a **Generating Unit** that does not form part of a **BM Unit**, will not be treated as a **Bid-Offer Acceptance**.
- BC2.9.2.4 In the case of BC2.9.1.2 (e) (ii) where **NGET** issues an **Emergency Instruction** pursuant to a **Maximum Generation Service Agreement** payment will be dealt with in accordance with the **CUSC** and the **Maximum Generation Service Agreement**.
- BC2.9.2.5 In the case of BC2.9.1.2 (e) (iii) where **NGET** issues an **Emergency Deenergisation Instruction** payment will be dealt with in accordance with the **CUSC**, Section 5.
- BC2.9.2.6 In the of BC2.9.1.2 (e) (i) upon receipt of an **Emergency Instruction** by a **Generator** during a **Black Start** the provisions of Section G of the **BSC** relating to compensation shall apply.
- BC2.9.3 Examples Of Emergency Instructions
- BC2.9.3.1 In the case of a **BM Unit** or a **Generating Unit**, **Emergency Instructions** may include an instruction for the **BM Unit** or the **Generating Unit** to operate in a way that is not consistent with the **Dynamic Parameters**, **QPNs** and/or **Export and Import Limits**.
- BC2.9.3.2 In the case of a **Generator**, **Emergency Instructions** may include:
- (a) an instruction to trip one or more **Gensets** (excluding **Operational Intertripping**); or
 - (b) an instruction to trip **Mills** or to **Part Load** a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2); or
 - (c) an instruction to **Part Load** a **CCGT Module** or **Power Park Module**; or
 - (d) an instruction for the operation of **CCGT Units** within a **CCGT Module** (on the basis of the information contained within the **CCGT Module Matrix**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion); or
 - (e) an instruction to generate outside normal parameters, as allowed for in 4.2 of the **CUSC**; or
 - (f) an instruction for the operation of **Generating Units** within a **Cascade Hydro Scheme** (on the basis of the additional information supplied in relation to individual **Generating Units**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion); or
 - (g) an instruction for the operation of a **Power Park Module** (on the basis of the information contained within the **Power Park Module Availability Matrix**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion).
- BC2.9.3.3 Instructions to **Network Operators** relating to the **Operational Day** may include:
- (a) a requirement for **Demand** reduction and disconnection or restoration pursuant to **OC6**;
 - (b) an instruction to effect a load transfer between **Grid Supply Points**;
 - (c) an instruction to switch in a **System to Demand Intertrip Scheme**;

- (d) an instruction to split a network;
- (e) an instruction to disconnect an item of **Plant** or **Apparatus** from the **System**.

BC2.9.4 Maintaining Adequate System And Localised NRAPM (Negative Reserve Active Power Margin)

BC2.9.4.1 Where **NGET** is unable to satisfy the required **System NRAPM** or **Localised NRAPM** by following the process described in BC1.5.5, **NGET** will issue an **Emergency Instruction** to exporting **BM Units** for **De-Synchronising** on the basis of **Bid-Offer Data** submitted to **NGET** in accordance with BC1.4.2(d).

BC2.9.4.2 In the event that **NGET** is unable to differentiate between exporting **BM Units** according to **Bid-Offer Data**, **NGET** will instruct a **BM Participant** to **Shutdown** a specified exporting **BM Unit** for such period based upon the following factors:

- (a) effect on power flows (resulting in the minimisation of transmission losses);
- (b) reserve capability;
- (c) **Reactive Power** worth;
- (d) **Dynamic Parameters**;
- (e) in the case of **Localised NRAPM**, effectiveness of output reduction in the management of the **System Constraint**.

BC2.9.4.3 Where **NGET** is still unable to differentiate between exporting **BM Units**, having considered all the foregoing, **NGET** will decide which exporting **BM Unit** to **Shutdown** by the application of a quota for each **BM Participant** in the ratio of each **BM Participant's Physical Notifications**.

BC2.9.4.4 Other than as provided in BC2.9.4.5 and BC2.9.4.6 below, in determining which exporting **BM Units** to **De-Synchronise** under this BC2.9.4, **NGET** shall not consider in such determination (and accordingly shall not instruct to **De-Synchronise**) any **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2) within an **Existing Gas Cooled Reactor Plant**.

BC2.9.4.5 **NGET** shall be permitted to instruct a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2) within an **Existing AGR Plant** to **De-Synchronise** if the relevant **Generating Unit** within the **Existing AGR Plant** has failed to offer to be flexible for the relevant instance at the request of **NGET** within the **Existing AGR Plant Flexibility Limit**.

BC2.9.4.6 Notwithstanding the provisions of BC2.9.4.5 above, if the level of **System NRAPM** (taken together with **System** constraints) or **Localised NRAPM** is such that it is not possible to avoid instructing a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2) within an **Existing Magnox Reactor Plant** and/or an **Existing AGR Plant** whether or not it has met requests within the **Existing AGR Flexibility Limit** to **De-Synchronise** **NGET** may, provided the power flow across each **External Interconnection** is either at zero or results in an export of power from the **Total System**, so instruct a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2) within an **Existing Magnox Reactor Plant** and/or an **Existing AGR Plant** to **De-Synchronise** in the case of **System NRAPM**, in all cases and in the case of **Localised NRAPM**, when the power flow would have a relevant effect.

BC2.9.4.7 When instructing exporting **BM Units** which form part of an **On-Site Generator Site** to reduce generation under this BC2.9.4, **NGET** will not issue an instruction which would reduce generation below the reasonably anticipated **Demand** of the **On-Site Generator Site**. For the avoidance of doubt, it should be noted that the term "**On-Site Generator Site**" only relates to Trading Units which have fulfilled the Class 1 or Class 2 requirements.

BC2.9.5 Maintaining Adequate Frequency Sensitive Generation

BC2.9.5.1 If, post **Gate Closure**, **NGET** determines, in its reasonable opinion, from the information then available to it (including information relating to **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2) breakdown) that the number of and level of **Primary, Secondary and High Frequency Response** available from **Gensets** (other than those units within **Existing Gas Cooled Reactor Plant**, which are permitted to operate in **Limited Frequency Sensitive Mode** at all times under BC3.5.3) available to operate in **Frequency Sensitive Mode** is such that it is not possible to avoid **De-Synchronising Existing Gas Cooled Reactor Plant** then provided that:

- (a) there are (or, as the case may be, that **NGET** anticipates, in its reasonable opinion, that at the time that the instruction is to take effect there will be) no other **Gensets** generating and exporting on to the **Total System** which are not operating in **Frequency Sensitive Mode** (or which are operating with only a nominal amount in terms of level and duration) (unless, in **NGET's** reasonable opinion, necessary to assist the relief of **System** constraints or necessary as a result of other **System** conditions); and
- (b) the power flow across each **External Interconnection** is (or, as the case may be, is anticipated to be at the time that the instruction is to take effect) either at zero or result in an export of power from the **Total System**,

then **NGET** may instruct such of the **Existing Gas Cooled Reactor Plant** to **De-Synchronise** as it is, in **NGET's** reasonable opinion, necessary to **De-Synchronise** and for the period for which the **De-Synchronising** is, in **NGET's** reasonable opinion, necessary.

BC2.9.5.2 If in **NGET's** reasonable opinion it is necessary for both the procedure in BC2.9.4 and that set out in BC2.9.5.1 to be followed in any given situation, the procedure in BC2.9.4 will be followed first, and then the procedure set out in BC2.9.5.1. For the avoidance of doubt, nothing in this sub-paragraph shall prevent either procedure from being followed separately and independently of the other.

BC2.9.6 Emergency Assistance To And From External Systems

- (a) An **Externally Interconnected System Operator** (in its role as operator of the **External System**) may request that **NGET** takes any available action to increase the **Active Energy** transferred into its **External System**, or reduce the **Active Energy** transferred into the **National Electricity Transmission System** by way of emergency assistance if the alternative is to instruct a demand reduction on all or part of its **External System** (or on the system of an **Interconnector User** using its **External System**). Such request must be met by **NGET** providing this does not require a reduction of **Demand** on the **National Electricity Transmission System**, or lead to a reduction in security on the **National Electricity Transmission System**.
- (b) **NGET** may request that an **Externally Interconnected System Operator** takes any available action to increase the **Active Energy** transferred into the **National Electricity Transmission System**, or reduce the **Active Energy** transferred into its **External System** by way of emergency assistance if the alternative is to instruct a **Demand** reduction on all or part of the **National Electricity Transmission System**. Such request must be met by the **Externally Interconnected System Operator** providing this does not require a reduction of **Demand** on its **External System** (or on the system of **Interconnector Users** using its **External System**), or lead to a reduction in security on such **External System** or system.

BC2.9.7 Unplanned Outages Of Electronic Communication And Computing Facilities

BC2.9.7.1 In the event of an unplanned outage of the electronic data communication facilities or of **NGET's** associated computing facilities or in the event of a **Planned Maintenance Outage** lasting longer than the planned duration, in relation to a post-**Gate Closure** period **NGET** will, as soon as it is reasonably able to do so, issue a **NGET** Computing System Failure notification by telephone or such other means agreed between **Users** and **NGET** indicating the likely duration of the outage.

BC2.9.7.2 During the period of any such outage, the following provisions will apply:

- (a) **NGET** will issue further **NGET** Computing System Failure notifications by telephone or such other means agreed between **Users** and **NGET** to all **BM Participants** to provide updates on the likely duration of the outage;
- (b) **BM Participants** should operate in relation to any period of time in accordance with the **Physical Notification** prevailing at **Gate Closure** current at the time of the computer system failure in relation to each such period of time. Such operation shall be subject to the provisions of BC2.5.1, which will apply as if set out in this BC2.9.7.2. No further submissions of **BM Unit Data** or **Generating Unit Data** (other than data specified in BC1.4.2(c) (**Export and Import Limits**) and BC1.4.2(e) (**Dynamic Parameters**)) should be attempted. Plant failure or similar problems causing significant deviation from **Physical Notification** should be notified to **NGET** by telephone by the submission of a revision to **Export and Import Limits** in relation to the **BM Unit** or **Generating Unit Data** so affected;
- (c) Revisions to **Export and Import Limits** and to **Dynamic Parameters** should be notified to **NGET** by telephone and will be recorded for subsequent use;
- (d) **NGET** will issue **Bid-Offer Acceptances** by telephone which will be recorded for subsequent use;
- (e) No data will be transferred from **NGET** to the **BMRA** until the communication facilities are re-established.

BC2.9.7.3 **NGET** will advise **BM Participants** of the withdrawal of the **NGET** Computing System Failure notification following the re-establishment of the communication facilities.

BC2.10 OTHER OPERATIONAL INSTRUCTIONS AND NOTIFICATIONS

BC2.10.1 **NGET** may, from time to time, need to issue other instructions or notifications associated with the operation of the **National Electricity Transmission System**.

BC2.10.2 Such instructions or notifications may include:

Intertrips

(a) an instruction to arm or disarm an **Operational Intertripping** scheme;

Tap Positions

(b) a request for a **Genset** step-up transformer tap position (for security assessment);

Tests

(c) an instruction to carry out tests as required under **OC5**, which may include the issue of an instruction regarding the operation of **CCGT Units** within a **CCGT Module** at a **Large Power Station**;

Future BM Unit Requirements

(d) a reference to any implications for future **BM Unit** requirements and the security of the **National Electricity Transmission System**, including arrangements for change in output to meet post fault security requirements;

Changes to Target Frequency

(e) a notification of a change in **Target Frequency**, which will normally only be 49.95, 50.00, or 50.05Hz but in exceptional circumstances as determined by **NGET** in its reasonable opinion, may be 49.90 or 50.10Hz.

BC2.10.3 Where an instruction or notification under BC2.10.2 (c) or (d) results in a change to the input or output level of the **BM Unit** then **NGET** shall issue a **Bid-Offer Acceptance** or **Emergency Instruction** as appropriate.

BC2.11 LIAISON WITH GENERATORS FOR RISK OF TRIP AND AVR TESTING

BC2.11.1 A **Generator** at the **Control Point** for any of its **Large Power Stations** may request **NGET's** agreement for one of the **Gensets** at that **Power Station** to be operated under a risk of trip. **NGET's** agreement will be dependent on the risk to the **National Electricity Transmission System** that a trip of the **Genset** would constitute.

BC2.11.2 (a) Each **Generator** at the **Control Point** for any of its **Large Power Stations** will operate its **Synchronised Gensets** (excluding **Power Park Modules**) with:

(i) **AVRs** in constant terminal voltage mode with **VAR** limiters in service at all times. **AVR** constant **Reactive Power** or **Power Factor** mode should, if installed, be disabled; and

(ii) its generator step-up transformer tap changer selected to manual mode, unless released from this obligation in respect of a particular **Genset** by **NGET**.

(b) Each **Generator** at the **Control Point** for any of its **Large Power Stations** will operate its **Power Park Modules** with a **Completion Date** before 1st January 2006 at unity power factor at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**).

(c) Each **Generator** at the **Control Point** for any of its **Large Power Stations** will operate its **Power Park Modules** with a **Completion Date** on or after 1st January 2006 in voltage control mode at the **Grid Entry Point** (or **User System Entry Point** if **Embedded**). Constant **Reactive Power** or **Power Factor** mode should, if installed, be disabled.

- (d) Where a **Power System Stabiliser** is fitted as part of the excitation system or voltage control system of a **Genset**, it requires on-load commissioning which must be witnessed by **NGET**. Only when the performance of the **Power System Stabiliser** has been approved by **NGET** shall it be switched into service by a **Generator** and then it will be kept in service at all times unless otherwise agreed with **NGET**. Further reference is made to this in CC.6.3.8.

BC2.11.3 A **Generator** at the **Control Point** for any of its **Power Stations** may request **NGET's** agreement for one of its **Gensets** at that **Power Station** to be operated with the **AVR** in manual mode, or **Power System Stabiliser** switched out, or **VAR** limiter switched out. **NGET's** agreement will be dependent on the risk that would be imposed on the **National Electricity Transmission System** and any **User System**. Provided that in any event a **Generator** may take such action as is reasonably necessary on safety grounds (relating to personnel or plant) .

BC2.11.4 Each **Generator** shall operate its dynamically controlled **OTSDUW Plant and Apparatus** to ensure that the reactive capability and voltage control performance requirements as specified in CC.6.3.2, CC.6.3.8, CC.A.7 and the **Bilateral Agreement** can be satisfied in response to the Setpoint Voltage and Slope as instructed by **NGET** at the **Transmission Interface Point**.

BC2.12 LIAISON WITH EXTERNALLY INTERCONNECTED SYSTEM OPERATORS

BC2.12.1 Co-Ordination Role Of Externally Interconnected System Operators

- (a) The **Externally Interconnected System Operator** will act as the **Control Point** for **Bid-Offer Acceptances** on behalf of **Interconnector Users** and will co-ordinate instructions relating to **Ancillary Services** and **Emergency Instructions** on behalf of **Interconnector Users** using its **External System** in respect of each **Interconnector User's BM Units**.
- (b) **NGET** will issue **Bid-Offer Acceptances** and instructions for **Ancillary Services** relating to **Interconnector Users' BM Units** to each **Externally Interconnected System Operator** in respect of each **Interconnector User** using its **External System**.
- (c) If, as a result of a reduction in the capability (in MW) of the **External Interconnection**, the total of the **Physical Notifications** and **Bid-Offer Acceptances** issued for the relevant period using that **External Interconnection**, as stated in the **BM Unit Data** exceeds the reduced capability (in MW) of the respective **External Interconnection** in that period then **NGET** shall notify the **Externally Interconnected System Operator** accordingly. The **Externally Interconnected System Operator** should seek a revision of **Export and Import Limits** from one or more of its **Interconnector Users** for the remainder of the **Balancing Mechanism** period during which **Physical Notifications** cannot be revised.

APPENDIX 1 - FORM OF BID-OFFER ACCEPTANCES

BC2.A.1.1 This Appendix describes the forms of **Bid-Offer Acceptances**. As described in BC2.6.1 **Bid-Offer Acceptances** are normally given by an automatic logging device, but in the event of failure of the logging device, **Bid-Offer Acceptances** will be given by telephone.

BC2.A.1.2 For each **BM Unit** the **Bid-Offer Acceptance** will consist of a series of MW figures and associated times.

BC2.A.1.3 The **Bid-Offer Acceptances** relating to **CCGT Modules** will assume that the **CCGT Units** within the **CCGT Module** will operate in accordance with the **CCGT Module Matrix**, as required by **BC1**. The **Bid-Offer Acceptances** relating to **Cascade Hydro Schemes** will assume that the **Generating Unit** forming part of the **Cascade Hydro Scheme** will operate, where submitted, in accordance with the **Cascade Hydro Scheme Matrix** submitted under **BC1**.

BC2.A.1.4 Bid-Offer Acceptances Given By Automatic Logging Device

(a) The complete form of the **Bid-Offer Acceptance** is given in the EDL Message Interface Specification which can be made available to **Users** on request.

(b) **Bid-Offer Acceptances** will normally follow the form:

- (i) **BM Unit Name**
- (ii) Instruction Reference Number
- (iii) Time of instruction
- (iv) Type of instruction
- (v) **BM Unit Bid-Offer Acceptance** number
- (vi) Number of MW/Time points making up instruction (minimum 2, maximum 5)
- (vii) MW value and Time value for each point identified in (vi)

The times required in the instruction are input and displayed in London time, but communicated electronically in GMT.

BC2.A.1.5 Bid-Offer Acceptances Given By Telephone

(a) All run-up/run-down rates will be assumed to be constant and consistent with **Dynamic Parameters**. Each **Bid-Offer Acceptance** will, wherever possible, be kept simple, drawing as necessary from the following forms and BC2.7

(b) **Bid-Offer Acceptances** given by telephone will normally follow the form:

- (i) an exchange of operator names;
- (ii) **BM Unit Name**;
- (iii) Time of instruction;
- (iv) Type of instruction;
- (v) Number of MW/Time points making up instruction (minimum 2, maximum 5)
- (vi) MW value and Time value for each point identified in (v)

The times required in the instruction are expressed in London time.

For example, for a **BM Unit** ABCD-1 acceptance logged with a start time at 1400 hours and with a FPN at 300MW:

“**BM Unit** ABCD-1 **Bid-Offer Acceptance** timed at 1400 hours. Acceptance consists of 4 MW/Time points as follows:

300MW at 1400 hours

400MW at 1415 hours

400MW at 1450 hours

300MW at 1500 hours”

BC2.A.1.6 Submission Of Bid-Offer Acceptance Data To The Bmra

The relevant information contained in **Bid-Offer Acceptances** issued by **NGET** will be converted into “from” and “to” MW levels and times before they are submitted to the **BMRA** by **NGET**.

APPENDIX 2 - TYPE AND FORM OF ANCILLARY SERVICE INSTRUCTIONS

BC2.A.2.1 This part of the Appendix consists of a non-exhaustive list of the forms and types of instruction for a **Genset** to provide **System Ancillary Services**. There may be other types of **Commercial Ancillary Services** and these will be covered in the relevant **Ancillary Services Agreement**. In respect of the provision of **Ancillary Services** by **Generating Units** the forms and types of instruction will be in the form of this Appendix 2 unless amended in the **Ancillary Services Agreement**.

As described in CC.8, **System Ancillary Services** consist of Part 1 and Part 2 **System Ancillary Services**.

Part 1 System Ancillary Services Comprise:

- (a) **Reactive Power** supplied other than by means of synchronous or static compensators. This is required to ensure that a satisfactory **System** voltage profile is maintained and that sufficient **Reactive Power** reserves are maintained under normal and fault conditions. **Ancillary Service** instructions in relation to **Reactive Power** may include:
 - (i) MVAR Output
 - (ii) Target Voltage Levels
 - (iii) Tap Changes
 - (iv) Maximum MVAR Output ('maximum excitation')
 - (v) Maximum MVAR Absorption ('minimum excitation')
- (b) **Frequency** Control by means of **Frequency** sensitive generation. **Gensets** may be required to move to or from **Frequency Sensitive Mode** in the combinations agreed in the relevant **Ancillary Services Agreement**. They will be specifically requested to operate so as to provide **Primary Response** and/or **Secondary Response** and/or **High Frequency Response**.

Part 2 System Ancillary Services Comprise:

- (c) **Frequency** Control by means of **Fast Start**.
- (d) **Black Start Capability**
- (e) **System to Generator Operational Intertripping**

BC2.A.2.2 As **Ancillary Service** instructions are not part of **Bid-Offer Acceptances** they do not need to be closed instructions and can cover any period of time, not just limited to the period of the **Balancing Mechanism**.

BC2.A.2.3 As described in BC2.6.1, unless otherwise agreed with **NGET**, **Ancillary Service** instructions are normally given by automatic logging device, but in the absence of, or in the event of failure of the logging device, instructions will be given by telephone.

BC2.A.2.4 Instructions Given By Automatic Logging Device

- (a) The complete form of the **Ancillary Service** instruction is given in the EDL Message Interface Specification which is available to **Users** on request from **NGET**.
- (b) **Ancillary Service** instructions for **Frequency** Control will normally follow the form:
 - (i) **BM Unit Name**
 - (ii) Instruction Reference Number
 - (iii) Time of instruction
 - (iv) Type of instruction (REAS)
 - (v) Reason Code
 - (vi) Start Time

(c) **Ancillary Service** instructions for **Reactive Power** will normally follow the form:

- (i) **BM Unit** Name
- (ii) Instruction Reference Number
- (iii) Time of instruction
- (iv) Type of instruction (MVAR, VOLT or TAPP)
- (v) Target Value
- (vi) Target Time

The times required in the instruction are input and displayed in London time, but communicated electronically in GMT.

BC2.A.2.5 Instructions Given By Telephone

(a) **Ancillary Service** instructions for **Frequency Control** will normally follow the form:

- (i) an exchange of operator names;
- (ii) **BM Unit** Name;
- (iii) Time of instruction;
- (iv) Type of instruction;
- (v) Start Time.

The times required in the instruction are expressed in London time.

For example, for **BM Unit** ABCD-1 instructed at 1400 hours to provide Primary and **High Frequency** response starting at 1415 hours:

“**BM Unit** ABCD-1 message timed at 1400 hours. Unit to **Primary and High Frequency Response** at 1415 hours”

(b) **Ancillary Service** instructions for **Reactive Power** will normally follow the form:

- (a) an exchange of operator names;
- (b) **BM Unit** Name;
- (c) Time of instruction;
- (d) Type of instruction (MVAR, VOLT, SETPOINT, **SLOPE** or TAPP)
- (e) Target Value
- (f) Target Time.

The times required in the instruction are expressed as London time.

For example, for **BM Unit** ABCD-1 instructed at 1400 hours to provide 100MVAR by 1415 hours:

“**BM Unit** ABCD-1 message timed at 1400 hours. MVAR instruction. Unit to plus 100 MVAR target time 1415 hours.”

BC2.A.2.6 Reactive Power

As described in BC2.A.2.4 and BC2.A.2.5 instructions for **Ancillary Services** relating to **Reactive Power** may consist of any of several specific types of instruction. The following table describes these instructions in more detail:

Instruction Name	Description	Type of Instruction
MVAR Output	<p>The individual MVAR output from the Genset onto the National Electricity Transmission System at the Grid Entry Point (or onto the User System at the User System Entry Point in the case of Embedded Power Stations), namely on the higher voltage side of the generator step-up transformer. In relation to each Genset, where there is no HV indication, NGET and the Generator will discuss and agree equivalent MVAR levels for the corresponding LV indication.</p> <p>Where a Genset is instructed to a specific MVAR output, the Generator must achieve that output within a tolerance of +/-25 MVAR (for Gensets in England and Wales) or the lesser of +/-5% of rated output or 25MVAR (for Gensets in Scotland) (or such other figure as may be agreed with NGET) by tap changing on the generator step-up transformer, or adjusting the Genset terminal voltage, subject to compliance with CC.6.3.8 (a) (v), to a value that is equal to or higher than 1.0p.u. of the rated terminal voltage, or a combination of both. Once this has been achieved, the Generator will not tap again and will not readjust the Genset terminal voltage without prior consultation with and the agreement of NGET, on the basis that MVAR output will be allowed to vary with System conditions.</p>	MVAR

Instruction Name	Description	Type of Instruction
Target Voltage Levels	<p>Target voltage levels to be achieved by the Genset on the National Electricity Transmission System at the Grid Entry Point (or on the User System at the User System Entry Point in the case of Embedded Power Stations, namely on the higher voltage side of the generator step-up transformer. Where a Genset is instructed to a specific target voltage, the Generator must achieve that target within a tolerance of ± 1 kV (or such other figure as may be agreed with NGET) by tap changing on the generator step-up transformer, or adjusting the Genset terminal voltage, subject to compliance with CC.6.3.8 (a) (v), to a value that is equal to or higher than 1.0p.u. of the rated terminal voltage, or a combination of both. In relation to each Genset, where there is no HV indication, NGET and the Generator will discuss and agree equivalent voltage levels for the corresponding LV indication.</p> <p>Under normal operating conditions, once this target voltage level has been achieved the Generator will not tap again and will not readjust the Genset terminal voltage without prior consultation with, and with the agreement of, NGET.</p> <p>However, under certain circumstances the Generator may be instructed to maintain a target voltage until otherwise instructed and this will be achieved by tap changing on the generator step-up transformer, or adjusting the Genset terminal voltage, subject to compliance with CC.6.3.8 (a) (v), to a value that is equal to or higher than 1.0p.u. of the rated terminal voltage, or a combination of both without reference to NGET.</p>	VOLT
Setpoint Voltage	<p>Where a Non-Synchronous Generating Unit, DC Converter or Power Park Module is instructed to a specific Setpoint Voltage, the Generator must achieve that Setpoint Voltage within a tolerance of $\pm 0.25\%$ (or such other figure as may be agreed with NGET).</p> <p>The Generator must maintain the specified Setpoint Voltage target until an alternative target is received from NGET.</p>	SETPOINT
Slope	<p>Where a Non-Synchronous Generating Unit, DC Converter or Power Park Module is instructed to a specific Slope, the Generator must achieve that Slope within a tolerance of $\pm 0.5\%$ (or such other figure as may be agreed with NGET).</p> <p>The Generator must maintain the specified Slope target until an alternative target is received from NGET.</p> <p>The Generator will not be required to implement a new Slope setting in a time of less than 1 week from the time of the instruction.</p>	SLOPE

Instruction Name	Description	Type of Instruction
Tap Changes	<p>Details of the required generator step-up transformer tap changes in relation to a Genset. The instruction for tap changes may be a Simultaneous Tap Change instruction, whereby the tap change must be effected by the Generator in response to an instruction from NGET issued simultaneously to relevant Power Stations. The instruction, which is normally 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.</p> <p>For a Simultaneous Tap Change, change Genset generator step-up transformer tap position by one [two] taps to raise or lower (as relevant) System voltage, to be executed at time of instruction.</p>	TAPP
Maximum MVar Output ("maximum excitation")	<p>Under certain conditions, such as low System voltage, an instruction to maximum MVar output at instructed MW output ("maximum excitation") may be given, and a Generator should take appropriate actions to maximise MVar output unless constrained by plant operational limits or safety grounds (relating to personnel or plant).</p>	
Maximum MVar Absorption ("minimum excitation")	<p>Under certain conditions, such as high System voltage, an instruction to maximum MVar absorption at instructed MW output ("minimum excitation") may be given, and a Generator should take appropriate actions to maximise MVar absorption unless constrained by plant operational limits or safety grounds (relating to personnel or plant).</p>	

BC2.A.2.7

In addition, the following provisions will apply to **Reactive Power** instructions:

- (a) In circumstances where **NGET** issues new instructions in relation to more than one **BM Unit** at the same **Power Station** at the same time tapping will be carried out by the **Generator** one tap at a time either alternately between (or in sequential order, if more than two), or at the same time on, each **BM Unit**.
- (b) Where the instructions require more than two taps per **BM Unit** and that means that the instructions cannot be achieved within 2 minutes of the instruction time (or such longer period at **NGET** may have instructed), the instructions must each be achieved with the minimum of delay after the expiry of that period.
- (c) It should be noted that should **System** conditions require, **NGET** may need to instruct maximum MVar output to be achieved as soon as possible, but (subject to the provisions of paragraph (BC2.A.2.7(b) above) in any event no later than 2 minutes after the instruction is issued.
- (d) An **Ancillary Service** instruction relating to **Reactive Power** may be given in respect of **CCGT Units** within a **CCGT Module** at a **Power Station** where running arrangements and/or **System** conditions require, in both cases where exceptional circumstances apply and connection arrangements permit.
- (e) In relation to MVar matters, MVar generation/output is an export onto the **System** and is referred to as "lagging MVar", and MVar absorption is an import from the **System** and is referred to as "leading MVar".
- (f) It should be noted that the excitation control system constant **Reactive Power** output control mode or constant power factor output control mode will always be disabled, unless agreed otherwise with **NGET**.

APPENDIX 3 - SUBMISSION OF REVISED MVAR CAPABILITY

BC2.A.3.1 For the purpose of submitting revised MVAR data the following terms shall apply:

Full Output	In the case of a Synchronous Generating Unit (as defined in the Glossary and Definitions and not limited by BC2.2) is the MW output measured at the generator stator terminals representing the LV equivalent of the Registered Capacity at the Grid Entry Point , and in the case of a Non-Synchronous Generating Unit (excluding Power Park Units), DC Converter or Power Park Module is the Registered Capacity at the Grid Entry Point
Minimum Output	In the case of a Synchronous Generating Unit (as defined in the Glossary and Definitions and not limited by BC2.2) is the MW output measured at the generator stator terminals representing the LV equivalent of the Minimum Generation at the Grid Entry Point , and in the case of a Non-Synchronous Generating Unit (excluding Power Park Units), DC Converter or Power Park Module is the Minimum Generation at the Grid Entry Point

BC2.A.3.2 The following provisions apply to faxed submission of revised MVAR data:

- (a) The fax must be transmitted to **NGET** (to the relevant location in accordance with GC6) and must contain all the sections from the relevant part of Annexure 1 and from either Annexure 2 or 3 (as applicable) but with only the data changes set out. The "notification time" must be completed to refer to the time of transmission, where the time is expressed as London time.
- (b) Upon receipt of the fax, **NGET** will acknowledge receipt by sending a fax back to the **User**. The acknowledgement will either state that the fax has been received and is legible or will state that it (or part of it) is not legible and will request re-transmission of the whole (or part) of the fax.
- (c) Upon receipt of the acknowledging fax the **User** will, if requested, re-transmit the whole or the relevant part of the fax.
- (d) The provisions of paragraphs (b) and (c) then apply to that re-transmitted fax.

APPENDIX 3 - ANNEXURE 1



Company name **REVISED REACTIVE POWER
CAPABILITY DATA**

TO: National Electricity Transmission
System Control Centre

Fax telephone No.

Number of pages inc. header:.....

Sent By :

Return Acknowledgement Fax to

For Retransmission or Clarification ring.....

Acknowledged by **NGET**: (Signature)

.....

Acknowledgement time and date

.....

Legibility of FAX :

Acceptable

Unacceptable

(List pages if appropriate)

(Resend FAX)

APPENDIX 3 - ANNEXURE 2

To: National Electricity Transmission System Control Centre

From : [Company Name & Location]

REVISED REACTIVE POWER CAPABILITY DATA – GENERATING UNITS EXCLUDING POWER PARK MODULES AND DC CONVERTERS

Notification Time (HH:MM):	Notification Date (DD/MM/YY):
Start Time (HH:MM):	Start Date (DD/MM/YY):
Generating Unit*	

* For a CCGT Module or a Cascade Hydro Scheme, the redeclaration is for a Generating Unit within a CCGT Module or Cascade Hydro Scheme. For BM Units quote the NGET BM Unit id, for other units quote the **Generating Unit** id used for OC2.4.1.2 Outage Planning submissions. **Generating Unit** has the meaning given in the Glossary and Definitions and is not limited by BC2.2.

REVISION TO THE REACTIVE POWER CAPABILITY AT THE GENERATING UNIT STATOR TERMINALS (at rated terminal volts) AS STATED IN THE RELEVANT ANCILLARY SERVICES AGREEMENT:

	MW	MINIMUM (MVA _r +ve for lag, -ve for lead)	MAXIMUM (MVA _r +ve for lag, -ve for lead)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

COMMENTS e.g. generator transformer tap restrictions, predicted end time if known

Redeclaration made by (Signature)

APPENDIX 3 - ANNEXURE 3

To: National Electricity Transmission System Control Centre

From : [Company Name & Location]

REVISED REACTIVE POWER CAPABILITY DATA – POWER PARK MODULES AND DC CONVERTERS

Notification Time (HH:MM):	Notification Date (DD/MM/YY):
Start Time (HH:MM):	Start Date (DD/MM/YY):
Power Park Module / DC Converter*	

* For BM Units quote the NGET BM Unit id, for other units quote the id used for OC2.4.1.2 Outage Planning submissions

Start Time/Date (if not effective immediately)

REVISION TO THE REACTIVE POWER CAPABILITY AT THE COMMERCIAL BOUNDARY AS STATED IN THE RELEVANT ANCILLARY SERVICES AGREEMENT:

	MINIMUM (MVA _r +ve for lag, -ve for lead)	MAXIMUM (MVA _r +ve for lag, -ve for lead)
AT RATED MW		
AT 50% OF RATED MW		
AT 20% OF RATED MW		
BELOW 20% OF RATED MW		
AT 0% OF RATED MW		

COMMENTS *e.g. generator transformer tap restrictions, predicted end time if known*

Redeclaration made by (Signature)

APPENDIX 4 - SUBMISSION OF AVAILABILITY OF FREQUENCY SENSITIVE MODE

- BC2.A.4.1 For the purpose of submitting availability of **Frequency Sensitive Mode**, this process only relates to the provision of response under the **Frequency Sensitive Mode** and does not cover the provision of response under the **Limited Frequency Sensitive Mode**.
- BC2.A.4.2 The following provisions apply to the faxed submission of the **Frequency Sensitive Mode availability**;
- (a) The fax must be transmitted to **NGET** (to the relevant location in accordance with GC6) and must contain all the sections relevant to Appendix 4 - Annexure1 but with only the data changes set out. The “notification time” must be completed to refer to the time and date of transmission, where the time is expressed in London time.
 - (b) Upon receipt of the fax, **NGET** will acknowledge receipt by sending a fax back to the **User**. This acknowledging fax should be in the format of Appendix 4 – Annexure 1. The acknowledgement will either state that the fax has been received and is legible or will state that it (or part of it) is not legible and will request re-transmission of the whole (or part) of the fax.
 - (c) Upon receipt of the acknowledging fax the **User** will, if requested re-transmit the whole or the relevant part of the fax.
 - (d) The provisions of paragraph (b) and (c) then apply to the re-transmitted fax.
- BC2.A.4.3 The **User** shall ensure the availability of operating in the **Frequency Sensitive Mode** is restored as soon as reasonably practicable and will notify **NGET** using the format of Appendix 4 – Annexure 1. In the event of a sustained unavailability of **Frequency Sensitive Mode** **NGET** may seek to confirm compliance with the relevant requirements in the **CC** through the process in **OC5**.

APPENDIX 4 - ANNEXURE 1

To: National Electricity Transmission System Control Centre

From : [Company Name & Location]

Submission of availability of Frequency Sensitive Mode

Notification Time (HH:MM):	Notification Date (DD/MM/YY):
Start Time (HH:MM):	Start Date (DD/MM/YY):
Genset or DC Converter	

The availability of the above unit to operate in **Frequency Sensitive Mode** is as follows:

All contract modes: Available / Unavailable *[delete as applicable];* or

Change to the availability of individual contract modes:

Contract Mode e.g. A	Availability for operation in Frequency Sensitive Mode <i>[Y/N]</i>

COMMENTS *e.g. reason for submission, predicted end time if known*

Redeclaration made by (Signature) _____

Receipt Acknowledgement from **NGET**

Legible (tick box)		Illegible (tick box)	
Explanation:			
Time:			
Date:			
Signature:			

< END OF BALANCING CODE 2 >

REVISIONS

(R)

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

- R.1 **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.
- R.2 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.
- R.3 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 and has been revised 13 times since its original publication. Issue 5 of the Grid Code was published to accommodate the changes made by Grid Code Modification A/10 which has incorporated the **Generator** compliance process into the Grid Code.
- R.4 This Revisions section provides a summary of the sections of the Grid Code changed by each revision to Issue 5.
- R.5 All enquiries in relation to revisions to the Grid Code, including revisions to Issues 1, 2, 3, 4 and 5 should be addressed to the Grid Code development team at the following email address:
Grid.Code@nationalgrid.com

Revision	Section	Related Modification	Effective Date
0	Glossary and Definitions	A/10 and G/11	17 August 2012
0	Planning Code – PC.2.1	G/11	17 August 2012
0	Planning Code – PC.5.4	G/11	17 August 2012
0	Planning Code – PC.8	G/11	17 August 2012
0	Planning Code – PC.8.2	G/11	17 August 2012
0	Planning Code – PC.A.1	G/11	17 August 2012
0	Planning Code – PC.A.2	A/10 and G/11	17 August 2012
0	Planning Code – PC.A.3	G/11	17 August 2012
0	Planning Code – PC.A.5	A/10 and G/11	17 August 2012
0	Compliance Processes	A/10	17 August 2012
0	Connection Conditions – CC.1.1	A/10	17 August 2012
0	Connection Conditions – CC.2.2	G/11	17 August 2012
0	Connection Conditions – CC.3.3	A/10	17 August 2012
0	Connection Conditions – CC.4.1	A/10	17 August 2012
0	Connection Conditions – CC.5.2	G/11	17 August 2012
0	Connection Conditions – CC.6.1	G/11	17 August 2012
0	Connection Conditions – CC.6.3	G/11	17 August 2012
0	Connection Conditions – CC.6.6	A/10	17 August 2012
0	Connection Conditions – CC.7.2	G/11	17 August 2012

Revision	Section	Related Modification	Effective Date
0	Connection Conditions – CC.7.4	G/11	17 August 2012
0	Connection Conditions – CC.A.1	G/11	17 August 2012
0	Connection Conditions – CC.A.2	G/11	17 August 2012
0	Connection Conditions – CC.A.3	G/11	17 August 2012
0	Connection Conditions – CC.A.4	G/11	17 August 2012
0	Connection Conditions – CC.A.6	A/10	17 August 2012
0	Connection Conditions – CC.A.7	A/10 and G/11	17 August 2012
0	Connection Conditions – Figure CC.A.3.1	G/11	17 August 2012
0	Operating Code No. 2 – OC2.4	G/11	17 August 2012
0	Operating Code No. 2 – OC2.A.1	G/11	17 August 2012
0	Operating Code No. 5 – OC5.3	A/10	17 August 2012
0	Operating Code No. 5 – OC5.5	A/10 and G/11	17 August 2012
0	Operating Code No. 5 – OC5.7	G/11	17 August 2012
0	Operating Code No. 5 – OC5.8	A/10 and G/11	17 August 2012
0	Operating Code No. 5 – OC5.A.1	A/10	17 August 2012
0	Operating Code No. 5 – OC5.A.2	A/10	17 August 2012
0	Operating Code No. 5 – OC5.A.3	A/10	17 August 2012
0	Operating Code No. 5 – OC5.A.4	A/10	17 August 2012
0	Operating Code No. 7 – OC7.4	G/11	17 August 2012
0	Operating Code No. 8 – OC8.2	G/11	17 August 2012

Revision	Section	Related Modification	Effective Date
0	Operating Code No. 8 – OC8A.1	G/11	17 August 2012
0	Operating Code No. 8 – OC8A.5	G/11	17 August 2012
0	Operating Code No. 8 – OC8B.1	G/11	17 August 2012
0	Operating Code No. 8 – OC8B.4	G/11	17 August 2012
0	Operating Code No. 8 – OC8B.5	G/11	17 August 2012
0	Operating Code No. 8 – OC8B Appendix E	G/11	17 August 2012
0	Operating Code No. 9 – OC9.2	G/11	17 August 2012
0	Operating Code No. 9 – OC9.4	G/11	17 August 2012
0	Operating Code No. 9 – OC9.5	G/11	17 August 2012
0	Operating Code No. 12 – OC12.3	G/11	17 August 2012
0	Operating Code No. 12 – OC12.4	G/11	17 August 2012
0	Balancing Code No. 1 – BC1.5	G/11	17 August 2012
0	Balancing Code No. 1 – BC1.8	G/11	17 August 2012
0	Balancing Code No. 1 – BC1.A.1	G/11	17 August 2012
0	Balancing Code No. 2 – BC2.5	G/11	17 August 2012
0	Balancing Code No. 2 – BC2.8	G/11	17 August 2012
0	Balancing Code No. 2 – BC2.A.2	G/11	17 August 2012
0	Balancing Code No. 2 – BC2.A.3	G/11	17 August 2012
0	Balancing Code No. 2 – BC2.A.4	G/11	17 August 2012
0	Balancing Code No. 3 – BC3.5	G/11	17 August 2012

Revision	Section	Related Modification	Effective Date
0	Balancing Code No. 3 – BC3.7	G/11	17 August 2012
0	Data Registration Code – DRC.1.5	G/11	17 August 2012
0	Data Registration Code – DRC.4.2	G/11	17 August 2012
0	Data Registration Code – DRC.4.4	G/11	17 August 2012
0	Data Registration Code – DRC.5.2	A/10 and G/11	17 August 2012
0	Data Registration Code – DRC.5.5	G/11	17 August 2012
0	Data Registration Code – DRC.6.1	A/10 and G/11	17 August 2012
0	Data Registration Code – DRC.6.2	A/10	17 August 2012
0	Data Registration Code – Schedule 1	A/10 and G/11	17 August 2012
0	Data Registration Code – Schedule 2	G/11	17 August 2012
0	Data Registration Code – Schedule 3	G/11	17 August 2012
0	Data Registration Code – Schedule 4	G/11	17 August 2012
0	Data Registration Code – Schedule 5	G/11	17 August 2012
0	Data Registration Code – Schedule 10	G/11	17 August 2012
0	Data Registration Code – Schedule 12A	G/11	17 August 2012
0	Data Registration Code – Schedule 14	A/10 and G/11	17 August 2012
0	Data Registration Code – Schedule 15	G/11	17 August 2012
0	Data Registration Code – Schedule 19	A/10	17 August 2012
0	General Conditions – GC.4	G/11	17 August 2012
0	General Conditions – GC.12	G/11	17 August 2012

Revision	Section	Related Modification	Effective Date
0	General Conditions – GC.15	G/11	17 August 2012
0	General Conditions – GC.A1	G/11	17 August 2012
0	General Conditions – GC.A2	G/11	17 August 2012
0	General Conditions – GC.A3	G/11	17 August 2012
1	Operating Code No. 8 – OC8A.5.3.4	C/12	6 November 2012
1	Operating Code No. 8 – OC8B.5.3.4	C/12	6 November 2012
2	Balancing Code No. 1 – BC1.2.1	B/12	31 January 2013
2	Balancing Code No. 1 – BC1.4.2	B/12	31 January 2013
2	Balancing Code No. 1 – BC1.A.1.5	B/12	31 January 2013
2	Connection Conditions – CC.7.7	D/12	31 January 2013
3	Glossary and Definitions	C/11	2 April 2013
3	Operating Code No. 8 – OC8A.4.3.5	B/10	2 April 2013
3	Operating Code No. 8 – OC8B.4.3.5	B/10	2 April 2013
3	Balancing Code No. 2 – BC2.5	C/11	2 April 2013
4	Glossary and Definitions	GC0060 (F/12)	19 August 2013
4	Planning Code – PC.A.5	GC0040 (A/12)	19 August 2013
4	Operating Code No. 2 – OC2.A.10	GC0060 (F/12)	19 August 2013
4	Data Registration Code – Schedule 1	GC0040 (A/12)	19 August 2013
4	Data Registration Code – Schedule 2	GC0060 (F/12)	19 August 2013

Revision	Section	Related Modification	Effective Date
5	Glossary and Definitions	GC0033, 71, 72 and 73	05 November 2013
5	General Conditions – GC.4	GC0071, 72 and 73	05 November 2013
5	General Conditions – GC.14	GC0071, 72 and 73	05 November 2013
5	General Conditions – GC.16	GC0071, 72 and 73	05 November 2013
6	Connection Conditions – CC.A.7	GC0065	13 December 2013
6	Planning Code – PC.A.3	GC0037	13 December 2013
6	Operating Code No. 2 – OC2.4.2	GC0037	13 December 2013
6	Operating Code No. 2 – Appendix 4	GC0037	13 December 2013
6	Balancing Code No. 1 – BC1.4.2	GC0037	13 December 2013
6	Balancing Code No. 1 – BC1.A.1.8	GC0037	13 December 2013
7	Glossary and Definitions	GC0044	31 March 2014
7	Operating Code No. 9 – OC9.2.5	GC0044	31 March 2014
7	Operating Code No. 9 – OC9.4.6	GC0044	31 March 2014
7	Operating Code No. 9 – OC9.4.7.4	GC0044	31 March 2014
7	Operating Code No. 9 – OC9.4.7.9	GC0044	31 March 2014
7	Operating Code No. 9 – OC9.4.7.10	GC0044	31 March 2014

Revision	Section	Related Modification	Effective Date
7	Balancing Code No. 2 – BC2.9.2.2	GC0044	31 March 2014
8	Glossary and Definitions	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Planning Code	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Connection Conditions	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Compliance Processes	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Operating Code No. 5	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Operating Code No. 7	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Operating Code No. 8	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Operating Code No. 8A	Secretary of State direction – Generator Commissioning Clause	10 June 2014
8	Operating Code No. 8B	Secretary of State direction – Generator Commissioning Clause	10 June 2014

Revision	Section	Related Modification	Effective Date
8	Balancing Code No. 2	Secretary of State direction – Generator Commissioning Clause	10 June 2014
9	Operating Code No. 6 – OC6.5	GC0050	01 July 2014
9	Operating Code No. 6 – OC6.7	GC0050	01 July 2014
9	Balancing Code No. 2 – Appendix 3 Annexures	GC0068	01 July 2014
9	Balancing Code No. 2 – Appendix 4 Annexure	GC0068	01 July 2014
10	Glossary and Definitions	Secretary of State direction – EMR	01 August 2014
10	Planning Code – PC.5.4	Secretary of State direction – EMR	01 August 2014
10	Planning Code – PC.5.6	Secretary of State direction – EMR	01 August 2014
10	General Conditions – GC.4.6	Secretary of State direction – EMR	01 August 2014
10	General Conditions – GC.12	Secretary of State direction – EMR	01 August 2014
11	Planning Code – PC.A.3.1.4	GC0042	21 August 2014
11	Planning Code – PC.A.5	GC0042	21 August 2014
11	Data Registration Code – DRC6.1.11	GC0042	21 August 2014
11	Data Registration Code – Schedule 11	GC0042	21 August 2014
12	Glossary and Definitions	GC0083	01 November 2014
12	Planning Code – PC.A.3.4.3	GC0083	01 November 2014

Revision	Section	Related Modification	Effective Date
12	Planning Code – PC.D.1	GC0052	01 November 2014
12	Operating Code No. 2 – OC2.4.2.3	GC0083	01 November 2014
12	Operating Code No. 2 – OC2.4.7	GC0083	01 November 2014
12	Operating Code No. 6 – OC6.1.5	GC0061	01 November 2014
12	Data Registration Code – Schedule 1	GC0052	01 November 2014
12	Data Registration Code – Schedule 2	GC0052	01 November 2014
12	Data Registration Code – Schedule 6	GC0083	01 November 2014
13	Glossary and Definitions	GC0063	22 January 2015
13	Connection Conditions – CC.6.5.6	GC0063	22 January 2015
13	Balancing Code No. 1 – BC1.A.1.3.1	GC0063	22 January 2015
13	General Conditions – Annex to General Conditions	GC0080	22 January 2015
14	Connection Conditions - CC6.1.7	GC0076	26 August 2015
15	Glossary and Definitions	GC0023	03 February 2016
15	Connection Conditions - CC6.2.2	GC0023	03 February 2016
15	Connection Conditions - CC6.2.3	GC0023	03 February 2016
15	Planning Code - PC.A.5.3.2	GC0028	03 February 2016
15	Connection Conditions - CC 6.3.2	GC0028	03 February 2016
15	Connection Conditions - CC 6.3.8	GC0028	03 February 2016
15	Compliance Processes – CP.A.3.3.2	GC0028	03 February 2016

Revision	Section	Related Modification	Effective Date
15	Compliance Processes – CP.A.3.3.3 & 4	GC0028	03 February 2016
15	Operating Code No. 2 – OC2.4.2.1	GC0028	03 February 2016
15	Operating Code No. 5 - OC5.A.2.7.5	GC0028	03 February 2016
15	Balancing Code No. 2 – BC2.A.2.6	GC0028	03 February 2016
15	Data Registration Code – Schedule 1	GC0028	03 February 2016
15	Connection Conditions - CC.6.1.5	GC0088	03 February 2016
15	Connection Conditions - CC.6.1.6	GC0088	03 February 2016
16	Connections Conditions - CC.6.3.15.1	GC0075	24 May 2016
16	Connections Conditions - CC.6.3.15.2	GC0075	24 May 2016
16	Connections Conditions - CC.A.7.2.3.1	GC0075	24 May 2016
16	Connections Conditions - CC.A.7.2.3.2	GC0075	24 May 2016
16	Operating Code No. 9 – OC9.4.7.9	Communications/ Interface Standards	24 May 2016
16	General Condition - Annex to General Conditions	Communications/ Interface Standards	24 May 2016
16	Glossary and Definitions – ‘Cluster’ removed	Housekeeping change - error resulting from Issue 3 Revision 10	24 May 2016
16	Glossary and Definitions – ‘Maximum Import Capacity’ amended	Housekeeping change – duplicate definition	24 May 2016
17	Connections Conditions - CC.6.3.15.1	GC0062	29 June 2016

Revision	Section	Related Modification	Effective Date
17	Connections Conditions - CC.6.3.15.2	GC0062	29 June 2016
17	Connections Conditions – Appendix 4	GC0062	29 June 2016
18	Operating Code No. 2 – OC2.4.1.3	GC0092	11 August 2016
19	Glossary and Definitions ‘Inadequate System Margin’ amended	GC0093	30 September 2016
19	Operating Conditions – OC7.4.8.4	GC0093	30 September 2016
19	Operating Conditions – OC7.4.8.5	GC0093	30 September 2016
19	Operating Conditions – OC7.4.8.6	GC0093	30 September 2016
19	Operating Conditions – OC7.4.8.6.1	GC0093	30 September 2016
19	Operating Conditions – OC7.4.8.10	GC0093	30 September 2016
19	Operating Conditions – Appendix 1	GC0093	30 September 2016
19	Balancing Conditions – BC1.5.4	GC0093	30 September 2016
19	Balancing Conditions – BC2.4.2	GC0093	30 September 2016

< END OF REVISIONS >