

Grid Code - Operating Code No.2 (Operational Planning and Data Provision)

Comparison of Current and Proposed New Legal Text

Current Text	Proposed New Text
<p>OC2.1 <u>INTRODUCTION</u></p> <p>OC2.1.1 Operating Code No. 2 ("OC2") is concerned with:</p> <p>(a) the co-ordination of the release of Power Generating Modules (including DC Connected Power Park Modules), Synchronous Generating Units and Power Park Modules, External Interconnections, Restoration Contractors Plant and Apparatus, the National Electricity Transmission System and Network Operators' Systems for construction, repair and maintenance;</p> <p>(b) provision by The Company of the Surplus for the National Electricity Transmission System;</p> <p>(c) the provision by Generators of Generation Planning Parameters for Gensets, including Synchronous Power Generating Module Planning Matrices, CCGT Module Planning Matrices and Power Park Module Planning Matrices, to The Company for planning purposes only; and</p> <p>(d) the agreement for release of Existing Gas Cooled Reactor Plant for outages in certain circumstances.</p> <p>(e) the co-ordination of outages on Plant and Apparatus necessary for the operation of RestorationPlans.</p> <p>OC2.1.2 (a) Operational Planning involves 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, in addition to the ability to restore the Total System, in accordance with the requirements of the Electricity System Restoration Standard, following a Total Shutdown or Partial Shutdown, taking into account outages of certain Power Generating Modules (including DC Connected Power Park Modules), Generating Units, Power Park Modules, External Interconnections, HVDC Systems and DC Converters, Restoration Contractor's Plant and Apparatus, and of parts of the National Electricity Transmission System and of parts of Network Operators' Systems which is carried out to achieve, so far as possible, the standards of security and the Electricity System Restoration Standard set out in The Company's Transmission Licence, each Relevant Transmission Licensee's Transmission Licence or Electricity Distribution Licence as the case may be.</p> <p>(b) In general terms, there is an "envelope of opportunity" for the release of Power Generating Modules (including DC Connected Power Park Modules), Synchronous Generating Units, Power Park Modules, Restoration Contractor's Plant and Apparatus and External Interconnections, and for the release of parts of the National Electricity Transmission System and parts of the Network Operator's User Systems for outages. The envelope is defined by:-</p>	<p>OC2.1 Introduction</p> <p>OC2.1.1 The objectives of OC2 are:</p> <p>a) To facilitate the co-ordination of Planned Outages of the NETS and Users' Plant and Apparatus.</p> <p>b) To enable The Company to:</p> <p>i. publish the NETS Surplus;</p> <p>ii. establish the level of System Negative Reserve Active Power Margin (NRAPM);</p> <p>iii. plan the deployment of Frequency Sensitive Mode;</p> <p>iv. establish Operating Margin parameters; and</p> <p>v. agree for release of Existing Gas Cooled Reactor Plant for outages in certain circumstances.</p> <p>c) The co-ordination of outages on Plant and Apparatus necessary for the operation of the System Restoration Plan.</p> <p>OC2.1.2 Operational Planning considers matching generation output with forecast NETS Demand and Interconnector flows in order to maintain a reserve of generation to provide margin, taking into account outages on the NETS together with outages of Users' Plant and Apparatus over various timescales as described below, in addition to the ability to restore the Total System, in accordance with the requirements of the Electricity System Restoration Standard, following a Total Shutdown or Partial Shutdown.</p> <p>OC2.1.3 Restoration Contractors should separately identify data which shall be provided in respect of Plant and Apparatus for which they have Restoration Contracts. Restoration Contractors with Embedded Plant and Apparatus need only provide data to the relevant Network Operator should they be required to do so by the Distribution Code, i.e., there is no need to provide identical data to The Company.</p> <p>OC2.1.4 In OC2, Year 0 means the current calendar year, Year 1 the next calendar year etc., and references to weeks are to calendar weeks as defined in ISO 8601.</p> <p>OC2.1.5 References in OC2 to a Generator's, Interconnector Owner's and Restoration Contractor's best estimate shall mean that Generator's, Interconnector Owner's or Restoration Contractor's best estimate acting as a reasonable and prudent Generator or Interconnector Owner.</p> <p>OC2.1.6 In Scotland, it may be possible with the agreement of The Company, to reduce the administrative burden for Users in producing planning information where either the active power output from a Power Station is small or the import of a demand User is small.</p> <p>OC2.1.7 Where in OC2 there is a requirement to submit data or provide information on a particular day that falls on a non-Business Day, that data or information must be submitted by the next Business Day unless otherwise agreed in advance with The Company.</p> <p>OC2.1.8 Generators and Interconnector Owners who have a CUSC Contract and who are also Restoration Contractors, need only submit the data once in respect of their Plant and Apparatus. Generators and Interconnector Owners who are also Restoration Contractors are required to state for which Plant they have a Restoration Contract.</p> <p>OC2.1.9 Network Operators who have a Distribution Restoration Zone Plan in place shall notify The Company whenever an outage of a Restoration Contractor's Plant or Apparatus which</p>

	<p>i) The difference between the total generation output expected from Large Power Stations, Medium Power Stations and Demand, the operational planning margin and taking into account External Interconnections and outages on the Total System whilst planning for the System operating under normal conditions; and</p> <p>ii) The availability and location of Plant and Apparatus required to discharge the requirements of the Electricity System Restoration Standard following a Total System Shutdown or Partial System Shutdown.</p>	<p>contributes to a Distribution Restoration Zone Plan is unavailable or a circuit forming part of that Distribution Restoration Zone Plan is unavailable, making the operation of that Distribution Restoration Zone Plan unviable.</p>
OC2.1.3	<p>In this OC2, for the purpose of Generator and Interconnector Owner and Restoration Contractor outage co-ordination, Year 0 means the current calendar year at any time, Year 1 means the next calendar year at any time, Year 2 means the calendar year after Year 1, etc. For the purpose of Transmission outage planning, Year 0 means the current Financial Year at any time, Year 1 means the next Financial Year at any time, Year 2 means the Financial Year after Year 1, etc. References to 'weeks' in OC2 are to calendar weeks as defined in ISO 8601.</p>	
OC2.1.4	<p>References in OC2 to a Generator's and Interconnector Owner's and Restoration Contractor's "best estimate" shall be that Generator's or Interconnector Owner's or Restoration Contractor's best estimate acting as a reasonable and prudent Generator or Interconnector Owner in all the circumstances.</p>	
OC2.1.5	<p>References to The Company planning the National Electricity Transmission System outage programme on the basis of the Final Generation Outage Programme, are to The Company planning against the Final Generation Outage Programme current at the time it so plans.</p>	
OC2.1.6	<p>Where in OC2, data is required to be submitted or information is to be given on a particular weekday, that data does not need to be submitted and that information does not need to be given on that day if it is not a Business Day or it falls within a holiday period (the occurrence and length of which shall be determined by The Company, in its reasonable discretion, and notified to Users). Instead, that data shall be submitted and/or that information shall be given on such other Business Day as The Company shall, in its reasonable discretion, determine. However, The Company may determine that that data and/or information need not be submitted or given at all, in which case it shall notify each User as appropriate.</p>	
OC2.1.7	<p>In Scotland, it may be possible with the agreement of The Company to reduce the administrative burden for Users in producing planning information where either the output or demand is small.</p>	
OC2.1.8	<p>Generators and Interconnector Owners who have a CUSC Contract and who are also Restoration Contractors, need only submit the data once in respect of their Plant and Apparatus. Generators and Interconnector Owners who are also Restoration Contractors are required to state for which Plant they have a Restoration Contract. Network Operators who have a Distribution Restoration Zone in place, shall notify The Company whenever an outage of a Restoration Contractor's Plant or Apparatus which contributes to a Distribution Restoration Zone Plan is unavailable or a circuit forming part of that Distribution Restoration Zone Plan is unavailable making the operation of that Distribution Restoration Zone Plan unviable.</p>	
OC2.2	<p><u>OBJECTIVE</u></p>	

<p>OC2.2.1</p> <p>(a)</p> <p>OC2.2.2</p> <p>OC2.2.3</p>	<p>The objective of OC2 is to seek to enable The Company to harmonise outages of Power Generating Modules (including DC Connected Power Park Modules), Generating Units, Power Park Modules and External Interconnections in order that such outages are co-ordinated (taking account of Embedded Medium Power Stations) between Generators and Network Operators, and that such outages are co-ordinated taking into account National Electricity Transmission System outages and other System outages, so far as possible to minimise the number and effect of constraints on the National Electricity Transmission System or any other System and ensure sufficient provisions are in place to restore the Total System in the event of a Total Shutdown or Partial Shutdown.</p> <p>In the case of Network Operator’ User Systems directly connected to the National Electricity Transmission System, this means in particular that there will also need to be harmonisation of outages of Embedded Power Generating Modules, Embedded Synchronous Generating Units and Embedded Power Park Modules, and National Electricity Transmission System outages, with Network Operators in respect of their outages on those Systems. Outages of Plant and Apparatus of Restoration Contractor’s and Plant and Apparatus of a Network Operator’s System associated with a Distribution Restoration Zone Plan also need to be co-ordinated with outages on the National Electricity Transmission System.OC2.2.2</p> <p>The objective of OC2 is also to enable the provision by The Company of the Surplus for the National Electricity Transmission System and the means necessary to restore the System following a Total System Shutdown or Partial System Shutdown.</p> <p>The objective of OC2 is also to enable the provision by The Company of the Surplus for the National Electricity Transmission System and the means necessary to restore the System following a Total System Shutdown or Partial System Shutdown.</p> <p>A further objective of OC2 is to provide for the agreement for outages for Existing Gas Cooled Reactor Plant in certain circumstances and to enable a process to be followed in order to provide for that.</p>	
<p>OC2.3</p> <p>OC2.3.1</p>	<p><u>SCOPE</u></p> <p>OC2 applies to The Company, and to Users which in OC2 means:</p> <p>(a) Generators, only in respect of their Large Power Stations or their Power Stations which are directly connected to National Electricity Transmission System (and the term Generator in this OC2 shall be construed accordingly);</p> <p>(b) Network Operators; and</p> <p>(c) Non-Embedded Customers; and</p> <p>(d) HVDC System Owners and DC Converter Station owners; and</p> <p>(e) Interconnector Owners in respect of their External Interconnections.</p> <p>(f) Restoration Contractors who are party to a Local Joint Restoration Zone Plan and who have a CUSC Contract where such data has not already been provided in OC2.3.1(a), (c), (d) or (e).</p>	<p>OC2.2 SCOPE</p> <p>OC2.2.1 OC2 applies to The Company and to the following Users:</p> <p>a) Generators in respect of their generating Plant which is directly connected to the NETS and to any generating Plant in Embedded Large Power Stations.</p> <p>b) Network Operators.</p> <p>c) Non-Embedded Customers.</p> <p>d) HVDC System Owners and DC Converter Station owners.</p> <p>e) Interconnector Owners in respect of their External Interconnections; and</p> <p>f) Restoration Contractors who are party to a Local Joint Restoration Zone Plan and who have a CUSC Contract where such data has not already been provided in OC2.2.1(a), (c), (d) or (e).</p>

<p>OC2.3.2 The Company may provide to the Relevant Transmission Licensees any data which has been submitted to The Company by any Users in respect of Relevant Units pursuant to the following paragraphs of the OC2.</p> <p style="padding-left: 40px;">OC2.4.1.2.1 OC2.4.1.3.2 (a) OC2.4.1.3.2 (b) OC2.4.1.3.3 OC2.4.2.1 (a)</p> <p>OC2.3.3 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>	
<p>OC2.4 <u>PROCEDURE</u></p> <p>OC2.4.1 <u>Co-ordination of Outages</u></p> <p>OC2.4.1.1 Under OC2 the interaction between The Company and Users will be as follows:</p> <p>(a) Each Generator, and each Interconnector Owner and The Company In respect of outages of Power Generating Modules (including DC Connected Power Park Modules), Synchronous Generating Units, Power Park Modules and External Interconnection Circuits and in respect of outages of other Plant and/or Apparatus directly connected to the National Electricity Transmission System;</p> <p>(b) The Company and each Generator and each Interconnector Owner in respect of National Electricity Transmission System outages relevant to each Generator (other than in respect of Embedded Small Power Stations or Embedded Medium Power Stations) and Interconnector Owner;</p> <p>(c) The Company and each Network Operator in respect of outages of all Embedded Large Power Stations and in respect of outages of other Plant and/or Apparatus relating to such Embedded Large Power Stations;</p> <p>(d) The Company and each Network Operator and each Non-Embedded Customer in respect of National Electricity Transmission System outages relevant to the particular Network Operator or Non-Embedded Customers;</p>	<p>OC2.3 PROCEDURE</p> <p>OC2.3.1 Co-ordination of Outages</p> <p>OC2.3.1.1 OC2 makes provision for information exchange between the following parties:</p> <p>a) Each Generator and each Interconnector Owner and The Company In respect of outages of External Interconnection Circuits, generating Plant and/or Apparatus directly connected to the NETS.</p> <p>b) The Company and each Generator and each Interconnector Owner In respect of NETS outages relevant to the Generator and/or Interconnector Owner.</p> <p>c) The Company and each Network Operator In respect of outages of all Embedded Large Power Stations and related Plant and Apparatus.</p> <p>d) The Company and each Network Operator and each Non-Embedded Customer In respect of NETS outages relevant to that Network Operator or Non-Embedded Customer.</p> <p>e) Each Network Operator and each Non-Embedded Customer and The Company In respect of outages on the User’s System relevant to The Company. For Network Operators only, outages of the Network Operator’s System that may have an impact on:</p> <ul style="list-style-type: none"> • an Offshore Transmission System connected to that Network Operator’s System. • that Network Operator’s ability to operate a Local Joint Restoration Plan or Distribution Restoration Zone Plan.

<p>(e) Each Network Operator and each Non-Embedded Customer and The Company in respect of User System outages relevant to The Company; and in respect of Network Operators only, outages of the Network Operator's User System that may affect:</p> <ul style="list-style-type: none"> • an Offshore Transmission System connected to that Network Operator's User System; • that Network Operator's ability to operate a Local Joint Restoration Plan or Distribution Restoration Zone Plan. 	
<p>OC2.4.1.2 <u>Data Provison of Output Usable of Power Generating Modules, Generating Units, External Interconnection Circuits and Power Park Modules and the Publication of National Surplus.</u></p> <p>OC2.4.1.2.1 In the event that:</p> <p>a) a Generator referred to in OC2.3.1(a) experiences any unplanned change to the availability of a Generating Unit and/or Power-Generating Module and/or Power Park Module or makes a future plan which would impact the availability of a Generating Unit and/or Power-Generating Module and/or Power Park Module resulting in a change of level in the Output Usable of that Generating Unit and/or Power-Generating Module and/or Power Park Module below or above its previously notified availability, which is expected to last one Settlement Period or longer and up to three years ahead; or</p> <p>b) an Interconnector Owner referred to in OC2.3.1(e) experiences any unplanned change to the availability of an External Interconnection Circuit or makes a future plan which would impact the availability of an External Interconnection Circuit resulting in any change in the Output Usable of that External Interconnection Circuit below or above its previously notified availability, which is expected to last one Settlement Period or longer and up to three years ahead; or</p> <p>c) a Restoration Contractors referred to in OC2.3.1(f) experiences any unplanned change to the availability of their Plant and Apparatus or makes a future plan which would impact the availability of their Plant and Apparatus which would affect their ability to contribute to a Local Joint Restoration Plan.</p> <p>The Generator, Interconnector Owner or Restoration Contractor as provided for in OC2.3.1(f) shall provide The Company with the best estimate of the revised available Output Usable profile using one of The Company's recommended platforms.</p> <p>For Generators subject to EU Transparency Regulations the Generator shall provide the data within 1 hour of the unplanned change in availability occurring, and for a planned change to the availability, the Generator shall provide the data within 1 hour of planning the availability change in line with EU Transparency Regulations. For Generators not subject to EU Transparency Regulations the Generator shall provide the data within 24 hours of the unplanned change in availability occurring, and for a planned change to the availability, the Generator shall provide the data within 24 hours of planning the availability change.</p>	<p>OC2.3.1.2 <u>Provision of Output Usable data of generating Plant and External Interconnection Circuits, and the publication of Surplus.</u></p> <p>OC2.3.1.2.1 If a Generator, Interconnector Owner, or Restoration Contractor referred to in OC2.2.1 (f) where applicable:</p> <p>a) experiences any unplanned change to the availability of generating Plant, or an External Interconnection Circuit and which is expected to last one Settlement Period or longer and up to three years ahead, the Generator and/or Interconnector Owner shall provide The Company with the best estimate of the revised Output Usable.</p> <p>b) makes a plan which would affect the availability of generating Plant or an External Interconnection Circuit and which is expected to last one Settlement Period or longer and up to three years ahead, resulting in a change of level in the Output Usable of that generating Plant or External Interconnection Circuit to a level below or above its previously notified availability, the Generator and/or Interconnector Owner shall provide The Company with the best estimate of the revised Output Usable.</p> <p>c) experiences any unplanned change to the availability of their generating Plant or External Interconnection Circuits or makes a future plan which would affect the availability of their generating Plant or External Interconnection Circuits, to contribute to a Local Joint Restoration Plan for which the Generator and/or Interconnector Owner is a Restoration Contractor, the Generator and/or Interconnector Owner shall provide The Company with the best estimate of the revised Output Usable.</p> <p>OC2.3.1.2.2 Generators, Interconnector Owners and/or Restoration Contractor shall provide the revised data within 24 hours of the unplanned unavailability occurring, or of the change in planned availability. For multi-shaft generating Plant the individual shaft availability levels must also be provided at the same time. For those Generators, Interconnector Owners and/or Restoration Contractor subject to Retained EU Law (Commission Regulation (EU) 543/2013) the revised data must be provided within 1 hour of planning the availability change.</p> <p>OC2.3.1.2.3 In the case of an External Interconnection Circuit, the details of the individual pole-capacity levels that have been summed to produce the Output Usable should also be defined within 24 hours.</p> <p>OC2.3.1.2.4 In the case of Restoration Contractors, referred to in OC2.2.1(f), Restoration Contractors which are subject to an unplanned change in availability shall provide the data within 1 hour of the unplanned change and for a planned change to the availability, the Restoration Contractor shall provide the data within 1 hour of planning the availability change.</p> <p>OC2.3.1.2.5 The Company may, as appropriate, contact each Generator, each Interconnector Owner and each Restoration Contractor referred to in OC2.2.1(f) who has supplied information to seek</p>

<p>For an unplanned change in availability, the Interconnector Owner shall provide the data within 1 hour of the unplanned change in availability occurring, and for a planned change to the availability, the Interconnector Owner shall provide the data within 1 hour of planning the availability change in line with EU Transparency Regulations.</p> <p>If the Generator referred to in OC2.3.1(a) provides information relating to multi-shaft Generating Units then the detail of the individual shaft availability levels, that have been summed to produce the Output Usable should also be defined within 24 hours.</p> <p>In the case of an External Interconnection Circuit, the details of the individual pole-capacity levels that have been summed to produce the Output Usable should also be defined within 24 hours.</p> <p>In the case of Restoration Contractors, referred to in OC2.3.1(f), Restoration Contractors which are subject to an unplanned change in availability shall provide the data within 1 hour of the unplanned change and for a planned change to the availability, the Restoration Contractor shall provide the data within 1 hour of planning the availability change.</p> <p>The Company may, as appropriate, contact each Generator and each Interconnector Owner and each Restoration Contractor referred to in OC2.3.1(f) who has supplied information to seek clarification on their Output Usable submissions.</p>	<p>clarification on their Output Usable submissions.</p>
<p>OC2.4.1.2.2 <u>At a regular time interval, at least once per day (by 1600 hours) and up to every hour:</u></p> <p>The Company will:</p> <p>(i) having taken into account the information notified to it by Generators and Interconnector Owners and Restoration Contractor as provided for in OC2.3.1(f) via the process defined in OC2.4.1.2.1 and taking into account:</p> <ol style="list-style-type: none"> (1) Demand forecasts and details of proposed use of Demand Control received under OC1, and an Operational Planning Margin requirement set by The Company (the "OPMR"), (2) National Electricity Transmission System constraints and outages, (3) Network Operator System constraints and outages, known to The Company, and (4) the Output Usable required, in its view, to meet daily total MW requirements, <p>Provide each Generator and each Interconnector Owner and each Restoration Contractor as provided for in OC2.3.1(f) (where required by The Company) in writing with any suggested amendments to the provisional Output Usable supplied by the Generator and Interconnector Owner and Restoration Contractor as provided for in OC2.3.1(f) which The Company believes necessary, and will advise Generators with Large Power Stations of the Surpluses for the National Electricity Transmission System and potential export limitations, which would occur without such amendments;</p> <p>(ii) calculate and submit to BMRA:</p> <ol style="list-style-type: none"> 1. total generating Output Usable from Generating Units assumed to be available to the Total System (National Output Useable); 	<p>OC2.3.1.2.6 <u>At a regular time interval, at least once per day (by 1600 hours) up to every hour</u></p> <p>The Company will:</p> <p>(i) having taken into account the information notified to it by Generators and Interconnector Owners and Restoration Contractor as provided for in OC2.2.1(f) via the process defined in OC2.3.1.2.1 and taking into account:</p> <ol style="list-style-type: none"> (1) Demand forecasts and details of proposed use of Demand Control received under OC1, and an Operational Planning Margin requirement set by The Company (the "OPMR"), (2) National Electricity Transmission System constraints and outages, (3) Network Operator System constraints and outages, known to The Company, and (4) the Output Usable required, in its view, to meet daily total MW requirements, <p style="text-align: right;">P</p> <p>Provide each Generator and each Interconnector Owner and each Restoration Contractor as provided for in OC2.2.1(f) (where required by The Company) in writing with any suggested amendments to the provisional Output Usable supplied by the Generator and Interconnector Owner and Restoration Contractor as provided for in OC2.2.1(f) which The Company believes necessary, and will advise Generators with Large Power Stations of the Surpluses for the National Electricity Transmission System and potential export limitations, which would occur without such amendments;</p> <p>(ii) calculate and submit to BMRA:</p> <ol style="list-style-type: none"> 1. total generating Output Usable from Generating Units assumed to be available to the Total System (National Output Useable); 2. generating Output Usable by fuel type from Generating Units assumed to be available to the Total System (Output Useable by fuel type); 3. generating Output Usable by individual Generating Units assumed to be available to the Total System (Output Useable by Generating Unit);

2. generating **Output Usable** by fuel type from **Generating Units** assumed to be available to the **Total System (Output Useable** by fuel type);
3. generating **Output Usable** by individual **Generating Units** assumed to be available to the **Total System (Output Useable** by **Generating Unit**);
4. total **Generating Plant Demand Margin** assumed to be available to the **Total System (National Margin)**;
5. total **Generating Surplus** assumed to be available to the **Total System (National Surplus)**;

with daily resolution, for at least the peak **Demand** of each day for 2 day-ahead to 14 day-ahead time scope, and

with weekly resolution, for at least peak **Demand** of each week for 2 week-ahead up to 3 year-ahead time scope.

The calculation under (ii) will effectively define the envelope of opportunity for outages of **Power Generating Modules** (including **DC Connected Power Park Modules**), **Synchronous Generating Units** and **Power Park Modules** covering both **Embedded** and directly connected **Large Power Stations**.

The Company may, as appropriate, contact each **Generator** and each **Interconnector Owner** and **Restoration Contractor** (as provided for in OC2.3.1(f)) who has supplied information to seek clarification on outages and suggest amendments.

- (iii) Where a **Generator** or **Interconnector Owner** or a **Network Operator** or **Restoration Contractor** (as provided for in OC2.3.1(f)) is unhappy with the suggested amendments to its provisional outage programme (in the case of a **Generator** or **Interconnector Owner** or in the case of a **Restoration Contractor** as provided for in OC2.3.1(f)) or such potential outages (in the case of a **Network Operator**) it may contact **The Company** to explain its concerns and **The Company** and that **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.3.1(f)) or **Network Operator** will then discuss the problem and seek to resolve it.
- (iv) The possible resolution of the problem may require **The Company** or a **User** to contact other **Generators**, **Interconnector Owners**, **Restoration Contractors** (as provided for in OC2.3.1(f)) or **Network Operators**, and joint meetings of all parties may, if any **User** feels it would be helpful, be convened by **The Company**. The need for further discussions, be they on the telephone or at meetings, can only be determined at the time.

Each **Generator** will provide **The Company** with updated **Output Usable** as per OC2.4.1 resulting from the above for **Generating Unit**, **Power Generating Module**, and **Power Part Module** outage programme covering both **Embedded** and non-**Embedded Large Power Stations**.

The Company will then consider the updated **Output Usable** and takes this into account in the next calculation and submission to **BMRA**.

4. total **Generating Plant Demand Margin** assumed to be available to the **Total System** (This is sometimes referred to as the National Margin);

5. total **Generating Surplus** assumed to be available to the **Total System** (his is sometimes referred to as the National Surplus)

with daily resolution, for at least the peak **Demand** of each day for 2 day-ahead to 14 day-ahead time scope, and

with weekly resolution, for at least peak **Demand** of each week for 2 week-ahead up to 3 year-ahead time scope.

Information from the calculations referred to in OC2.3.1.2.6 under (ii) will effectively define the envelope of opportunity for outages of **Power Generating Modules** (including **DC Connected Power Park Modules**), **Synchronous Generating Units** and **Power Park Modules** covering both **Embedded** and directly connected **Large Power Stations**.

The Company may, as appropriate, contact each **Generator** and each **Interconnector Owner** and **Restoration Contractor** (as provided for in OC2.2.1(f)) who has supplied information to seek clarification on outages and suggest amendments.

- (iii) Where a **Generator** or **Interconnector Owner** or a **Network Operator** or **Restoration Contractor** (as provided for in OC2.2.1(f)) has concerns with the suggested amendments to its provisional outage programme (in the case of a **Generator** or **Interconnector Owner** or in the case of a **Restoration Contractor** as provided for in OC2.2.1(f)) or such potential outages (in the case of a **Network Operator**) it may contact **The Company** to explain its concerns and **The Company** and that **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.2.1(f)) or **Network Operator** will then discuss the problem and seek to resolve it.
- (iv) The possible resolution of the problem may require **The Company** or a **User** to contact other **Generators**, **Interconnector Owners**, **Restoration Contractors** (as provided for in OC2.2.1(f)) or **Network Operators**, and joint meetings of all parties may, if any **User** feels it would be helpful, be convened by **The Company**. The need for further discussions will be determined at the time.

Each **Generator** will provide **The Company** with updated **Output Usable** as per OC2.3.1 resulting from the above for **Generating Unit**, **Power Generating Module**, and **Power Park Module** outage programme covering both **Embedded** and non-**Embedded Large Power Stations**.

The Company will then consider the updated **Output Usable** and take this into account in the next calculation and submission to **BMRA**.

OC2.3.1.2.7 **The Company** retains the right to contact **Generators** with **Large Power Stations**, **Interconnector Owners** and **Network Operators** in reference to planned outages of their assets in timescales beyond the European Requirements (3 years) up to the 5 year ahead period to assist in the operational planning of **National Electricity Transmission System** outages.

<p>OC2.4.1.2.3 The Company retains the right to contact Generators with Large Power Stations, Interconnector Owners and Network Operators in reference to planned outages of their assets in timescales beyond the European Requirements (3 years) up to the 5 year ahead period to assist in the operational planning of National Electricity Transmission System outages.</p>	
<p>OC2.4.1.3 <u>Planning of National Electricity Transmission System Outages</u></p> <p>OC2.4.1.3.1 <u>Operational Planning Phase - Planning for Financial Years 2 to 5 inclusive ahead</u></p> <p>The Company shall plan National Electricity Transmission System outages required in Years 2 to 5 inclusive required as a result of construction or refurbishment works. This contrasts with the planning of National Electricity Transmission System outages required in Years 0 and 1 ahead, when The Company also takes into account National Electricity Transmission System outages required as a result of maintenance.</p> <p>Users should bear in mind that The Company will plan the National Electricity Transmission System outage programme on the basis of the previous year's Final Generation Outage Programme and if in the event a Generator's, an Interconnector Owner's or Network Operator's outages differ from those contained in the Final Generation Outage Programme, or in the case of Network Operators, those known to The Company, in any way conflict with the National Electricity Transmission System outage programme, The Company need not alter the National Electricity Transmission System outage programme.</p> <p>OC2.4.1.3.2 In each calendar year:</p> <p>(a) <u>By the end of week 8</u></p> <p>Each Network Operator will notify The Company in writing of details of proposed outages in Years 2-5 ahead in its User System which may affect the performance of the Total System (which includes but is not limited to outages of User System Apparatus at Grid Supply Points and outages which constrain the output of Power Generating Modules (including DC Connected Power Park Modules) and/or Synchronous Generating Units and/or Power Park Modules Embedded within that User System) and outages of its Plant and Apparatus that may affect the ability to activate and / or operate a Distributed Restoration Zone Plan.</p> <p>Each Network Operator will notify The Company in writing of details of proposed outages in Years 2-5 ahead in its User System which may affect the declared values of Maximum Export Capacity and/or Maximum Import Capacity for each Interface Point within its User System together with the Network Operator's revised best estimate of the Maximum Export Capacity and/or Maximum Import Capacity during such outages. Network Operators will also notify The Company of any automatic and/or manual post fault actions that it intends to utilise or plans to utilise during such outages.</p> <p>(b) <u>By the end of week 13</u></p>	<p>OC2.3.1.3 <u>Planning of National Electricity Transmission System Outages</u></p> <p>The outage planning process is undertaken annually for each of years 0-5 with each iteration making the plan more certain. The Company shall take into account NETS outages required as for maintenance, construction or refurbishment works.</p> <p>OC2.3.1.3.1 <u>Operational Planning Phase - Planning for Financial Years 2 to 5 inclusive ahead</u></p> <p>The Company shall take into account NETS outages required as for, construction or refurbishment works. Maintenance is taken into account in years 0-1 outage planning.</p> <p>The Company will plan the NETS outage programme on the basis of the previous year's Final Generation Outage Programme. If a Generator's, Interconnector Owners or Network Operator's outages differ from those contained in the Final Generation Outage Programme, or in the case of Network Operators, they differ from those known to The Company, or in any way conflict with the NETS outage programme, The Company is not obliged to alter the NETS outage programme. Users should bear this in mind.</p> <p>OC2.3.1.3.2 The timescales within which a User shall provide the required information to The Company is tabulated below. Users may identify their obligations in the relevant clauses using the matrix in figures 1, 3, 7, 9, 13, and 15 below. These figures are intended for guidance and to assist Users to navigate and identify their requirements more easily; however, the text prevails.</p> <p>Key</p> <ul style="list-style-type: none"> Provides information Receives information Do nothing

Each **Generator** will inform **The Company** in writing of proposed outages in Years 2 - 5 ahead of **Generator** owned **Apparatus** (eg. busbar selectors) other than **Power Generating Modules** (including **DC Connected Power Park Modules**) and/or **Synchronous Generating Units**, and/or **Power Park Modules**, at each **Grid Entry Point**.

The Company will provide to each **Network Operator** and to each **Generator** and each **Interconnector Owner**, a copy of the information given to **The Company** under paragraph (a) above (other than the information given by that **Network Operator**). In relation to a **Network Operator**, the data must only be used by that **User** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere.

(c) By the end of week 28

The Company will provide each **Network Operator** in writing with details of proposed outages in Years 2-5 ahead which may, in **The Company's** reasonable judgement, affect the performance of that **Network Operator's User System**.

(d) By the end of week 30

Where **The Company** or a **Network Operator** is unhappy with the proposed outages notified to it under (a), (b) or (c) above, as the case may be, equivalent provisions to those set out in OC2.4.1.2.1 (d) will apply.

(e) By the end of week 34

The Company will draw up a draft **National Electricity Transmission System** outage plan covering the period Years 2 to 5 ahead and **The Company** will notify each **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.3.1(f)) and **Network Operator** in writing of those aspects of the plan which may operationally affect such **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations**) unless they are **Restoration Contractors** (as provided for in OC2.3.1(f)), **Interconnector Owner** or **Network Operator**. **The Company** will also indicate where a need may exist to issue other operational instructions or notifications (including but not limited to the requirement for the arming of an **Operational Intertripping** scheme) or **Emergency Instructions** to **Users** in accordance with **BC2** to allow the security of the **National Electricity Transmission System** to be maintained within the **Licence Standards**.

Party	By the end of Week				
	8	13	28	30	34
Generator and/or Interconnector Owner	Do nothing	Provide Info	Receive Info	Do nothing	Receive Info
The Company	Receive Info	Provide Info			
Non-Embedded Customer	Do Nothing				
Network Operator	Provide Info	Receive Info			
Restoration Contractors as provided for in OC2.2.1(f)	Same as Generator and/or Interconnector Owner obligations				

Figure 1: Overview of information exchange by party – NETS outage planning process from Week 8 to Week 34.

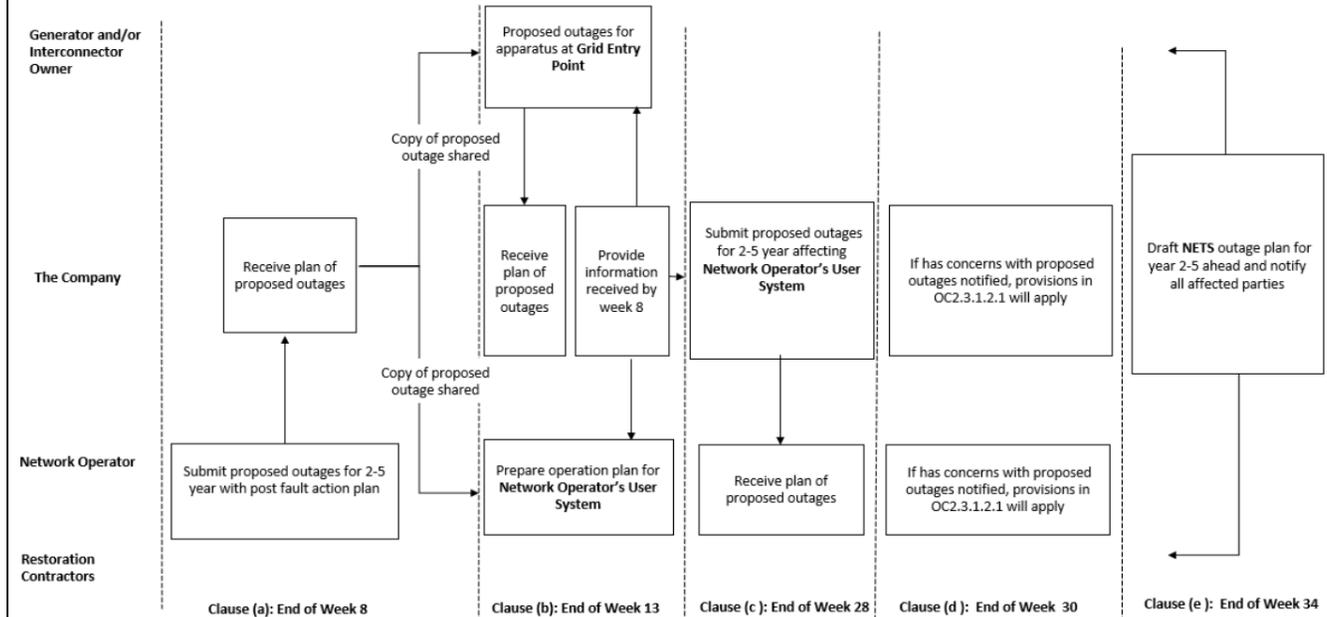


Figure 2: Overview of the NETS outage planning process from Week 8 to Week 34.

In each calendar year:

- a. By the end of Week 8

Where the items i, ii and iii below may affect the performance of the **Total System** (which includes, but not limited to, outages of **User System Apparatus** at **Grid Supply Points**) each **Network Operator** will provide to **The Company**:

- i All proposed outages in Years 2-5 in its **User System** which may affect the performance of the **Total System** (which includes but is not limited to outages of **User System Apparatus** at **Grid Supply Points** and outages which constrain the output of **Power Generating Modules** (including **DC Connected Power Park Modules**) and/or **Synchronous Generating Units** and/or **Power Park Modules Embedded** within that **User System**)
 - ii In relation to **Offshore Transmission Systems** all proposed outages in Years 2 – 5 in its **System** that may affect the declared values of **Maximum Export Capacity** and/or **Maximum Import Capacity** for each **Interface Point** together with the **Network Operator's** revised best estimate of the **Maximum Export Capacity** and/or **Maximum Import Capacity** during such outages, any automatic and/or manual post fault actions that it intends to use or plans to use during such outages.
 - iii any outages of its **Apparatus** that may affect the ability to activate and/or operate a **Distributed Restoration Zone Plan**.
- b. By the end of week 13
- i. Each **Generator** will inform **The Company** of proposed outages of **Generator-owned Apparatus** (e.g., substation **Apparatus** not generating **Plant**) in Years 2 - 5, at each **Grid Entry Point**.
 - ii. **The Company** will provide each **Network Operator, Generator, and Interconnector Owner** a copy of the information given to **The Company** under paragraph (a) above (other than the information given by that **Network Operator**). In relation to a **Network Operator**, the data must only be used by that **User** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere.
- c. By the end of week 28
- The Company** will provide each **Network Operator** with details of proposed outages in Years 2 - 5 which may affect the performance of that **Network Operator's User System**.
- d. By the end of week 30
- Where **The Company** or a **Network Operator** has concerns with the proposed outages notified to it under (a), (b) or (c) above, the affected party should discuss their concerns with the notifying party; in this event the provisions set out in OC2.3.1.2 will apply.
- e. By the end of week 34
- The **Company** will draw up a draft **NETS** outage plan for Years 2 - 5 and notify each **User** of those aspects of the plan which may affect that **User**. **The Company** will also indicate where a need may exist to issue other relevant operational instructions or notifications to **Users** in accordance with BC2 to retain the necessary security of the **NETS**.

OC2.4.1.3.3	Operational Planning Phase - Planning for Financial Year 1 ahead																																																															
<p>Each calendar year, The Company shall update the draft National Electricity Transmission System outage plan prepared under OC2.4.1.3.2 above and shall in addition take into account outages required as a result of maintenance work.</p> <p>In each calendar year:</p> <p>(a) <u>By the end of week 13</u></p> <p>Generators and Non-Embedded Customers will inform The Company in writing of proposed outages for Year 1 of Generator owned Apparatus at each Grid Entry Point (e.g. busbar selectors) other than Power Generating Modules (including DC Connected Power Park Modules), Synchronous Generating Units and/or Power Park Modules or Non-Embedded Customer owned Apparatus, as the case may be, at each Grid Supply Point.</p> <p>(b) <u>By the end of week 28</u></p> <p>The Company will provide each Network Operator and each Non-Embedded Customer in writing with details of proposed outages in Year 1 ahead which may, in The Company's reasonable judgement, affect the performance of its User System or the Non-Embedded Customer Apparatus at the Grid Supply Point.</p> <p>(c) <u>By the end of week 32</u></p> <p>Each Network Operator will notify The Company in writing with details of proposed outages in Year 1 in its User System which may affect the performance of the Total System (which includes but is not limited to outages of User System Apparatus at Grid Supply Points and outages which constrain the output of Power Generating Modules (including DC Connected Power Park Modules), Synchronous Generating Units and/or Power Park Modules Embedded within that User System) and outages of its Plant and Apparatus that may affect the ability to activate and/or operate a Distribution Restoration Zone Plan.</p> <p>Each Network Operator will notify The Company in writing of details of proposed outages in Year 1 in its User System which may affect the declared values of Maximum Export Capacity and/or Maximum Import Capacity for each Interface Point within its User System together with the Network Operator's revised best estimate of the Maximum Export Capacity and/or Maximum Import Capacity during such outages. Network Operators will also notify The Company of any automatic and/or manual post fault actions that it intends to utilise or plans to utilise during such outages.</p> <p>Each Network Operator will also notify The Company in writing of any revisions to Interface Point Target Voltage/Power Factor data submitted pursuant to PC.A.2.5.4.2.</p> <p>(d) <u>Between the end of week 32 and the end of week 34</u></p> <p>The Company will draw up a revised National Electricity Transmission System outage plan (which for the avoidance of doubt includes Transmission Apparatus at the Connection Points).</p> <p>(e) <u>By the end of week 34</u></p>	<p>OC2.3.1.4 <u>Operational Planning Phase - Planning for Financial Year 1 ahead</u></p> <p>Each calendar year, The Company shall update the draft NETS outage plan prepared under OC2 3.1.3 and shall in addition take into account outages required as a result of maintenance or refurbishment work.</p> <p>Key</p> <p> Provides information</p> <p> Receives information</p> <p> Do nothing</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th colspan="3">By the end of Week</th> <th></th> <th colspan="2">By the end of Week</th> <th></th> <th>By the end of Week</th> </tr> <tr> <th>Party</th> <th>13</th> <th>28</th> <th>32</th> <th></th> <th>34</th> <th>36</th> <th></th> <th>49</th> </tr> </thead> <tbody> <tr> <td>Generator and /or Interconnector Owner</td> <td style="background-color: #90EE90;">Provide info</td> <td colspan="3" style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> <td style="background-color: #90EE90;">Provide info</td> <td style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> </tr> <tr> <td>The Company</td> <td style="background-color: #66B3FF;">Receive info</td> <td style="background-color: #90EE90;">Provide info</td> <td style="background-color: #66B3FF;">Receive info</td> <td colspan="2" style="background-color: #90EE90;">Provide info</td> <td style="background-color: #66B3FF;">Receive Info</td> <td colspan="2" style="background-color: #90EE90;">Provide info</td> </tr> <tr> <td>Non-Embedded Customer</td> <td style="background-color: #90EE90;">Provide info</td> <td style="background-color: #66B3FF;">Receive info</td> <td colspan="5" style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> </tr> <tr> <td>Network Operator</td> <td style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> <td style="background-color: #90EE90;">Provide info</td> <td style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> <td style="background-color: #90EE90;">Provide info</td> <td style="background-color: #D3D3D3;">Do nothing</td> <td style="background-color: #66B3FF;">Receive info</td> </tr> <tr> <td>Restoration Contractors as provided for in OC2.2.1(f)</td> <td colspan="8" style="background-color: #D3D3D3;">Same as Generator and/or Interconnector Owner obligations</td> </tr> </tbody> </table>		By the end of Week				By the end of Week			By the end of Week	Party	13	28	32		34	36		49	Generator and /or Interconnector Owner	Provide info	Do nothing			Receive info	Provide info	Do nothing	Receive info	The Company	Receive info	Provide info	Receive info	Provide info		Receive Info	Provide info		Non-Embedded Customer	Provide info	Receive info	Do nothing					Receive info	Network Operator	Do nothing	Receive info	Provide info	Do nothing	Receive info	Provide info	Do nothing	Receive info	Restoration Contractors as provided for in OC2.2.1(f)	Same as Generator and/or Interconnector Owner obligations							
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Network Operator	Do nothing	Receive info	Provide info	Do nothing	Receive info	Provide info	Do nothing	Receive info																																																								
Restoration Contractors as provided for in OC2.2.1(f)	Same as Generator and/or Interconnector Owner obligations																																																															

Figure 3: OC2.3.1.4 Operational Planning Phase – Planning for Financial Year 1 ahead.

The Company will notify each **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.3.1(f)) and **Network Operator**, in writing, of those aspects of the **National Electricity Transmission System** outage programme which may, in **The Company's** reasonable opinion, operationally affect that **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations** unless they are owned and/or operated by a **Restoration Contractor**), **Interconnector Owner**, or **Network Operator** including in particular proposed start dates and end dates of relevant **National Electricity Transmission System** outages.

The Company will provide to each **Network Operator** and to each **Generator** and each **Interconnector Owner** and each **Restoration Contractor** (as provided for in OC2.3.1(f)) a copy of the information given to **The Company** under paragraph (c) above (other than the information given by that **Network Operator**). In relation to a **Network Operator**, the data must only be used by that **User** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere.

(f) By the end of week 36

Where a **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.3.1(f)) or **Network Operator** is unhappy with the proposed aspects notified to it under (e) above, equivalent provisions to those set out in OC2.4.1.2.1 (d) will apply.

(g) Between the end of week 34 and 49

The Company will draw up a final **National Electricity Transmission System** outage plan covering Year 1.

(h) By the end of week 49

(i) The Company will complete the final **National Electricity Transmission System** outage plan for Year 1. The plan for Year 1 becomes the final plan for Year 0 when by expiry of time Year 1 becomes Year 0.

(ii) The Company will notify each **Generator**, each **Interconnector Owner**, each **Restoration Contractor** (as provided for in OC2.3.1(f)) and each **Network Operator** in writing of those aspects of the plan which may operationally affect such **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations** unless they are owned and/or operated by a **Restoration Contractor** (as provided for in OC2.3.1(f))s), **Interconnector Owner** or **Network Operator** including in particular proposed start dates and end dates of relevant **National Electricity Transmission System** outages. The Company will also indicate where a need may exist to issue other operational instructions or notifications (including but not limited to the requirement for the arming of an **Operational Intertripping** scheme) or **Emergency Instructions** to **Users** in accordance with BC2 to allow the security of the **National Electricity Transmission System** to be maintained within the **Licence Standards**. The Company will also inform each relevant **Non-Embedded Customer** of the aspects of the plan which may affect it.

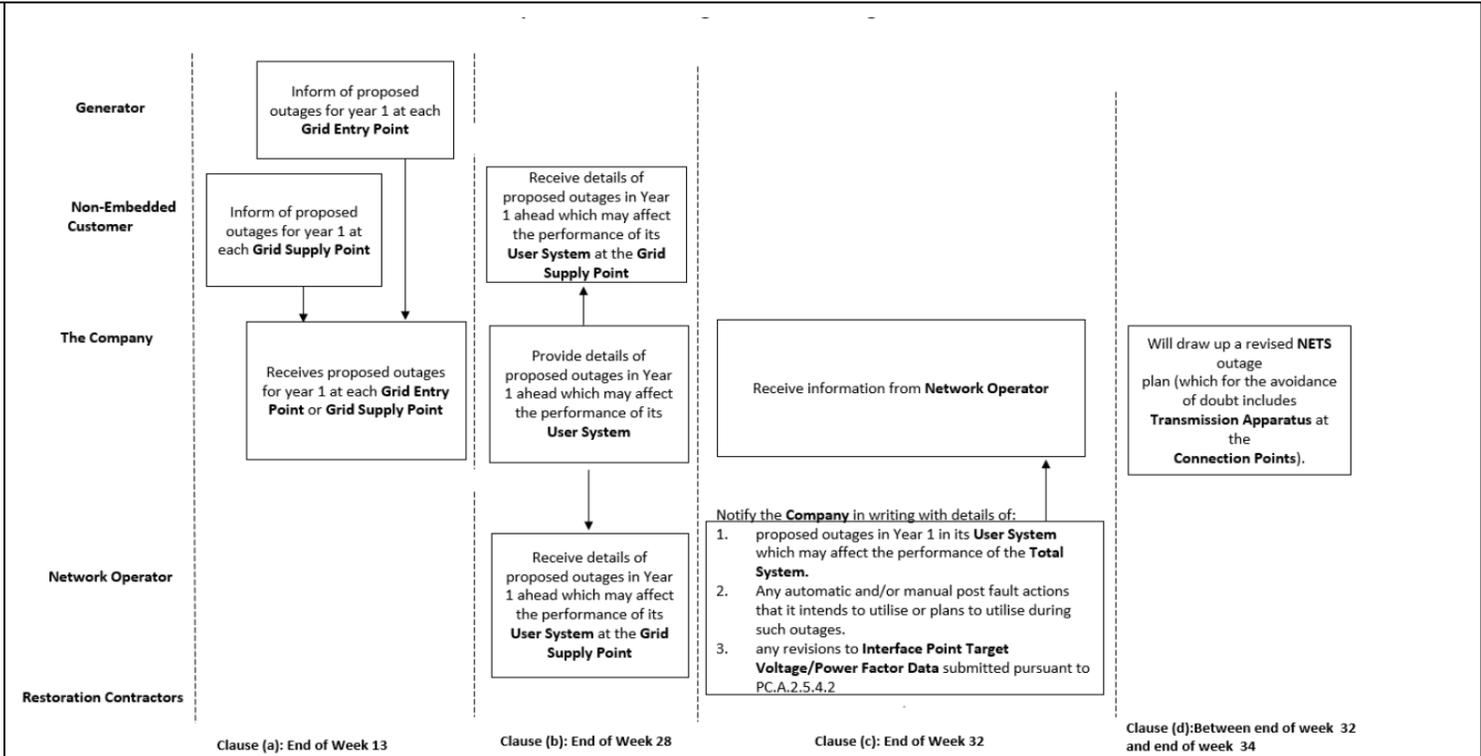


Figure 4: Summary of obligations in Operational Planning Phase from end of week 13 to end of week 34.

In each calendar year:

a. By the end of week 13

Each **Generators** and **Non-Embedded Customers** will inform **The Company** of proposed outages for Year 1 of **Generator-owned Apparatus** ((e.g., substation **Apparatus** not generating **Plant**) at each **Grid Entry Point** and at each **Grid Supply Point** (i.e, substation **Apparatus**).

b. By the end of week 28

The Company will provide each **Network Operator** and each **Non-Embedded Customer** with details of proposed outages in Year 1 which might affect the performance of its **User System** at the **Grid Supply Point**.

c. By the end of week 32

Each **Network Operator** will notify **The Company**:

i. proposed outages in Year 1 in its **System** which may affect the performance of the **Total System**. (which includes but is not limited to outages of **User System Apparatus** at **Grid Supply Points** and outages which constrain the output of **Power Generating Modules** (including **DC Connected Power Park Modules**) and/or **Synchronous Generating Units** and/or **Power Park Modules Embedded** within that **User System**)

ii. In relation to **Offshore Transmission Systems**, proposed outages in Year 1 in its **System** which may affect the declared values of **Maximum Export Capacity** and/or **Maximum Import Capacity** for each **Interface Point** within its **System** together with the **Network Operator's** revised best estimate of the **Maximum Export Capacity** and/or **Maximum Import Capacity** during such outages, any automatic and/or manual post fault actions that it intends to use or plans to use during such outages.

(iii) In addition, in relation to the final **National Electricity Transmission System** outage plan for Year 1, **The Company** will provide to each **Generator** and each **Interconnector Owner** and each **Restoration Contractor** (as provided for in OC2.3.1(f)) a copy of the final **National Electricity Transmission System** outage plan for that year. OC2.4.1.3.4 contains provisions whereby updates of the final **National Electricity Transmission System** outage plan are provided. The plan and the updates will be provided in writing. It should be noted that the final **National Electricity Transmission System** outage plan for Year 1 and the updates will not give a complete understanding of how the **National Electricity Transmission System** will operate in real time, where the **National Electricity Transmission System** operation may be affected by other factors which may not be known at the time of the plan and the updates. Therefore, **Users** should place no reliance on the plan or the updates showing a set of conditions which will actually arise in real time.

(i) Information Release Or Exchange

This paragraph (i) contains alternative requirements on **The Company**, paragraph (z) being an alternative to a combination of paragraphs (x) and (y). Paragraph (z) will only apply in relation to a particular **User** if **The Company** and that **User** agree that it should apply, in which case paragraphs (x) and (y) will not apply. In the absence of any relevant agreement between **The Company** and the **User**, **The Company** will only be required to comply with paragraphs (x) and (y).

Information Release To Each Network Operator And Non-Embedded Customer

Between the end of Week 34 and 49 **The Company** will upon written request:

- (x) for radial systems, provide each **Network Operator** and **Non Embedded Customer** with data to allow the calculation by the **Network Operator**, and each **Non Embedded Customer**, of symmetrical and asymmetrical fault levels; and
- (y) for interconnected **Systems**, provide to each **Network Operator** an equivalent network, sufficient to allow the identification of symmetrical and asymmetrical fault levels, and power flows across interconnecting **User Systems** directly connected to the **National Electricity Transmission System**; or

System Data Exchange

- (z) as part of a process to facilitate understanding of the operation of the **Total System**,
 - (1) **The Company** will make available to each **Network Operator**, the **National Electricity Transmission System Study Network Data Files** covering Year 1 which are of relevance to that **User's System**;

- iii. any revisions to **Interface Point Target Voltage/Power Factor** data submitted pursuant to PC.A.2.5.4.2.
- iv. any outages of its **Plant** and **Apparatus** that may affect the ability to activate and/or operate a **Distributed Restoration Zone Plan**.
- d. Between the end of week 32 and the end of week 34

The Company will draw up a revised **NETS** outage plan, which will include **Transmission Apparatus** at the **Connection Points**.

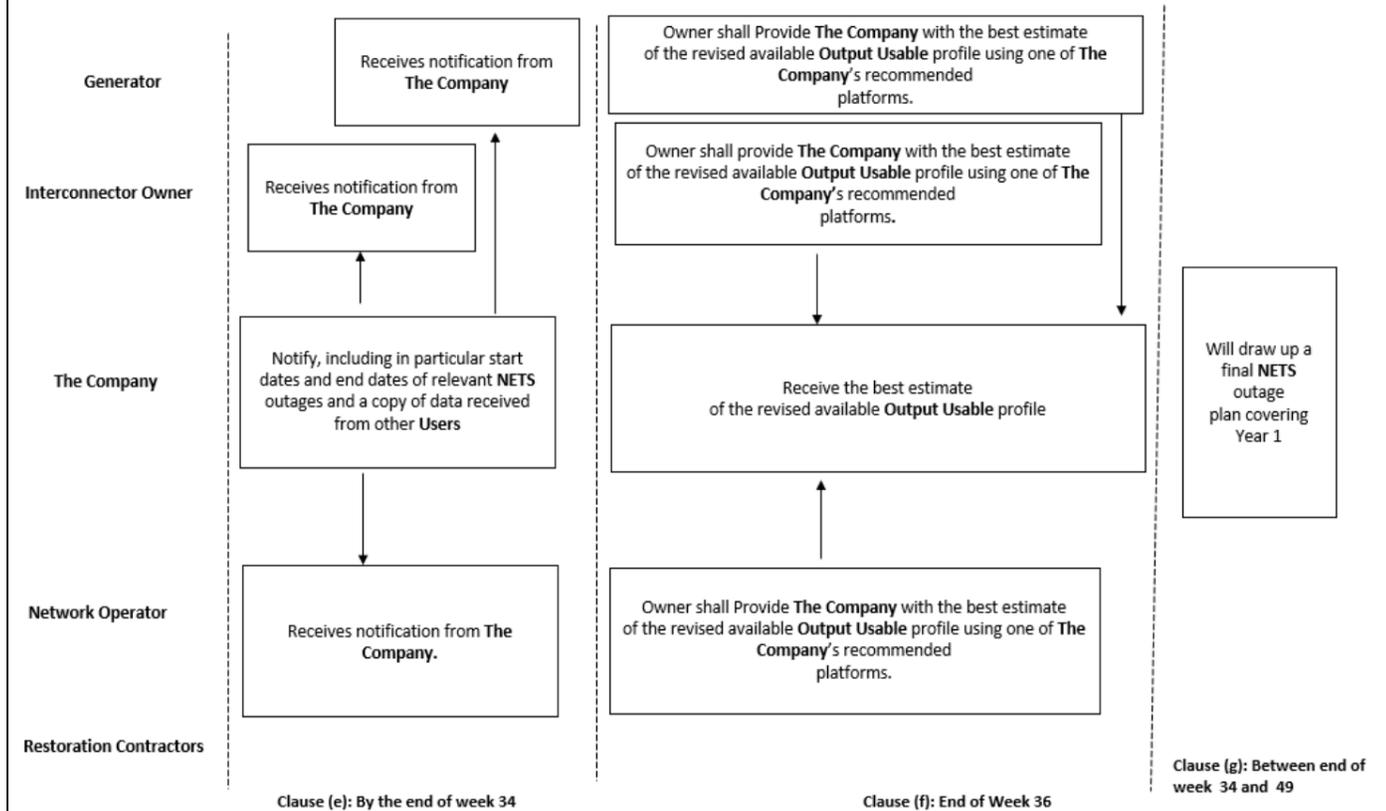


Figure 5: Summary of obligations in Operational Planning Phase from end of week 34 to end of week 49.

- e. By the end of week 34

The Company will:

- i. Notify each **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.2.1(f)) and **Network Operator** of those aspects of the **NETS** outage programme which may operationally affect that them and in particular, proposed start dates and end dates of relevant **NETS** outages.
- ii. Provide to each **User** with a copy of the information given to **The Company** under paragraph (c) above¹ (other than the information given by that **Network Operator**). In relation to a **Network Operator**, the data must only be used by that **User** in planning and operating that **Network**

- (2) where **The Company** and a **User** have agreed to the use of data links between them, the making available will be by way of allowing the **User** access to take a copy of the **National Electricity Transmission System Study Network Data Files** once during that period. The **User** may, having taken that copy, refer to the copy as often as it wishes. Such access will be in a manner agreed by **The Company** and may be subject to separate agreements governing the manner of access. In the absence of agreement, the copy of the **National Electricity Transmission System Study Network Data Files** will be given to the **User** on a disc, or in hard copy, as determined by **The Company**;
- (3) the data contained in the **National Electricity Transmission System Study Network Data Files** represents **The Company's** view of operating conditions although the actual conditions may be different;
- (4) **The Company** will notify each **Network Operator**, as soon as reasonably practicable after it has updated the **National Electricity Transmission System Study Network Data Files** covering Year 1 that it has done so, when this update falls before the next annual update under this OC2.4.1.3.3(i). **The Company** will then make available to each **Network Operator** who has received an earlier version (and in respect of whom the agreement still exists), the updated **National Electricity Transmission System Study Network Data Files** covering the balance of Years 1 and 2 which remain given the passage of time, and which are of relevance to that **User's System**. The provisions of paragraphs (2) and (3) above shall apply to the making available of these updates;
- (5) the data from the **National Electricity Transmission System Study Network Data Files** received by each **Network Operator** must only be used by that **User** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere.

Operator's User System and must not be used for any other purpose or passed on to, or used by, any other business of that User or to, or by, any person within any other such business or elsewhere.

f. By the end of week 36

Where a **User** has concerns with the proposed aspects notified to it under (e) above, equivalent provisions to those set out in OC2.3.1.2.6 will apply.

g. Between the end of week 34 and 49

The Company will draw up a final **NETS** outage plan covering Year 1.

h. By the end of week 49

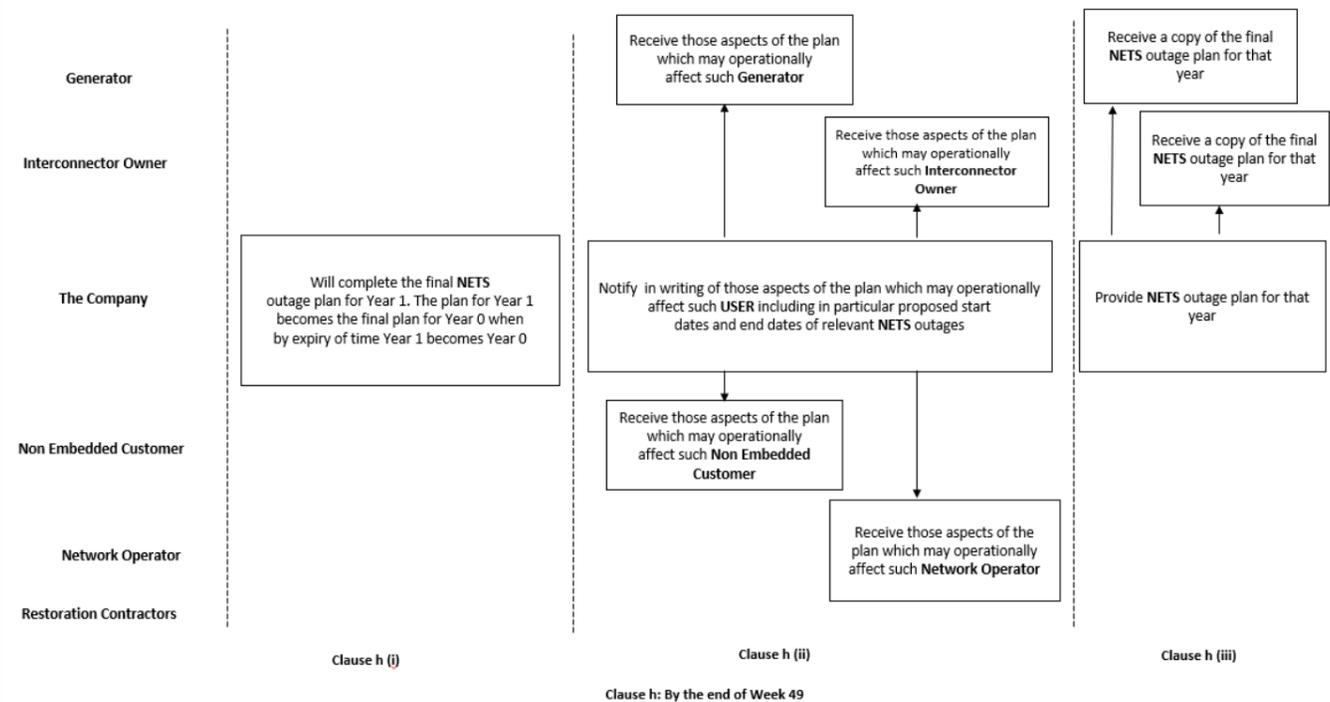


Figure 6: Summary of obligations in Operational Planning Phase by the end of week 49.

- (i) **The Company** will complete the final **NETS** outage plan for Year 1. The plan for Year 1 becomes the final plan for Year 0 when by the passage of time Year 1 becomes Year 0.
- (ii) **The Company** will notify each **User** of those aspects of the plan:
 - which may operationally affect such **Generator, Interconnector Owner, Restoration Contractor** (as provided for in OC2.2.1(f)) and **Network Operator** including in particular proposed start dates and end dates of relevant **NETS** outages.
 - where a need may exist to issue other operational instructions or notifications (for example the requirement for the arming of an **Operational Intertripping** scheme) or **Emergency Instructions** to **Users** in accordance with BC2 to retain the necessary security of the **NETS**.
- (iii) In addition, **The Company** will provide to each **Generator** and each **Interconnector Owner** a copy of the final **NETS** outage plan for that year. OC2.3.2.3 contains provisions whereby updates of the final **NETS** outage plan are provided. Note that the final **NETS**

outage plan for Year 1 and any updates will not give a complete understanding of how the **NETS** will operate in real time, as the **NETS** operation may be affected by other factors which may not be known at the time of the plan and the updates. Therefore, **Users** should be advised that unforeseen network conditions in real time may have an impact on the plan.

i. Information Release or Exchange

This paragraph (i) contains alternative requirements on **The Company**, paragraph (c) being an alternative to a combination of paragraphs (a) and (b). Paragraph (c) will only apply in relation to a particular **User** if **The Company** and that **User** agree that paragraph (c) rather than paragraph (a) and (b) apply. Without any such agreement **The Company** will only be required to comply with paragraphs (a) and (b).

Information Release to Each Network Operator and Non-Embedded Customer

Between the end of Week 34 and the end of week 49 **The Company** will upon written request:

- (a) for radial systems, provide each **Network Operator** and **Non- Embedded Customer** with data to allow the calculation by the **Network Operator**, and each **Non-Embedded Customer**, of symmetrical and asymmetrical fault levels; and
- (b) for interconnected **Systems**, provide to each **Network Operator** an equivalent network, sufficient to allow the identification of symmetrical and asymmetrical fault levels, and power flows across interconnecting **User Systems** directly connected to the **NETS**; or

System Data Exchange

- (c) as part of a process to facilitate understanding of the operation of the **Total System**,

1. **The Company** will make available to each **Network Operator**, the **NETS Study Network Data Files** covering Year 1 which are of relevance to that **User's System**.
2. where **The Company** and a **User** have agreed to the use of data links between them, the **User** may take a copy of the **NETS Study Network Data Files** once during that period. The **User** may refer to that as often as it wishes. The access will be in a manner agreed by **The Company** and may be subject to separate agreement. In the absence of agreement, the copy of the **NETS Study Network Data Files** will be given to the **User** in hard copy or by other appropriate means.
3. the data contained in the **NETS Study Network Data Files** represents **The Company's** view of operating conditions although the actual conditions may be different². **Data Files** received by each **Network Operator** must only be used by that **User** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere. This also applies in the case of OC2.3.1.4
4. **The Company** will notify each **Network Operator**, as soon as reasonably practicable after it has updated the **NETS Study**

Network Data Files covering Year 1 that it has done so, when this update falls before the next annual update under this OC2.3.1.4(j). **The Company** will then make available to each **Network Operator** who has received an earlier version, the updated **NETS Study Network Files** covering the balance of Years 1 and 2 which remain given the passage of time, and which are of relevance to that **User's System**. The provisions of paragraphs (2) and (3) above shall apply to the making available of these updates.

OC2.4.1.3.4 Operational Planning Phase - Planning in Financial Year 0 down to the Programming Phase (and in The case of Load Transfer Capability, also during the Programming Phase)

(a) The **National Electricity Transmission System** outage plan for Year 1 issued under OC2.4.1.3.3 shall become the plan for Year 0 when by expiry of time Year 1 becomes Year 0.

(b) Each **Generator** or **Interconnector Owner** or **Restoration Contractor** (as provided for in OC2.3.1(f)) or **Network Operator** or **Non-Embedded Customer** may at any time during Year 0, request **The Company** in writing for changes to the outages requested by them under OC2.4.1.3.3. In relation to that part of Year 0, excluding the period 1-7 weeks from the date of request, **The Company** shall determine whether the changes are possible and shall notify the **Generator, Interconnector Owner, Restoration Contractor** (as provided for in OC2.3.1(f)), **Network Operator** or **Non-Embedded Customer** in question whether this is the case as soon as possible, and in any event within 14 days of the date of receipt by **The Company** of the written request in question.

Where **The Company** determines that any change so requested is possible and notifies the relevant **User** accordingly, **The Company** will provide to each **Network Operator**, each **Interconnector Owner**, and each **Generator** and each **Restoration Contractor** (as provided for in OC2.3.1(f)) a copy of the request to which **The Company** has agreed which relates to outages on **Systems of Network Operators** (other than any request made by that **Network Operator**). The information must only be used by that **Network Operator** in planning and operating that **Network Operator's User System** and must not be used for any other purpose or passed on to, or used by, any other business of that **User** or to, or by, any person within any other such business or elsewhere.

(c) During Year 0 (including the **Programming Phase**) each **Network Operator** shall at **The Company's** request, make available to **The Company**, such details of automatic and manual load transfer capability of:

- (i) 12MW or more (averaged over any half hour) for England and Wales
- (ii) 10MW or more (averaged over any half hour) for Scotland between Grid Supply Points.

OC2.3.1.5 Operational Planning Phase - Planning in Financial Year 0 down to the Programming Phase (and in the Case of Load Transfer Capability, also during the Programming Phase)

Key

- Provides information
- Receives information
- Do nothing

	Year 0		
Party	Anytime but not less than 8 weeks from requested change	14 days from date of request	Where necessary 8-52 weeks ahead
Generator and/or Interconnector Owner	Provide info	Receive info	
The Company	Receive Info		Provide info
Non-Embedded Customer	Provide info	Receive Info	
Network Operator		Do nothing	Receive info
Restoration Contractors as provided for in OC2.2.1(f)	Same as Generator and/or Interconnector Owner obligations		

Figure 7: Operational Planning Phase - Planning in Financial Year 0 down to the NETS Programming Phase

(a) The **NETS** outage plan for Year 1 issued under OC2 3.1.4 shall become the plan for Year 0 when by expiry of time Year 1 becomes Year 0.

During Year 0 (including the **Programming Phase**) each **Network Operator** shall notify **The Company** of any revisions to the information provided pursuant to OC2.4.1.3.3 (c) for **Interface Points** as soon as reasonably practicable after the **Network Operator** becomes aware of the need to make such revisions.

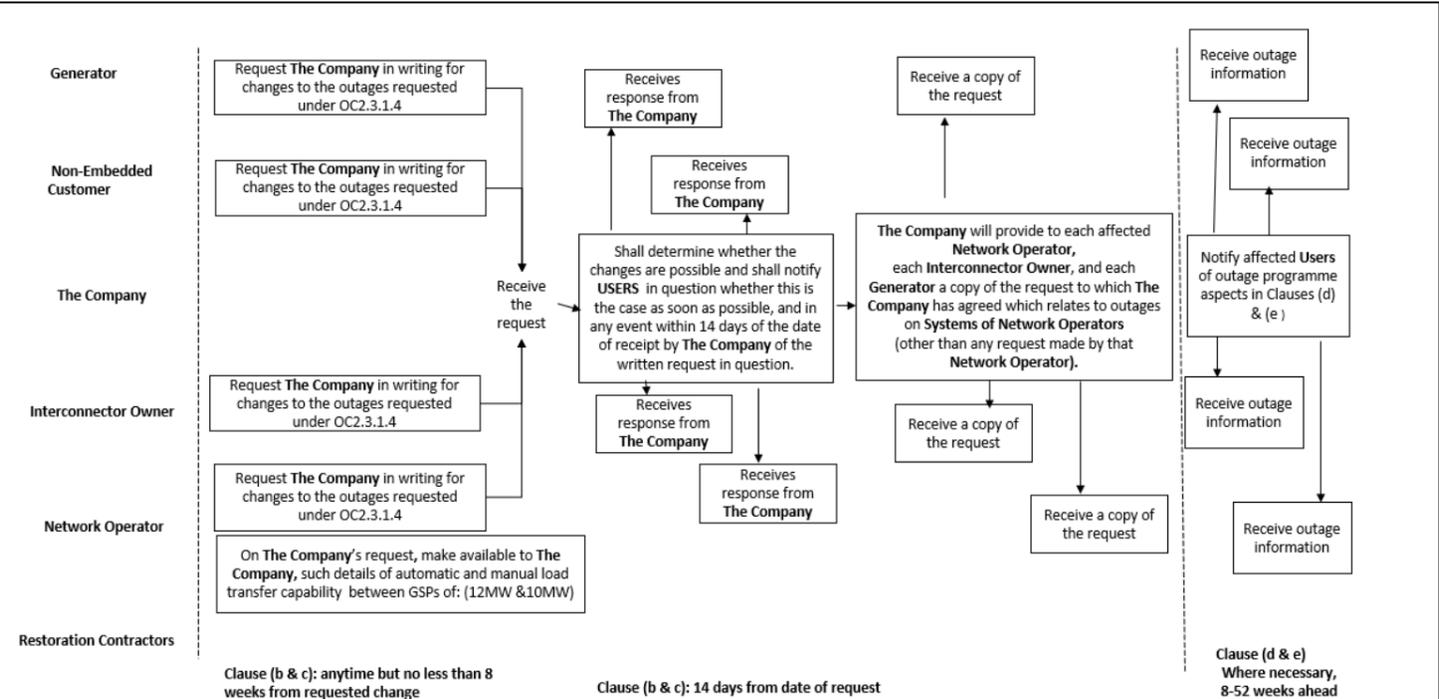
- (d) When necessary during Year 0, **The Company** will notify each **Generator**, each **Interconnector Owner**, each **Restoration Contractor** (as provided for in OC2.3.1(f)) and **Network Operator** and each **Non-Embedded Customer**, in writing of those aspects of the **National Electricity Transmission System** outage programme in the period from the 8th week ahead to the 52nd week ahead, which may, in **The Company's** reasonable opinion, operationally affect that **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations** unless they are owned and/or operated by a **Restoration Contractors** (as provided for in OC2.3.1(f)) **Interconnector Owner** or **Network Operator** or **Non-Embedded Customer** including in particular proposed start dates and end dates of relevant **National Electricity Transmission System** outages.

The Company will also notify changes to information supplied by **The Company** pursuant to OC2.4.1.3.3(i)(x) and (y) except where in relation to a **User** information was supplied pursuant to OC2.4.1.3.3(i)(z). In that case:-

- (i) **The Company** will, by way of update of the information supplied by it pursuant to OC2.4.1.3.3(i)(z), make available at the first time in Year 0 that it updates the **National Electricity Transmission System Study Network Data Files** in respect of Year 0 (such update being an update on what was shown in respect of Year 1 which has then become Year 0) to each **Network Operator** who has received an earlier version under OC2.4.1.3.3(i)(z) (and in respect of whom the agreement still exists), the **National Electricity Transmission System Study Network Data Files** covering Year 0 which are of relevance to that **User's System**.
- (ii) **The Company** will notify each relevant **Network Operator**, as soon as reasonably practicable after it has updated the **National Electricity Transmission System Study Network Data Files** covering Year 0, that it has done so. **The Company** will then make available to each such **Network Operator**, the updated **National Electricity Transmission System Study Network Data Files** covering the balance of Year 0 which remains given the passage of time, and which are of relevance to that **User's System**.
- (iii) The provisions of OC2.4.1.3.3(i)(z)(2), (3) and (5) shall apply to the provision of data under this part of OC2.4.1.3.4(d) as if set out in full.

The Company will also indicate where a need may exist to issue other operational instructions or notifications (including but not limited to the requirement for the arming of an **Operational Intertripping** scheme) or **Emergency Instructions** to **Users** in accordance with **BC2** to allow the security of the **National Electricity Transmission System** to be maintained within the **Licence Standards** except in the case of a **Total Shutdown** or **Partial Shutdown** as provided for in OC9 4.3.

- (e) In addition, by the end of each month during Year 0, **The Company** will provide to each **Generator** and each **Interconnector Owner** and each **Restoration Contractor** (as provided for in OC2.3.1(f)) a notice containing any revisions to the final **National Electricity Transmission System** outage plan for Year 1, provided to the **Generator** or the **Interconnector Owner** or **Restoration Contractor** (as provided for in OC2.3.1(f)) under OC2.4.1.3.3 or previously under this provision, whichever is the more recent.



Clause (b & c): anytime but no less than 8 weeks from requested change
 Clause (b & c): 14 days from date of request
 Clause (d & e) Where necessary, 8-52 weeks ahead

Figure 8: Summary of obligations in Operational Planning Phase Year 0

- (b) Each **User** may at any time during Year 0, request **The Company** for changes to the outages requested by them under OC2.3.1.4. In relation to that part of Year 0, excluding the period 1-7 weeks from the date of request, **The Company** shall determine whether the changes are possible and shall notify the **User** in question whether this is the case as soon as possible, and in any event within 14 days of the date of receipt by **The Company** of the request.

Where **The Company** determines that the requested change is possible and notifies the relevant **User** accordingly, **The Company** will provide to each **User** a copy of the request to which **The Company** has agreed which relates to outages on **Systems of Network Operators**.

- (c) During Year 0 (including the **Programming Phase**) each **Network Operator** shall at **The Company's** request make available to **The Company**, such details of automatic and manual load transfer capability of:
 - i. 12MW or more (averaged over any half hour) for England and Wales
 - ii. 10MW or more (averaged over any half hour) for Scotland

between Grid Supply Points.

During Year 0 (including the **Programming Phase**) each **Network Operator** shall notify **The Company** of any revisions to the information provided pursuant to OC2.3.1.4 (c) for **Interface Points** as soon as reasonably practicable after the **Network Operator** becomes aware of the need to make such revisions.

- (d) When necessary, during Year 0, **The Company** will notify each **User**, in writing of those aspects of the **NETS** outage programme in the period from the 8th week ahead to the 52nd week ahead, which may, in **The Company's** reasonable opinion, operationally affect that **User** including the proposed start dates and end dates of relevant **NETS** outages.

The Company will also notify changes to information supplied by **The Company** pursuant to OC2.3.2.1.4(i)(a) and (b) except where in relation to a **User** information was supplied pursuant to OC2.3.1.4. (i)(c). In this latter case: -

(i) **The Company** will, by way of update of the information supplied by it pursuant to OC2.3.1.4(i)(c), make available at the first time in Year 0 that it updates the **NETS Study Network Data Files** in respect of Year 0 to each **Network Operator** who has received an earlier version of the of the **NETS Study Network Data Files** covering Year 0 which are of relevance to that **Network Operator’s System**.

(ii) **The Company** will notify each relevant **Network Operator**, as soon as reasonably practicable after it has updated the **NETS Study Network Data Files** covering Year 0, that it has done so. **The Company** will then make available the updated **NETS Study Network Data Files** covering the remaining balance of Year 0.

(iii) The provisions of OC2.3.1.4. (i)(c)(2), (3) and (5) shall also apply to the provision of data under this part of OC2.3.1.4. (i).

The Company will also indicate where a need may exist to issue other operational instructions or notifications (for example the requirement for the arming of an **Operational Intertripping** scheme) or **Emergency Instructions** to **Users** in accordance with **BC2** to allow the necessary security of the **NETS** to be maintained except in the case of a **Total Shutdown** or **Partial Shutdown** as provided for in OC9 4.3.

(e) In addition, by the end of each month during Year 0, **The Company** will provide to each **Generator** and each **Interconnector Owner** and each **Restoration Contractor** (as provided for in OC2.2.1(f)) a notice containing any revisions to the final **NETS** outage plan for Year 1.



OC2.4.1.3.5 Programming Phase

(a) By 1600 hours each Thursday

(i) **The Company** shall continue to update a preliminary **National Electricity Transmission System** outage programme for the eighth week ahead, a provisional **National Electricity Transmission System** outage programme for the next week ahead and a final day ahead **National Electricity Transmission System** outage programme for the following day.

(ii) **The Company** will notify each **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.3.1(f)) and **Network Operator** and each **Non-Embedded Customer**, in writing of those aspects of the preliminary **National Electricity Transmission System** outage programme which may operationally affect each **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations** unless they are owned and/or operated by a **Restoration Contractor** (as provided for in OC2.3.1(f)) or **Interconnector Owner** or **Network Operator** and each **Non-Embedded Customer** including in particular proposed start dates and end dates of relevant **National Electricity Transmission System** outages.

The Company will also notify changes to information supplied by **The Company** pursuant to OC2.4.1.3.3(i)(x) and (y) except where in relation to a **User** information was supplied pursuant to OC2.4.1.3.3(i)(z). In that case:

OC2.3.1.6 Programming Phase

Key

- Provides information
- Receives information
- Do nothing

Programming Phase	
Party	By 1600 hours each Thursday
Generator and/ or Interconnector Owner	Receive Info
The Company	Provide info
Non-embedded Customer	Receive Info
Network Operator	Receive Info

Figure 9: Programming Phase

- (1) **The Company** will, by way of update of the information supplied by it pursuant to OC2.4.1.3.3(i)(z), make available the **National Electricity Transmission System Study Network Data Files** for the next week ahead and
- (2) **The Company** will notify each relevant **Network Operator**, as soon as reasonably practicable after it has updated the **National Electricity Transmission System Study Network Data Files** covering the next week ahead that it has done so, and
- (3) The provisions of OC2.4.1.3.3(i)(z)(2), (3) and (5) shall apply to the provision of data under this part of OC2.4.1.3.5(a)(ii) as if set out in full.

The Company may make available, the **National Electricity Transmission System Study Network Data Files** for the next week ahead where **The Company** and a particular **User** agree, and in such case the provisions of OC2.4.1.1.3.3(i)(x) and (y) and the provisions of OC2.4.1.3.4(d) and OC2.4.1.3.5(a) which relate to OC2.4.1.1.3.3(i)(x) and (y) shall not apply. In such case, the provisions of this OC2.4.1.3.5(a)(ii)2 and 3 shall apply to the provision of the data under this part of OC2.4.1.3.5(a)(ii) as if set out in full.

The Company will also indicate where a need may exist to arm an **Operational Intertripping** scheme, emergency switching, emergency **Demand** management or other measures including the issuing of other operational instructions or notifications or **Emergency Instructions** to **Users** in accordance with **BC2** to allow the security of the **National Electricity Transmission System** to be maintained within the **Licence Standards**.

- (b) By 1000 hours each Friday

Generators, Interconnector Owners, Restoration Contractors (as provided for in OC2.3.1(f)) and **Network Operators** will discuss with **The Company** and confirm in writing to **The Company**, acceptance or otherwise of the requirements detailed under OC2.4.1.3.5.

Network Operators shall confirm for the following week:

- (i) the details of any outages of its **User System** that will restrict the **Maximum Export Capacity** and/or **Maximum Import Capacity** at any **Interface Points** within its **User System** for the following week; and
- (ii) any changes to the previously declared values of the **Interface Point Target Voltage/Power Factor**.

- (c) By 1600 hours each Friday

- (i) **The Company** shall finalise the preliminary **National Electricity Transmission System** outage programme up to the seventh week ahead. **The Company** will endeavour to give as much notice as possible to a **Generator** with nuclear **Large Power Stations** which may be operationally affected by an outage which is to be included in such programme.
- (ii) **The Company** shall finalise the provisional **National Electricity Transmission System** outage programme for the next week ahead.
- (iii) **The Company** shall finalise the **National Electricity Transmission System** outage programme for the weekend through to the next normal working day.

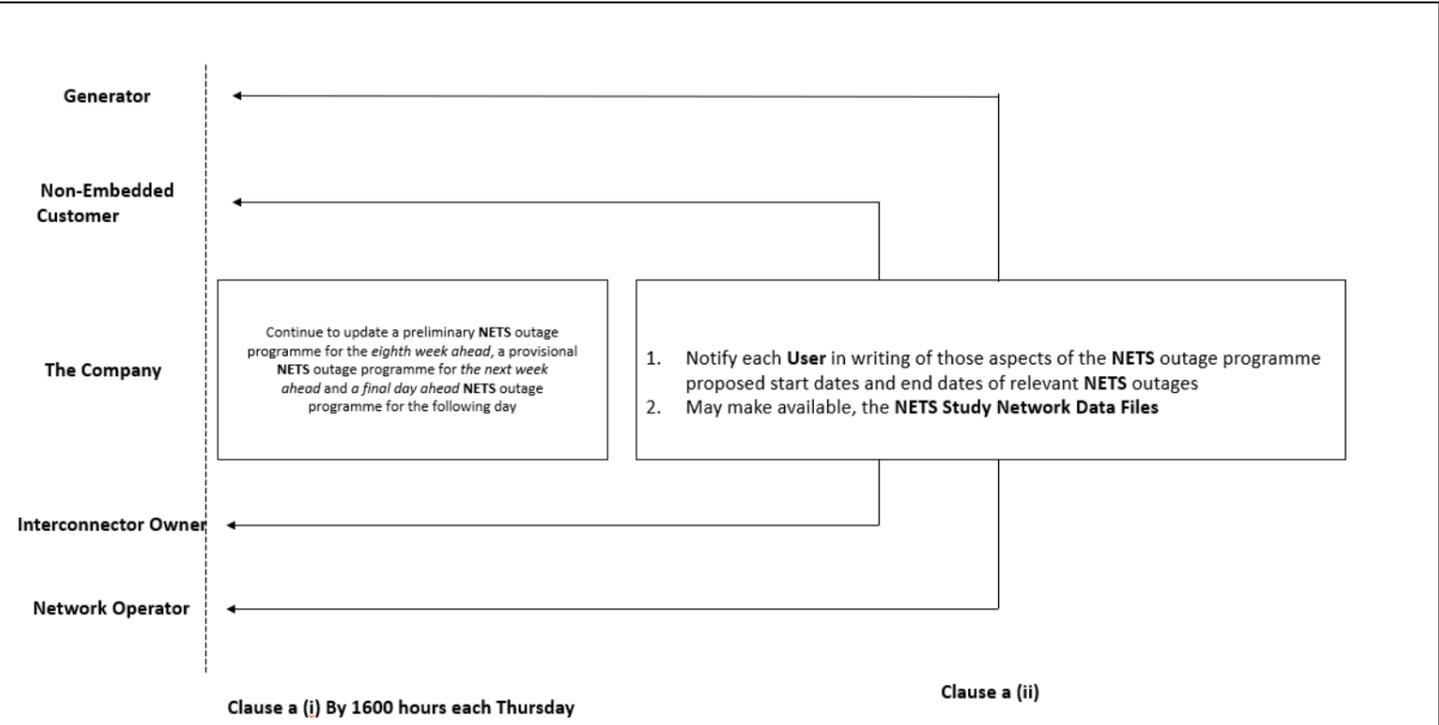


Figure 10: Summary of obligations in the Programming Phase by 1600 hours each Thursday

- (a) 1600 hours each Monday, Tuesday, Wednesday and Thursday

- (i) **The Company** shall prepare a final **NETS** outage programme for the following day.
- (ii) **The Company** shall notify each **User** of the factors set out in (b)(ii) below.

- (b) By 1600 hours each Thursday

- (i) **The Company** shall continue to update a preliminary **NETS** outage programme for the eighth week ahead, a provisional **NETS** outage programme for the next week ahead and a final day ahead **NETS** outage programme for the following day.
- (ii) **The Company** will notify each **User**, in writing of those aspects of the preliminary **NETS** outage programme which may operationally affect each **User** including the proposed start dates and end dates of relevant **NETS** outages.

The Company will also notify changes to information supplied by **The Company** pursuant to OC2.3.1.4(a) and (b) except where in relation to a **User** information was supplied pursuant to OC2.3.1.4. (i)(c). In that latter case:

- 1) **The Company** will, by way of update of the information supplied by it pursuant to OC2.3.1.4(i)(c), make available the **NETS Study Network Data Files** for the next week ahead.
- 2) **The Company** will notify each relevant **Network Operator**, as soon as reasonably practicable after it has updated the **NETS Study Network Data Files** covering the next week ahead that it has done so, and
- 3) The provisions of OC2.3.1.4(c)(2), (3) and (5) shall apply to the provision of data under this part of OC2.3.2.1.6. (a)(ii) as if set out in full.

The Company may make available, the **NETS Study Network Data Files** for the next week

<p>(iv) In each case, The Company will indicate the factors set out in (a)(ii) above (other than those aspects which may operationally affect Embedded Small Power Stations or Embedded Medium Power Stations unless they are owned and/or operated by a Restoration Contractor (as provided for in OC2.3.1(f)) to the relevant Generators and Network Operators and Non-Embedded Customers.</p> <p>(v) Where a Generator with nuclear Large Power Stations which may be operationally affected by the preliminary National Electricity Transmission System outage programme referred to in (i) above (acting as a reasonable operator) is concerned on grounds relating to safety about the effect which an outage within such outage programme might have on one or more of its nuclear Large Power Stations, it may contact The Company to explain its concerns and discuss whether there is an alternative way of taking that outage (having regard to technical feasibility). If there is such an alternative way, but The Company refuses to adopt that alternative way in taking that outage, that Generator may involve the Disputes Resolution Procedure to decide on the way the outage should be taken. If there is no such alternative way, then The Company may take the outage despite that Generator's concerns.</p> <p>(d) <u>By 1600 hours each Monday, Tuesday, Wednesday and Thursday</u></p> <p>(i) The Company shall prepare a final National Electricity Transmission System outage programme for the following day.</p> <p>(ii) The Company shall notify each Generator and each Restoration Contractor (as provided for in OC2.3.1(f)) and Network Operator and Non-Embedded Customer in writing of the factors set out in (a)(ii) above (other than those aspects which may operationally affect Embedded Small Power Stations or Embedded Medium Power Stations unless they are owned and/or operated by a Restoration Contractor (as provided for in OC2.3.1(f)).</p>	<p>ahead where The Company and a particular User agree.</p> <p>The Company will also indicate where a need may exist an Operational Intertripping scheme, emergency switching, emergency Demand management or other measures including the issuing of other operational instructions or notifications or Emergency Instructions to Users in accordance with BC2 to allow the necessary security of the NETS to be maintained.</p> <p>(c) <u>By 1000 hours each Friday</u></p> <p>Users will discuss with The Company and confirm to The Company acceptance or otherwise of the requirements detailed under OC2.3.1.6(a) above.</p> <p>In respect of Embedded Transmission Systems Network Operators shall confirm for the following week:</p> <p>i. the details of any outages of its System that will restrict the Maximum Export Capability and/or Maximum Import Capability at any Interface Points within its System for the following week; and</p> <p>ii. any changes to the previously declared values of the Interface Point Target Voltage/Power Factor.</p> <p>(d) <u>By 1600 hours each Friday</u></p> <p>i. The Company shall finalise the preliminary NETS outage programme up to the seventh week ahead. The Company will give as much notice as possible to a Generator with nuclear Large Power Stations which may be operationally affected by an outage which is to be included in such programme.</p> <p>ii. The Company shall finalise the provisional NETS outage programme for the next week ahead.</p> <p>iii. The Company shall finalise the NETS outage programme for the weekend through to the next normal working day.</p> <p>iv. In each case, The Company will indicate the factors set out in (b)(ii) above to the relevant Users.</p> <p>v. Where a Generator with nuclear Large Power Stations which may be operationally affected by the preliminary NETS outage programme referred to in (i) above is concerned on safety grounds about the effect which an outage within such outage programme might have on one or more of its nuclear Large Power Stations, it may contact The Company to explain its concerns and discuss whether there is an alternative way of taking that outage. If there is such an alternative way, but The Company refuses to adopt that alternative way in taking that outage, that Generator may involve the Disputes Resolution Procedure to decide on the way the outage should be taken. If there is no such alternative way, then The Company may take the outage despite that Generator's concerns.</p>
<p>OC2.4.2 <u>DATA REQUIREMENTS</u></p>	<p>OC2.3.2 Data Requirements</p>

OC2.4.2.1 When a **Statement of Readiness** under the **Bilateral Agreement** and/or **Construction Agreement** is submitted, and thereafter in calendar week 24 in each calendar year,

(a) each **Generator** shall (subject to OC2.4.2.1(k)) in respect of each of its:-

- (i) **Gensets** (in the case of the **Generation Planning Parameters**); and
- (ii) **CCGT Units** within each of its **CCGT Modules** at a **Large Power Station** (in the case of the **Generator Performance Chart**)
- (iii) **Generating Units** within each of its **Synchronous Power Generating Modules** at a **Large Power Station** (in the case of the **Power-Generating Module Performance Chart** and **Synchronous Generating Unit Performance Chart**)

submit to **The Company** in writing the **Generation Planning Parameters** and the **Generator Performance Charts** as required.

(b) Each shall meet the requirements of CC.6.3.2 or ECC.6.3.2 (as applicable) and shall reasonably reflect the true operating characteristics of the **Genset**.

(c) They shall be applied (unless revised under this **OC2** or (in the case of the **Generator Performance Chart** only) **BC1** in relation to **Other Relevant Data**) from the **Completion Date**, in the case of the ones submitted with the **Statement of Readiness**, and in the case of the ones submitted in calendar week 24, from the beginning of week 25 onwards.

(d) They shall be in the format indicated in Appendix 1 for these charts and as set out in Appendix 2 for the **Generation Planning Parameters**.

(e) Any changes to the **Generator Performance Chart** or **Generation Planning Parameters** should be notified to **The Company** promptly.

(f) **Generators** should note that amendments to the composition of the **Power Generating Module, CCGT Module or Power Park Module** at **Large Power Stations** may only be made in accordance with the principles set out in PC.A.3.2.3 or PC.A.3.2.4 respectively. If in accordance with PC.A.3.2.3 or PC.A.3.2.4 an amendment is made, any consequential changes to the **Generation Planning Parameters** should be notified to **The Company** promptly.

(g) **The Generator Performance Chart** must be as described below and demonstrate the limitation on reactive capability of the **System** voltage at 3% above nominal. It must also include any limitations on output due to the prime mover (both maximum and minimum), **Generating Unit** step up transformer or **User System**.

- (i) For a **Synchronous Generating Unit** on a **Generating Unit** specific basis at the **Generating Unit** stator terminals. It must include details of the **Generating Unit** transformer parameters.
- (ii) For a **Non-Synchronous Generating Unit** (excluding a **Power Park Unit**) on a **Generating Unit** specific basis at the **Grid Entry Point** (or **User System Entry Point** if Embedded).
- (iii) For a **Power Park Module**, on a **Power Park Module** specific basis at the **Grid Entry Point** (or **User System Entry Point** if Embedded).
- (iv) For a **DC Converter** on a **DC Converter** specific basis at the **Grid Entry Point** (or **User System Entry Point** if Embedded).

OC2.3.2.1 When a **Statement of Readiness** under the **Bilateral Agreement** and/or **Construction Agreement** is submitted, and thereafter in calendar week 24 in each calendar year,

(a) each **Generator** shall (subject to OC2.3.2.1(j)) in respect of each of its: - **Generating Units** submit to **The Company** in writing the **Generation Planning Parameters** and the **Generator Performance Charts**⁶ as set out in Schedule 2 of the Data Registration Code.

(b) The **Generation Planning Parameters** and the **Generator Performance Chart(s)** shall reasonably reflect the true operating characteristics of the **Generating Unit** and shall demonstrate that the **Generating Unit** meets the **Reactive Power Plant** performance requirements of CC.6.3.2 or ECC.6.3.2 (as applicable).

(c) The **Generation Planning Parameters** and the **Generator Performance Chart(s)** shall be applied (unless revised under this **OC2** or (in the case of the **Generator Performance Chart** only) **BC1** in relation to **Other Relevant Data**) from the **Completion Date**, in the case of the ones submitted with the **Statement of Readiness**, and in the case of the ones submitted in calendar week 24, from the beginning of week 25 onwards.

(d) **Generator Performance Chart(s)** shall be in the format indicated in the **Planning Code Appendix G** and the **Generation Planning Parameters** shall be as set out in Appendix 1.

(e) Any changes to the **Generator Performance Chart** or **Generation Planning Parameters** should be notified to **The Company** as soon as they are aware of the issue and are able to notify **The Company** through the necessary communication channels.

(f) **Generators** should note that amendments to the composition of the **Power Generating Module, CCGT Module or Power Park Module** at **Large Power Stations** may only be made in accordance with the principles set out in PC.A.3.2.3 or PC.A.3.2.4 as applicable. If in accordance with PC.A.3.2.3 or PC.A.3.2.4 an amendment is made, any consequential changes to the **Generation Planning Parameters** should be notified to **The Company** promptly. If in accordance with PC.A.3.2.3 an amendment is made, an updated **CCGT Module Planning Matrix** or **Synchronous Power Generating Module Planning Matrix** must be immediately submitted to **The Company** in accordance with this OC2.3.2.1(b).

(g) **The Generator Performance Chart** must be as described in paragraphs (i) – (v) below and demonstrate the limitation on reactive capability of the **System** voltage at 3% above nominal. It must also include any limitations on output due to the prime mover (both maximum and minimum), **Generating Unit** step up transformer or **User System**.

- (i) For a **Synchronous Generating Unit** on a **Generating Unit** specific basis at the **Generating Unit** stator terminals. It must include details of the **Generating Unit** transformer parameters.
- (ii) For a **Non-Synchronous Generating Unit** (excluding a **Power Park Unit**) on a **Generating Unit** specific basis at the **Grid Entry Point** (or **User System Entry Point** if Embedded).
- (iii) For a **Synchronous Generating Unit** within a **Synchronous Power Generating Module**, both the **Power-Generating Module Performance Chart** and **Synchronous Generating Unit Performance Chart** should be provided.

(h) For each **Generating Unit** whose performance varies significantly with ambient temperature, the **Generator Performance Chart** (including the **Synchronous Generating Unit Performance Chart** in the case of **Synchronous Power Generating Modules**) shall

(v) For a **Synchronous Generating Unit** within a **Synchronous Power Generating Module**, both the **Power-Generating Module Performance Chart** and **Synchronous Generating Unit Performance Chart** should be provided.

(h) For each **CCGT Unit**, and any other **Generating Unit** or **Power Park Module** or **Power Generating Module** whose performance varies significantly with ambient temperature, the **Generator Performance Chart** (including the **Power-Generating Module Performance Chart** and **Synchronous Generating Unit Performance Chart** in the case of **Synchronous Power Generating Modules**) shall show curves for at least two values of ambient temperature so that **The Company** can assess the variation in performance over all likely ambient temperatures by a process of linear interpolation or extrapolation. One of these curves shall be for the ambient temperature at which the **Generating Unit's** output, or **CCGT Module** or **Power-Generating Module** at a **Large Power Station** output or **Power Park Module's** output, as appropriate, equals its **Registered Capacity**.

(i) The **Generation Planning Parameters** supplied under OC2.4.2.1 shall be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism** (subject as otherwise permitted in the **BC**).

(j) Each **Generator** shall in respect of each of its **Synchronous Power Generating Modules** or **CCGT Modules** (including those which are part of a **Synchronous Power Generating Module**) at **Large Power Stations** submit to **The Company** in writing a **CCGT Module Planning Matrix** and/or a **Synchronous Power-Generating Module Planning Matrix**. It shall be prepared on a best estimate basis relating to how it is anticipated the **Synchronous Power-Generating Module** or **CCGT Module** will be running and which shall reasonably reflect the true operating characteristics of the **Power-Generating Module** or **CCGT Module**. It will be applied (unless revised under this OC2) from the **Completion Date**, in the case of the one submitted with the **Statement of Readiness**, and in the case of the one submitted in calendar week 24, from the beginning of week 31 onwards. It must show the combination of **CCGT Units** or **Synchronous Power Generating Units** which would be running in relation to any given MW output, in the format indicated in Appendix 3.

Any changes must be notified to **The Company** promptly. **Generators** should note that amendments to the composition of the **CCGT Module** or **Synchronous Power-Generating Module** at **Large Power Stations** may only be made in accordance with the principles set out in PC.A.3.2.3. If in accordance with PC.A.3.2.3 an amendment is made, an updated **CCGT Module Planning Matrix** or **Synchronous Power-Generating Module Planning Matrix** must be immediately submitted to **The Company** in accordance with this OC2.4.2.1(b).

The **CCGT Module Planning Matrix** or **Synchronous Power-Generating Module Planning Matrix** will be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism**.

(k) Each **Generator** shall in respect of each of its **Cascade Hydro Schemes** also submit the **Generation Planning Parameters** detailed at OC2.A.2.6 to OC2.A.2.10 for each **Cascade Hydro Scheme**. Such parameters need not also be submitted for the individual **Gensets** within such **Cascade Hydro Scheme**.

show curves for at least two values of ambient temperature so that **The Company** can assess the variation in performance over all likely ambient temperatures by a process of linear interpolation or extrapolation. One of these curves shall be for the ambient temperature at which the **Generating Unit's** output equals its **Registered Capacity**.

(i) The **Generation Planning Parameters** supplied under OC2.3.2.1 shall be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism** (subject as otherwise permitted in the **BC**).

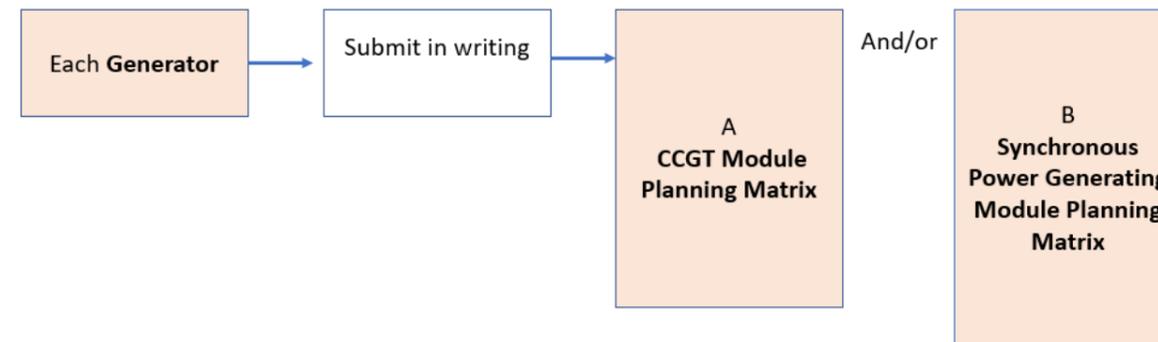


Figure 11: Types of Planning Matrices to be submitted by each Generator to The Company

(j) Each **Generator** shall in respect of each of its **Synchronous Power Generating Modules** at **Large Power Stations** submit to **The Company** in writing a **Synchronous Power-Generating Module Planning Matrix** and/or a **CCGT Module Planning Matrix**. It shall be prepared on a best estimate basis relating to how it is anticipated the **Power-Generating Module** or **CCGT Module** will be running and shall reasonably reflect the true operating characteristics of the **Power-Generating Module** or **CCGT Module**. It will be applied (unless revised under this OC2) from the **Completion Date**, in the case of the one submitted with the **Statement of Readiness**, and in the case of the one submitted in calendar week 24, from the beginning of week 31 onwards. It must show the combination of **CCGT Units** or **Synchronous Power Generating Units** which would be running in relation to any given MW output in the format indicated in Appendix 3 of OC2.

Each **Generator** submission:

- (i) shall be prepared on a best estimate basis relating to how it is anticipated the **Synchronous Power-Generating Module** will be running and shall reasonably reflect the true operating characteristics of the **Power-Generating Module**.
- (ii) Will be applied (unless revised under this OC2) from the **Completion Date**, in the case of the one submitted with the **Statement of Readiness**,
- (iii) Must show the combination of **Synchronous Power Generating Units** which would be running in relation to any given MW output in the case of the one submitted in calendar week 24, from the beginning of week 31 onwards.

The **CCGT Module Planning Matrix** or **Synchronous Power-Generating Module Planning Matrix** will be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism**.

(k) Each **Generator** shall in respect of each of its **Cascade Hydro Schemes** also submit the

(l) Each **Generator** shall in respect of each of its **Power Park Modules** at **Large Power Stations** submit to **The Company** in writing a **Power Park Module Planning Matrix**. It shall be prepared on a best estimate basis relating to how it is anticipated the **Power Park Module** will be running and which shall reasonably reflect the operating characteristics of the **Power Park Module** and the **BM Unit** of which it forms part. It will be applied (unless revised under this **OC2**) from the **Completion Date**, in the case of the one submitted with the **Statement of Readiness**, and in the case of the one submitted in calendar week 24, from the beginning of week 31 onwards. It must show the number of each type of **Power Park Unit** in the **Power Park Module** typically expected to be available to generate and the **BM Unit** of which it forms part, in the format indicated in Appendix 4. The **Power Park Module Planning Matrix** shall be accompanied by a graph showing the variation in MW output with **Intermittent Power Source** (e.g. MW vs wind speed) for the **Power Park Module**. The graph shall indicate the typical value of the **Intermittent Power Source** for the **Power Park Module**.

Any changes must be notified to **The Company** promptly. **Generators** should note that amendments to the composition of the **Power Park Module** at **Large Power Stations** may only be made in accordance with the principles set out in PC.A.3.2.4. If in accordance with PC.A.3.2.4 an amendment is made, an updated **Power Park Module Planning Matrix** must be immediately submitted to **The Company** in accordance with this OC2.4.2.1(a).

The **Power Park Module Planning Matrix** will be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism**.

(m) For each **Synchronous Generating Unit** (including **Synchronous Generating Units** within a **Power Generating Module**) where the **Generator** intends to adjust the **Generating Unit** terminal voltage in response to a MVAR output Instruction or a Target Voltage Level instruction in accordance with BC2.A.2.6 the **Generator Performance Chart** including the **Synchronous Generating Unit Performance Chart** shall show curves corresponding to the **Generating Unit** terminal voltage being controlled to its rated value and to its maximum value.

In the case of **Restoration Contractors** (as provided for in OC2.3.1(f)) who are **Generators**, it would be expected that the above data required in OC2.4.2.1 (a) – (m) would apply.

OC2.4.2.2 Each **Network Operator** shall by 1000 hrs on the day falling seven days before each **Operational Day** inform **The Company** in writing of any changes to the circuit details called for in PC.A.2.2.1 which it is anticipated will apply on that **Operational Day** (under **BC1** revisions can be made to this data). This requirement shall also apply to circuits associated with a **Distributed Restoration Zone Plan**.

OC2.4.2.3 Under **Retained EU Law** (Commission Regulation (EU) 543/2013), **Users** are required to submit certain data to the **Data Publisher** for publication. **The Company** is required to facilitate the collection, verification and processing of data from **Users** for onward transmission to the **Data Publisher**.

Each **Generator** and **Restoration Contractor** (as provided for in OC2.3.1(f)) and each **Non-Embedded Customer** connected to or using the **National Electricity Transmission System** shall provide **The Company** with such information as required by and set out in **DRC Schedule 6** (**Users' Outage Data EU Transparency Availability Data**) in the timescales detailed therein.

Generation Planning Parameters detailed at OC2. A.2.6 to OC2.A.2.10 for each **Cascade Hydro Scheme**. Such parameters need not also be submitted for the individual **Gensets** within such **Cascade Hydro Scheme**.

(l) Each **Generator** shall in respect of each of its **Power Park Modules** at **Large Power Stations** submit to **The Company** in writing a **Power Park Module Planning Matrix**.

Each **Generator** submission shall:

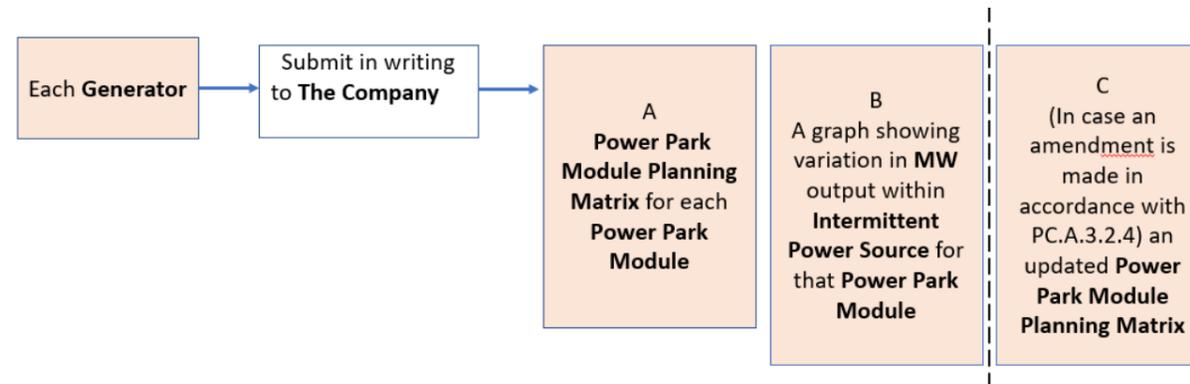


Figure 12: Best estimates information provided to The Company by each Generator.

(i) Be prepared on a best estimate basis relating to how it is anticipated the **Power Park Module** will be running and which shall reasonably reflect the operating characteristics of the **Power Park Module** and the **Balancing Mechanism Unit** of which it forms part.

(ii) Be applied (unless revised under this **OC2**) from the **Completion Date**, in the case of the one submitted with the **Statement of Readiness**, and in the case of the one submitted in calendar week 24, from the beginning of week 31 onwards.

(iii) Show the number of each type of **Power Park Unit** in the **Power Park Module** typically expected to be available to generate and the **BM Unit** of which it forms part, in the format indicated in Appendix 3 of **OC2**.

(iv) Be prompt (in case of any changes) and should note that amendments to the composition of the **Power Park Module** at **Large Power Stations** may only be made in accordance with the principles set out in PC.A.3.2.4

(v) Be used by **The Company** for operational planning purposes only and not in connection with the operation of the **Balancing Mechanism**.

(m) For each **Synchronous Generating Unit** where the **Generator** intends to adjust the **Generating Unit** terminal voltage in response to a MVAR output instruction or a Level target voltage level instruction in accordance with BC2.A.2.6 the **Generator Performance Chart** including the **Synchronous Generating Unit Performance Chart** shall show curves corresponding to the **Generating Unit** terminal voltage being controlled to its rated value and to its maximum value.

In the case of **Restoration Contractors** (as provided for in OC2.2.1(f)) who are **Generators**, it would be expected that the above data required in OC2.3.2.1 (a) – (m) would apply.

OC2.3.2.2 Each **Network Operator** shall by 1000 hrs on the day falling seven days before each **Operational Day**

	<p>inform The Company in writing of any changes to the circuit details called for in PC.A.2.2.1 which it is anticipated will apply on that Operational Day (under BC1 revisions can be made to this data). This requirement shall also apply to circuits associated with a Distributed Restoration Zone Plan</p> <p>OC2.3.2.3 Under Retained EU Law (Commission Regulation (EU) 543/2013), Users are required to submit certain data to the Data Publisher for publication. The Company is required to facilitate the collection, verification and processing of data from Users for onward transmission to the data publisher.</p> <p>Each Generator and Restoration Contractor (as provided for in OC2.2.1(f)) and each Non-Embedded Customer connected to or using the NETS shall provide The Company with such information as required by and set out in DRC Schedule 6 (Users' outage data EU Transparency Availability Data) in the timescales detailed therein.</p>
<p>OC2.4.3 <u>NEGATIVE RESERVE ACTIVE POWER MARGINS</u></p> <p>OC2.4.3.1 At a regular time interval, at least once each day (by 1600 hours) and up to every hour The Company will, taking into account the Generation Outage Programme and forecast of Output Usable supplied by each Generator and by each Interconnector Owner defined in OC2.4.1.2.1 and forecast Demand for the minimum Demand period, calculate and publish:-</p> <ol style="list-style-type: none"> (1) the level of the System NRAPM each day within the period 2 to 14 days ahead (inclusive) and for each week the level of risk of System NRAPM within the 2-52 week ahead period; and (2) the level of the Localised NRAPM (currently for the main constraint between England and Scotland only) for each day within the period 2 to 14 days ahead (inclusive) having taken into account the appropriate limit on transfers to and from the System Constraint Group and for each week the level of risk of Localised NRAPM within the 2-52 week ahead period. <p><u>Outages Adjustments</u></p> <p>(a) Under the necessary circumstances The Company will then contact Generators in respect of their Large Power Stations and Interconnector Owners to discuss outages as set out in the following paragraphs of this OC2.4.3.1.</p>	<p>OC2.3.3 Negative Reserve Active Power Margins</p> <p>OC2.3.3.1 At a regular time interval, at least once each day (by 1600 hours) and no more frequently than every hour The Company will, taking into account the Generation Outage Programme and forecast of Output Useable supplied by each Generator a defined in OC2.3.1.2.1 and forecast Demand for the minimum Demand period, calculate and publish:</p> <p>-</p> <ol style="list-style-type: none"> (1) the level of the System NRAPM each day within the period 2 to 14 days ahead (inclusive) and for each week the level of risk of System NRAPM within the 2-52 week ahead period; and (2) the level of the Localised NRAPM (currently for the main constraint between England and Scotland only) for each day within the period 2 to 14 days ahead (inclusive) having taken into account the appropriate limit on transfers to and from the System Constraint Group and for each week the level of risk of Localised NRAPM within the 2-52 week ahead period. <p>OC2.3.3.2 <u>Outages Adjustments</u></p> <ol style="list-style-type: none"> (a) Where necessary The Company will contact Generators to discuss outages as set out in the following paragraphs of this OC2.3.3.2. (b) The Company will contact all Generators in the case of low System NRAPM or low Localised NRAPM. The Company will raise with each Generator the problems it is anticipating due to the low System NRAPM or Localised NRAPM and will discuss:

(b) **The Company** will contact all **Generators** and **Interconnector Owners** in the case of low **System NRAPM** and will contact **Generators** in relation to relevant **Large Power Stations** and **Interconnector Owners** in the case of low **Localised NRAPM**. **The Company** will raise with each **Generator** and **Interconnector Owner** the problems it is anticipating due to the low **System NRAPM** or **Localised NRAPM** and will discuss:

- (1) whether any change is possible to the estimate of **Genset** inflexibility; and
- (2) whether **Genset** or **External Interconnection** outages can be taken to coincide with the periods of low **System NRAPM** or **Localised NRAPM** (as the case may be).

In relation to **Generators** with nuclear **Large Power Stations** the discussions on outages can include the issue of whether outages can be taken for re-fuelling purposes to coincide with the relevant low **System NRAPM** and/or **Localised NRAPM** periods.

(c) If agreement is reached with a **Generator** or an **Interconnector Owner**, then such **Generator** or **Interconnector Owner** will take such outage, as agreed with **The Company**, and the **Generator** or an **Interconnector Owner** will issue updates to its **Output Usable** via the data provision process defined in OC2.4.1.2.1 and **The Company** will process the updated data which will then be included in the next published update of the **System NRAPM** and/or **Localised NRAPM**.

(d) If on the day prior to an **Operational Day**, it is apparent from the **BM Unit Data** submitted by **Users** under **BC1** that **System NRAPM** and/or **Localised NRAPM** (as the case may be) is, in **The Company's** reasonable opinion, too low, then in accordance with the procedures and requirements set out in BC1.5.5 **The Company** may contact **Users** to discuss whether changes to **Physical Notifications** are possible, and if they are, will reflect those in the operational plans for the next following **Operational Day** or will, in accordance with BC2.9.4 instruct **Generators** to **De-Synchronise** a specified **Genset** for such period. In determining which **Genset** to so instruct, **BC2** provides that **The Company** will not (other than as referred to below) consider in such determination (and accordingly shall not instruct to **De-Synchronise**) any **Genset** within an **Existing Gas Cooled Reactor Plant**. **BC2** further provides that:-

- (i) **The Company** is permitted to instruct to **De-Synchronise** any **Gensets** within an **Existing AGR Plant** if those **Gensets** within an **Existing AGR Plant** have failed to offer to be flexible for the relevant instance at the request of **The Company** provided the request is within the **Existing AGR Plant Flexibility Limit**.
- (ii) **The Company** will only instruct to **De-Synchronise** any **Gensets** within an **Existing Magnox Reactor Plant** or within an **Existing AGR Plant** (other than under (i) above) if the level of **System NRAPM** (taken together with **System** constraints) and/or **Localised NRAPM** is such that it is not possible to avoid **De-Synchronising** such **Generating Unit** or **Power Generating Module**, and provided the power flow across each **External Interconnection** is either at zero or results in an export of power from the **Total System**. This proviso applies in all cases in the case of **System NRAPM** and in the case of **Localised NRAPM**, only when the power flow would have a relevant effect.

(1) whether any change is possible to the estimate of generating **Plant** inflexibility; and

(2) whether generating **Plant** or **External Interconnection** outages can be taken to coincide with the periods of low **System NRAPM** or **Localised NRAPM**.

In relation to **Generators** with nuclear **Large Power Stations** the

discussions on outages can include the issue of whether outages can be taken for re-fuelling purposes to coincide with the relevant low **System NRAPM** and/or **Localised NRAPM** periods.

(c) If agreement is reached with a **Generator**, then the **Generator** may take such outage, as agreed with **The Company**, and the **Generator** will update its **Output Useable** via the data provision process defined in OC2.3.1.2.1. **The Company** will process the updated data which will then be included in the next published update of the **System NRAPM** and/or **Localised NRAPM**.

(d) If on the day prior to an **Operational Day**, it is apparent from the **BM Unit Data** submitted by **Users** under **BC1** that **System NRAPM** and/or **Localised NRAPM**, is too low, then in accordance with the procedures and requirements set out in BC1.5.5 **The Company** may contact **Users** to discuss whether changes to **Physical Notifications** are possible, and if they are, will reflect those in the operational plans for the next following **Operational Day** or will, in accordance with BC2.9.4 instruct **Generators** to **De-Synchronise** specific generating **Plant** for such period. In determining which generating **Plant** to instruct, **BC2** provides that **The Company** will not other than as provided for below instruct to **De-Synchronise** any generating **Plant** within an **Existing Gas Cooled Reactor Plant**.

BC2 further provides that: -

- (i) **The Company** is permitted to instruct to **De-Synchronise** any generating **Plant** within an **Existing AGR Plant** if that generating **Plant** within an **Existing AGR Plant** has failed to offer to be flexible for the relevant instance at the request of **The Company** provided the request is within the **Existing AGR Plant Flexibility Limit**.
- (ii) **The Company** will only instruct any generating **Plant** within an **Existing Magnox Reactor Plant** or within an **Existing AGR Plant** (other than under (i) above) to **De-Synchronise** if the level of **System NRAPM** (taken together with **System** constraints) and/or **Localised NRAPM** is such that it is not possible to avoid **De-Synchronising** such generating **Plant**, and provided the power flow across each **External Interconnection** is either at zero or results in an export of power from the **Total System**. This provision applies in all cases in the case of **System NRAPM**, only when the power flow would have a relevant effect.

<p>OC2.4.4 <u>FREQUENCY SENSITIVE OPERATION</u> By 1600 hours each Wednesday</p> <p>OC2.4.4.1 Using such information as The Company shall consider relevant including, if appropriate, forecast Demand, any estimates provided by Generators of Genset inflexibility and anticipated plant mix relating to operation in Frequency Sensitive Mode, The Company shall determine for the period 2 to 7 weeks ahead (inclusive) whether it is possible that there will be insufficient Gensets (other than those Gensets within Existing Gas Cooled Reactor Plant which are permitted to operate in Limited Frequency Sensitive Mode at all times under BC3.5.3) to operate in Frequency Sensitive Mode for all or any part of that period.</p> <p>OC2.4.4.2 BC3.5.3 explains that The Company permits Existing Gas Cooled Reactor Plant other than Frequency Sensitive AGR Units to operate in a Limited Frequency Sensitive Mode at all times.</p> <p>OC2.4.4.3 If The Company foresees that there will be an insufficiency in Gensets operating in a Frequency Sensitive Mode, it will contact Generators in order to seek to agree (as soon as reasonably practicable) that all or some of the Gensets (the MW amount being determined by The Company but the Gensets involved being determined by the Generator) will take outages to coincide with such period as The Company shall specify to enable replacement by other Gensets which can operate in a Frequency Sensitive Mode. If agreement is reached (which unlike the remainder of OC2 will constitute a binding agreement) then such Generator will take such outage as agreed with The Company. If agreement is not reached, then the provisions of BC2.9.5 may apply.</p> <p>OC2.4.5 If in The Company 's reasonable opinion it is necessary for both the procedure set out in OC2.4.3 (relating to System NRAPM and Localised NRAPM) and in OC2.4.4 (relating to operation in Frequency Sensitive Mode) to be followed in any given situation, the procedure set out in OC2.4.3 will be followed first, and then the procedure set out in OC2.4.4. For the avoidance of doubt, nothing in this paragraph shall prevent either procedure from being followed separately and independently of the other.</p>	<h3 style="text-align: center;">OC2.3.4 Frequency Sensitive Operation</h3> <p>Key</p> <p> Provides information</p> <p> Receives information</p> <p> Do nothing</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Party</th> <th style="width: 20%;">By 1600 hours each Wednesday</th> <th style="width: 20%;"></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>Generator</td> <td></td> <td></td> <td style="background-color: #ADD8E6;">Receive Info</td> </tr> <tr> <td>The Company</td> <td colspan="3" style="background-color: #90EE90;">Provide info</td> </tr> <tr> <td>Non-embedded Customer</td> <td colspan="3" style="background-color: #D3D3D3;">Do nothing</td> </tr> <tr> <td>Network Operator</td> <td colspan="3" style="background-color: #D3D3D3;">Do nothing</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">Figure 13: Guaranteeing Sufficient Generators for Frequency Sensitive Operation</p> <p style="text-align: center; font-size: small;">Figure 14: Summary of obligations during Frequency Sensitive Operation by 1600 hours each Wednesday</p> <p style="text-align: center; font-size: small;">By 1600 hours each Wednesday</p> <p>OC2.3.4.1 Using such information as The Company shall consider relevant including forecast Demand, any estimates provided by Generators of generating Plant inflexibility and anticipated plant mix relating to operation in Frequency Sensitive Mode, The Company shall determine for the period 2 to 7 weeks ahead (inclusive) whether it is possible that there will be insufficient generating Plant to operate in Frequency Sensitive Mode (other than that generating Plant within Existing Gas Cooled Reactor Plant which is permitted to operate in Limited Frequency Sensitive Mode at all times under BC3.5.3) to operate in Frequency Sensitive Mode for all or any part of that period</p>	Party	By 1600 hours each Wednesday			Generator			Receive Info	The Company	Provide info			Non-embedded Customer	Do nothing			Network Operator	Do nothing		
Party	By 1600 hours each Wednesday																				
Generator			Receive Info																		
The Company	Provide info																				
Non-embedded Customer	Do nothing																				
Network Operator	Do nothing																				

	<p>OC2.3.4.2 BC3.5.3 explains that The Company permits Existing Gas Cooled Reactor Plant other than Frequency Sensitive AGR Units to operate in a Limited Frequency Sensitive Mode at all times.</p> <p>OC2.3.4.3 If The Company foresees that there will be an insufficiency in generating Plant operating in a Frequency Sensitive Mode, it will contact Generators in order to seek to agree (as soon as reasonably practicable) that all or some of the generating Plant (the MW amount being determined by The Company but the specific generating Plant involved being determined by the Generator) will take outages to coincide with such period as The Company shall specify to enable replacement by other generating Plant which can operate in a Frequency Sensitive Mode. If agreement is reached (which unlike the remainder of OC2 will constitute a binding agreement) then the Generator will take such outage as agreed with The Company. If agreement is not reached, then the provisions of BC2.9.5 will apply.</p>
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OC2.4.6 OPERATING MARGIN DATA REQUIREMENTS

OC2.4.6.1 Modifications to relay settings

'Relay settings' in this OC2.4.6.1 refers to the settings of **Low Frequency Relays** in respect of **Gensets** that are available for start from standby by **Low Frequency Relay** initiation with **Fast Start Capability** agreed pursuant to the **Bilateral Agreement**.

By 1600 hours each Wednesday

A change in relay settings will be sent by **The Company** no later than 1600 hours on a Wednesday to apply from 1000 hours on the Monday following. The settings allocated to particular **Large Power Stations** may be interchanged between 49.70Hz and 49.60Hz (or such other **System Frequencies** as **The Company** may have specified) provided the overall capacity at each setting and **System** requirements can, in **The Company 's** view, be met.

OC2.3.5 Operating Margin Data Requirements

Key

- Provides information
- Receives information
- Do nothing

Between 1600 hours each Wednesday and 1200 hours each Friday

If a **Generator** wishes to discuss or interchange settings it should contact **The Company** by 1200 hours on the Friday prior to the Monday on which it would like to institute the changes to seek **The Company 's** agreement. If **The Company** agrees, **The Company** will then send confirmation of the agreed new settings.

By 1500 hours each Friday

If any alterations to relay settings have been agreed, then the updated version of the current relay settings will be sent to affected **Users** by 1500 hours on the Friday prior to the Monday on which the changes will take effect. Once accepted, each **Generator** (if that **Large Power Station** is not subject to forced outage or **Planned Outage**) will abide by the terms of its latest relay settings.

In addition, **The Company** will take account of any **Large Power Station** unavailability (as notified under OC2.4.1.2 submissions) in its total **Operating Reserve** policy.

The Company may from time to time, for confirmation purposes only, issue the latest version of the current relay settings to each affected **Generator**

Party	By 1600 hours each Wednesday	Between 1600 hours each Wednesday and 1200 hours each Friday	By 1500hours each Friday
Generator	Do nothing	Receive Info	Provide info
The Company	Provide info	Receive Info	Provide info

Figure 15: For Gensets that are available for start from standby by Low Frequency Relay initiation with Fast Start Capability agreed pursuant to the Bilateral Agreement

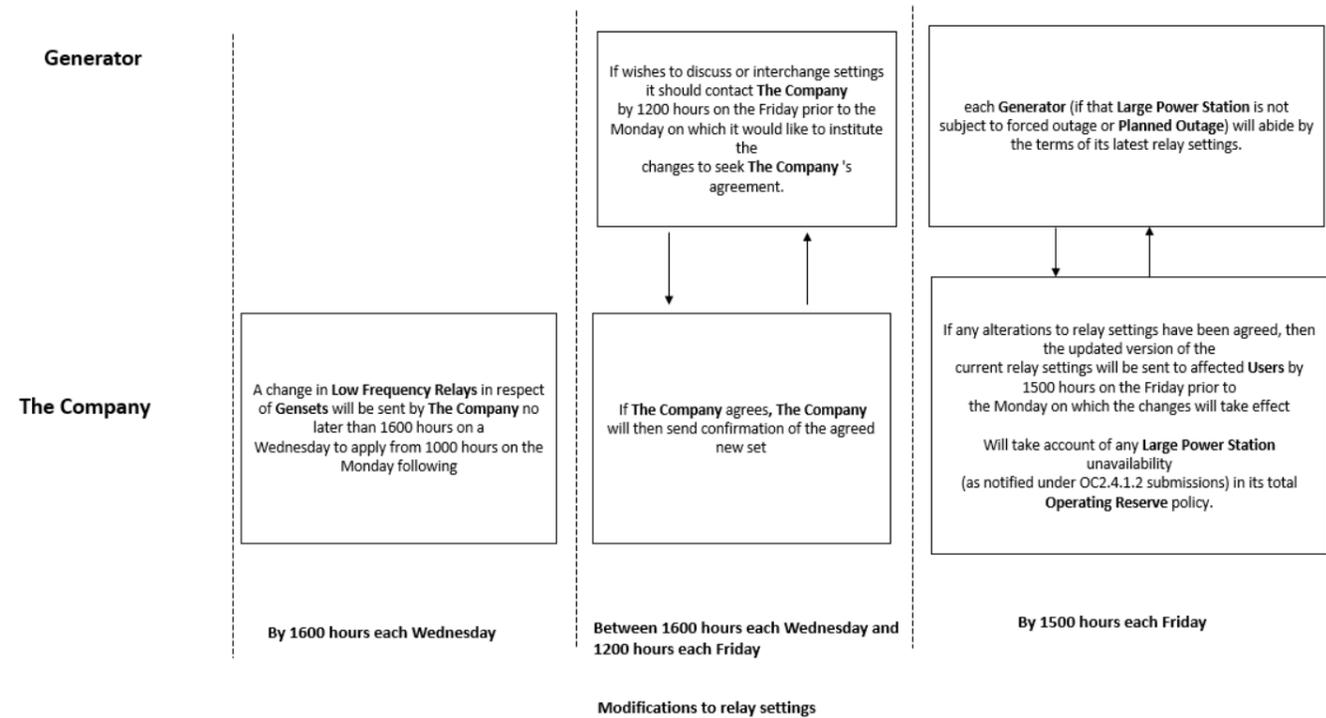


Figure 16: Summary of obligations under Operating Margin Data Requirements

OC2.3.5.1 Modifications to Low Frequency Relay settings for Fast Start from standby

'Relay settings' in this OC2.3.5.1 refers to the settings of **Low Frequency Relays** in respect of generating **Plant** that is available for start from standby by **Low Frequency Relay** initiation with **Fast Start Capability** agreed in the relevant **Bilateral Agreement**.

By 1600 hours each Wednesday

A change in relay settings will be sent by **The Company** no later than 1600 hours on a Wednesday to apply from 1000 hours on the Monday following. The settings allocated to particular **Large Power Stations** may be interchanged between 49.70Hz and 49.60Hz (or such other **System Frequencies** as **The Company** may have specified) provided the overall capacity at each setting and **System**

	<p>requirements can, in The Company's view, be met.</p> <p><u>Between 1600 hours each Wednesday and 1200 hours each Friday</u></p> <p>If a Generator wishes to discuss or interchange settings it should contact The Company by 1200 hours on the Friday prior to the Monday on which it would like to institute the changes to seek The Company's agreement. If The Company agrees, The Company will then send confirmation of the agreed new settings.</p> <p><u>By 1500 hours each Friday</u></p> <p>If any alterations to relay settings have been agreed, then the updated version of the current relay settings will be sent to affected Users by 1500 hours on the Friday prior to the Monday on which the changes will take effect. Once accepted, each Generator (if that Large Power Station is not subject to forced outage or Planned Outage) will abide by the terms of its latest relay settings.</p> <p>In addition, The Company will take account of any Large Power Station unavailability (as notified under OC2.4.1.2 submissions) in its total Operating Reserve policy.</p> <p>The Company may from time to time, for confirmation purposes only, issue the latest version of the current relay settings to each affected Generator.</p>
<p>OC2.4.6.2 <u>Operational Planning Margin Requirements (OPMR)</u></p> <p>At a regular time interval, at least once each day (by 1600 hours) and up to every hour</p> <p>The Company will provide an indication of the level of Operating Reserve to be utilised by The Company in connection with the operation of the Balancing Mechanism covering a 2-14 day ahead period (with a daily peak demand resolution) and the 2-52 week resolution (with a weekly resolution focusing on the peak demand of the week). This level shall be purely indicative.</p> <p>This Operational Planning Margin requirements indication will also note the possible level of High Frequency Response to be utilised by The Company in connection with the operation of the Balancing Mechanism in the week beginning with the Operational Day commencing during the subsequent Monday, which level shall be purely indicative.</p> <p>OC2.4.7 In the event that:</p> <ul style="list-style-type: none"> a) a Non-Embedded Customer experiences the planned unavailability of its Apparatus resulting in the reduction of Demand of 100MW or more, or a change to the planned unavailability of its Apparatus resulting in a change in Demand of 100MW or more, for one Settlement Period or longer; or b) a Non-Embedded Customer experiences a change in the actual availability of its Apparatus resulting in a change in Demand of 100MW or greater; or c) a Generator experiences a planned unavailability of a Generating Unit and/or Power-Generating Module resulting in a change of 100MW or more in the Output Usable of that Generating Unit and/or Power-Generating Module below its previously notified availability, which is expected to last one Settlement Period or longer and up to three years ahead; or 	<p>OC2.3.5.2 <u>Operational Planning Margin Requirements (OPMR)</u></p> <p>At a regular time interval, at least once each day (by 1600 hours) and no more frequently than every hour</p> <p>The Company will provide its best estimate of the level of Operating Reserve to be utilised by The Company in connection with the operation of the Balancing Mechanism covering a 2-14 day ahead period (with a daily peak demand resolution) and the 2—52-week resolution (with a weekly resolution focusing on the peak demand of the week). This level shall be purely indicative.</p> <p>This Operational Planning Margin requirements indication will also note the possible level of High Frequency Response to be utilised by The Company in connection with the operation of the Balancing Mechanism in the week beginning with the Operational Day commencing during the subsequent Monday, which level shall be purely indicative.</p> <p>OC2.3.6 In the event that:</p> <ul style="list-style-type: none"> a) a Non-Embedded Customer experiences the planned unavailability of its Apparatus resulting in the reduction of Demand of 100MW or more, or a change to the planned unavailability of its Apparatus resulting in a change in Demand of 100MW or more, for one Settlement Period or longer or b) a Non-Embedded Customer experiences a change in the actual availability of its Apparatus resulting in a change in Demand of 100MW or greater; or c) a Generator experiences a planned unavailability of a Generating Unit resulting in a change of 100MW or more in the Output Useable of the associated Power-Generating Module below its previously notified availability, which is expected to last one Settlement Period or longer and up to three years ahead: or d) a Generator experiences a change of 100MW or more in the Maximum Export Limit of any generating Plant which is expected to last one Settlement Period or longer. or e) a Generator experiences a planned unavailability resulting in a change of 100MW or more in its aggregated Output Useable below its previously notified availability for a Power Station with a Registered Capacity of 200MW or more and which is expected to last one Settlement Period or longer and up to three years ahead, save where data has been provided pursuant to OC.2.3.6(c) above; or

<p>d) a Generator experiences a change of 100MW or more in the Maximum Export Limit of a Generating Unit which is expected to last one Settlement Period or longer; or</p> <p>e) a Generator experiences a planned unavailability resulting in a change of 100MW or more in its aggregated Output Usable below its previously notified availability for a Power Station with a Registered Capacity of 200MW or more and which is expected to last one Settlement Period or longer and up to three years ahead, save where data has been provided pursuant to OC.2.4.7(c) above; or</p> <p>f) a Generator experiences a change of 100MW or more in the aggregated Maximum Export Limit of a Power Station with a Registered Capacity of 200MW or more, which is expected to last one Settlement Period or longer, save where data has been provided pursuant to OC.2.4.7(d) above;</p> <p>such Non-Embedded Customer or Generator shall provide The Company with the EU Transparency Availability Data in accordance with DRC Schedule 6 (Users' Outage Data) using MODIS and, with reference to points OC2.4.7(a) to (f), Retained EU Law (Commission Regulation (EU) 543/2013) articles 7.1(a), 7.1(b), 15.1(a), 15.1(b), 15.1(c) and 15.1(d).</p> <p>OC2.4.8 The Company will for each day publish the actual largest secured loss of generation (i.e. 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 External Interconnections for each settlement period on The Company's website.</p>	<p>f) a Generator experiences a change of 100MW or more in the aggregated Maximum Export Limit of a Power Station with a Registered Capacity of 200MW or more, which is expected to last one Settlement Period or longer, save where data has been provided pursuant to OC.2.3.6(d) above.</p> <p>such Non-Embedded Customer or Generator shall provide The Company with the EU Transparency Availability Data in accordance with DRC Schedule 6 (Users' Outage Data) using MODIS and, with reference to points OC2.3.6(a) to (f), Retained EU Law (Commission Regulation (EU)543/2013) articles 7.1(a), 7.1(b), 15.1(a), 15.1(b), 15.1(c) and 15.1(d).</p> <p>OC2.3.7 The Company will for each day publish the actual largest secured loss of generation (ie, the loss of generation against which, as a requirement of the Licence Standards, the NETS must be secured) or loss of import from External Interconnections for each settlement period on The Company's website.</p>
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<p>APPENDIX 1 - PERFORMANCE CHART EXAMPLES</p>	<p>OC2 APPENDIX 1– GENERATION PLANNING PARAMETERS</p> <p>OC2.A.2 Generation Planning Parameters The following parameters are required in respect of each Genset.</p> <p>OC2.A.2.1 Regime Unavailability Where applicable the following information must be recorded for each Genset.</p> <ul style="list-style-type: none"> - Earliest synchronising time: Monday Tuesday to Friday Saturday to Sunday - Latest de-synchronising time: Monday to Thursday Friday Saturday to Sunday <p>OC2.A.2.2 Synchronising Intervals</p> <ul style="list-style-type: none"> (a) The synchronising interval between Generating Units in a Synchronising Group assuming all Generating Units have been Shutdown for 48 hours. (b) The Synchronising Group within the Power Station to which each Generating Units should be allocated.
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KEY

- A) Practical Stability Limit
- B) Rated Excitation Limit
- C) Restricted Excitation Limit
- D) Generator or Transformer MVA Limit
- E) Tap Limit (High Turns Ratio) - tap 1
- F) Tap Limit (Low Turns Ratio)
- G) Operating Envelope
- H) High Temperature Output

GENERATOR

MVA	500.0	kV	22.0
MVA	588.0	Xd	2.10
PF	0.85	OCR	0.52

COOLING

H2 & H2O Rotor Current 3900

TRANSFORMER

MVA	600
Xt (Nominal)	0.160
Xt (Low Turns Ratio)	0.156
Xt (High Turns Ratio)	0.170
Tap Range	-15.0% to 15.0%

UNIT TRANSFORMER

MVA Load	15.0
MVA Load	12.5

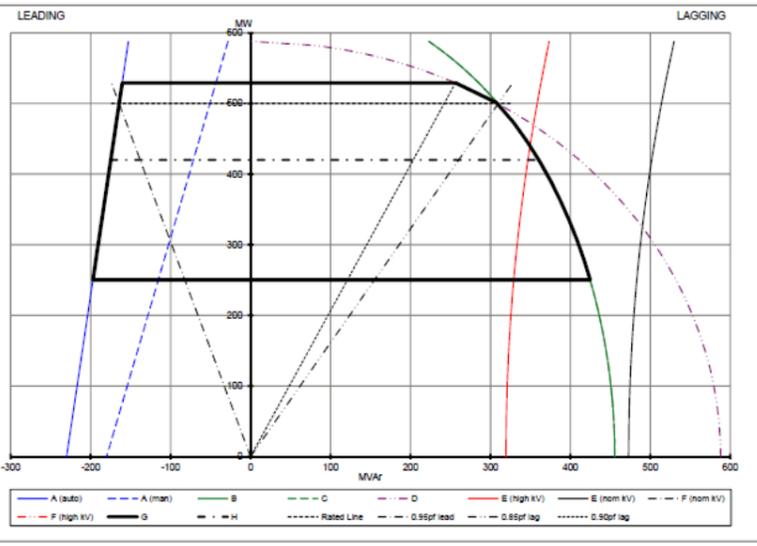
SYSTEM VOLTAGE

400 kV Nominal
420 kV High

MW	Lead (MVar)	Lag (MVar)	
Rated MW (LV)	500	-164	309
Full Output (LV)	529	-161	297
Min Output (LV)	250	-197	425
Rated MW (HV)	485	-249	211
Min Gen (HV)	235	-236	352

Temp°C LV Output (MW)

Low Temperature	0	529
Site Conditions	10	500
High Temperature	30	420

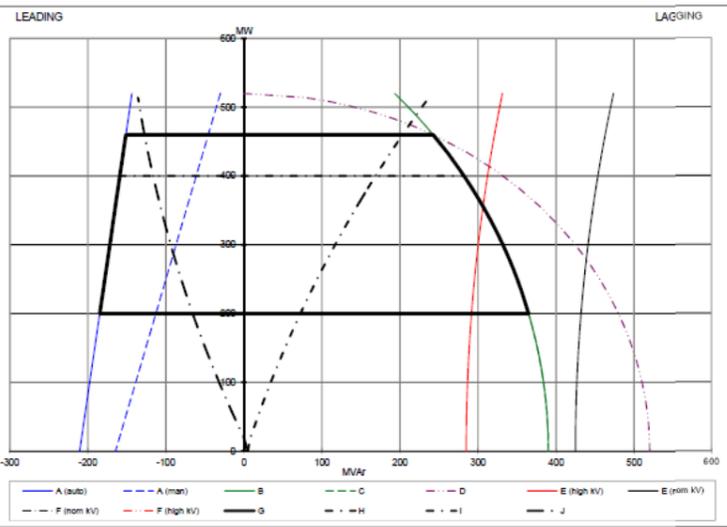
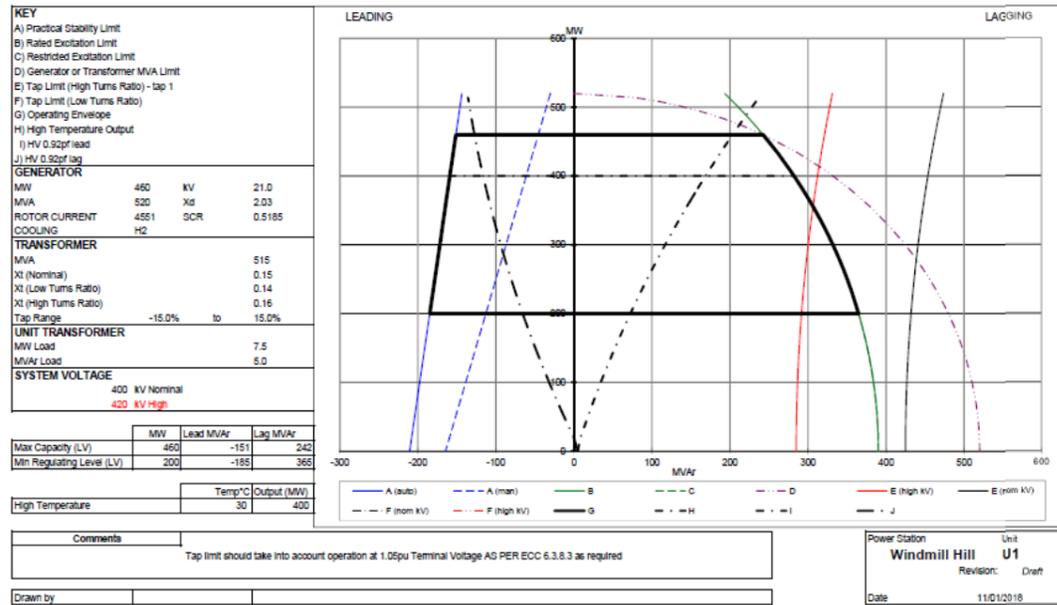


Comments	

Power Station Unit
Windmill Hill 2
LV CHART Revision: Draft
Date 11/01/2018

- OC2.A.2.3 De-Synchronising Interval
A fixed value **De-Synchronising** interval between **Gensets** within a **Synchronising Group**.
- OC2.A.2.4 Synchronising Generation
The amount of MW produced at the moment of **Synchronising** assuming the **Generating Unit** has been **Shutdown** for 48 hours.
- OC2.A.2.5 Minimum Non-zero time (MNZT)
The minimum period on-load between **Synchronising** and **De-Synchronising** assuming the **Generating Unit** has been **Shutdown** for 48 hours.
- OC2.A.2.6 Run-Up rates
A run-up characteristic consisting of up to three stages from **Synchronising Generation** to **Output Useable** with up to two intervening break points assuming the **Generating Unit** has been **Shutdown** for 48 hours.
- OC2.A.2.7 Run-down rates
A run-down characteristic consisting of up to three stages from **Output Useable** to **De-Synchronising** with breakpoints at up to two intermediate load levels.
- OC2.A.2.8 Notice to Deviate from Zero (NDZ)
The period of time normally required to **Synchronise** a **Generating Unit** following instruction from **The Company** assuming the **Generating Unit** has been **Shutdown** for 48 hours.
- OC2.A.2.9 Minimum Zero time (MZT)
The minimum interval between **De-Synchronising** and **Synchronising** a **Generating Unit**.
- OC2.A.2.10 Gas Turbine Units loading parameters
 - Loading rate for fast starting
 - Loading rate for slow starting

Synchronous Generating Unit Performance Chart within a Synchronous Power Generating Module



GENERATOR PERFORMANCE CHART

- KEY**
 A) Practical Stability Limit
 B) Rated Excitation Limit
 C) Restricted Excitation Limit
 D) Generator or Transformer MVA Limit
 E) Tap Limit (High Turns Ratio) - tap 1
 F) Tap Limit (Low Turns Ratio)
 G) Operating Envelope
 H) High Temperature Output

GENERATOR
 MW 500.0 kV 22.0
 MVA 588.0 Xd 2.10
 PF 0.85 SCR 0.52
 COOLING H2 & H2O Rotor Current 3900

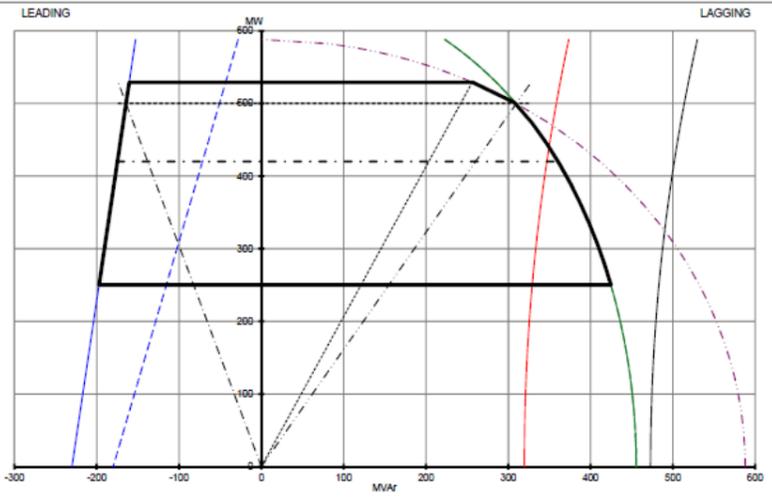
TRANSFORMER
 MVA 600
 Xt (Nominal) 0.160
 Xt (Low Turns Ratio) 0.155
 Xt (High Turns Ratio) 0.170
 Tap Range -15.0% to 15.0%

UNIT TRANSFORMER
 MW Load 15.0
 MVA Load 12.5

SYSTEM VOLTAGE
 400 kV Nominal
 420 kV High

MW	Lead (MVA)	Lag (MVA)
Rated MW (LV)	500	-164
Full Output (LV)	529	-181
Min Output (LV)	250	-197
Rated MW (HV)	485	-248
Min Gen (HV)	238	-236

Temp°C	LV Output (MW)
Low Temperature	0
Site Conditions	10
High Temperature	30



— A (auto) - - - A (man) — B - - - C - - - D — E (high KV) - - - E (nom KV) - - - F (nom KV)
- - - F (high KV) — G - - - H - - - Rated Line - - - 0.95pf lead - - - 0.85pf lag - - - 0.90pf lag

Comments

Drawn by:

Power Station Unit
Windmill Hill 2
 LV CHART Revision: Draft
 Date 11/01/2018

Synchronous Generating Unit Performance Chart within a Synchronous Power Generating Module

- KEY**
 A) Practical Stability Limit
 B) Rated Excitation Limit
 C) Restricted Excitation Limit
 D) Generator or Transformer MVA Limit
 E) Tap Limit (High Turns Ratio) - tap 1
 F) Tap Limit (Low Turns Ratio)
 G) Operating Envelope
 H) High Temperature Output
 I) HV 0.92pf lead
 J) HV 0.92pf lag

GENERATOR
 MW 460 kV 21.0
 MVA 520 Xd 2.03
 ROTOR CURRENT 4551 SCR 0.5185
 COOLING H2

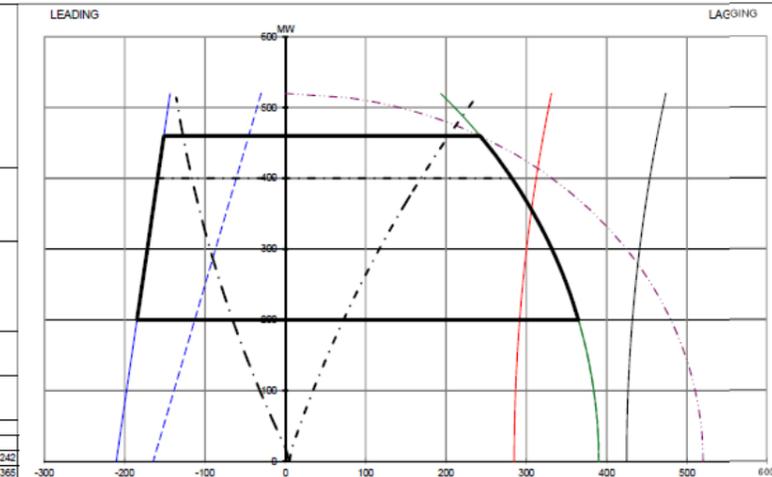
TRANSFORMER
 MVA 515
 Xt (Nominal) 0.15
 Xt (Low Turns Ratio) 0.14
 Xt (High Turns Ratio) 0.16
 Tap Range -15.0% to 15.0%

UNIT TRANSFORMER
 MW Load 7.5
 MVA Load 5.0

SYSTEM VOLTAGE
 400 kV Nominal
 420 kV High

MW	Lead MVA	Lag MVA
Max Capacity (LV)	460	-151
Min Regulating Level (LV)	200	-185

Temp°C	Output (MW)
High Temperature	30



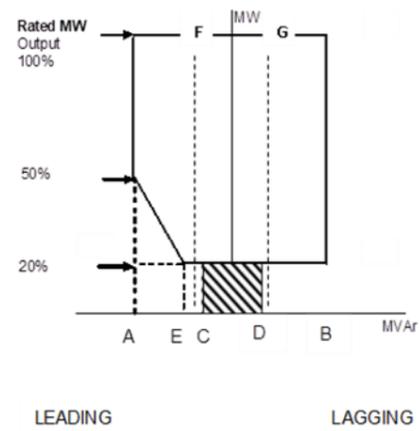
— A (auto) - - - A (man) — B - - - C - - - D — E (high KV) - - - E (nom KV)
- - - F (nom KV) - - - F (high KV) — G - - - H - - - I - - - J

Comments
 Tap limit should take into account operation at 1.05pu Terminal Voltage AS PER ECC 6.3.8.3 as required

Drawn by:

Power Station Unit
Windmill Hill U1
 LV CHART Revision: Draft
 Date 11/01/2018

POWER PARK MODULE PERFORMANCE CHART AT THE CONNECTION POINT OR USER'S SYSTEM ENTRY POINT



- Point A is equivalent (in MVAR) to: 0.95 leading Power Factor at Rated **MW** output
- Point B is equivalent (in MVAR) to: 0.95 lagging Power Factor at Rated **MW** output
- Point C is equivalent (in MVAR) to: -5% of Rated **MW** output
- Point D is equivalent (in MVAR) to: +5% of Rated **MW** output
- Point E is equivalent (in MVAR) to: -12% of Rated **MW** output
- Line F is equivalent (in MVAR) to: Leading **Power Factor Reactive Despatch Network Restriction**
- Line G is equivalent (in MVAR) to: Lagging **Power Factor Reactive Despatch Network Restriction**

Where a **Reactive Despatch Network Restriction** is in place which requires following of local voltage conditions, alternatively to Line F and G, please check this box

APPENDIX 2 - GENERATION PLANNING PARAMETERS

- OC2.A.2 Generation Planning Parameters
The following parameters are required in respect of each **Genset**.
- OC2.A.2.1 Regime Unavailability
Where applicable the following information must be recorded for each **Genset**.
 - Earliest synchronising time:
 - Monday
 - Tuesday to Friday
 - Saturday to Sunday

OC2 APPENDIX 2 – PLANNING MATRIX FOR GENERATING UNITS

Power Generating MODULE	CCGT GENERATING UNITS AVAILABLE								
	1st GT	2nd GT	3rd GT	4th GT	5th GT	6th GT	1st ST	2nd ST	3rd ST
OUTPUT USEABLE	OUTPUT USEABLE								

<p>- Latest de-synchronising time: Monday to Thursday Friday Saturday to Sunday</p>													
<p>OC2.A.2.2 <u>Synchronising Intervals</u> (a) The synchronising interval between Gensets in a Synchronising Group assuming all Gensets have been Shutdown for 48 hours; (b) The Synchronising Group within the Power Station to which each Genset should be allocated.</p>		<p style="text-align: center;">MW</p>											
		<p style="text-align: center;">0MW to 150MW</p>											
		<p style="text-align: center;">151MW to 250MW</p>											
		<p style="text-align: center;">251MW to 300MW</p>											
		<p style="text-align: center;">301MW to 400MW</p>											
		<p style="text-align: center;">401MW to 450MW</p>											
		<p style="text-align: center;">451MW to 550MW</p>											
<p>OC2.A.2.3 <u>De-Synchronising Interval</u> A fixed value De-Synchronising interval between Gensets within a Synchronising Group.</p>													
<p>OC2.A.2.4 <u>Synchronising Generation</u> The amount of MW produced at the moment of Synchronising assuming the Genset has been Shutdown for 48 hours.</p>													
<p>OC2.A.2.5 <u>Minimum Non-zero time (MNZT)</u> The minimum period on-load between Synchronising and De-Synchronising assuming the Genset has been Shutdown for 48 hours.</p>													
<p>OC2.A.2.6 <u>Run-Up rates</u> A run-up characteristic consisting of up to three stages from Synchronising Generation to Output Usable with up to two intervening break points assuming the Genset has been Shutdown for 48 hours.</p>													
<p>OC2.A.2.7 <u>Run-down rates</u> A run down characteristic consisting of up to three stages from Output Usable to De-Synchronising with breakpoints at up to two intermediate load levels.</p>													
<p>OC2.A.2.8 <u>Notice to Deviate from Zero (NDZ)</u> The period of time normally required to Synchronise a Genset following instruction from The Company assuming the Genset has been Shutdown for 48 hours.</p>													
<p>OC2.A.2.9 <u>Minimum Zero time (MZT)</u> The minimum interval between De-Synchronising and Synchronising a Genset.</p>													
<p>OC2.A.2.10 Not used.</p>													

OC2.A.2.11 Gas Turbine Units loading parameters

- Loading rate for fast starting
- Loading rate for slow starting

APPENDIX 3 - CCGT MODULE PLANNING MATRIX

CCGT Module Planning Matrix Example Form

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

OC2 APPENDIX 3 – POWER PARK MODULE PLANNING MATRIX

Power Park Module Planning 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				

< END OF OPERATING CODE NO. 2 >

451MW to 550MW	/	/	/				/		
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APPENDIX 4 - POWER PARK MODULE PLANNING MATRIX

Power Park Module Planning 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				

The **Power Park Module Planning 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**.

APPENDIX 5 – SYNCHRONOUS POWER GENERATING MODULE PLANNING MATRIX

Synchronous Power Generating Module Planning Matrix Example Form

SYNCHRONOUS POWER	SYNCHRONOUS POWER GENERATING UNITS AVAILABLE							

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

< END OF OPERATING CODE NO. 2 >
