

| Grid Code - Operating Code No.2 (Operational Planning and Data Provision) | | |
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| Comparison of Current and Proposed New Legal Text | | |
| Current Text | | Proposed New Text |
| OC2.1 | <u>INTRODUCTION</u> | OC2.1 Introduction |
| OC2.1.1 | <p>Operating Code No. 2 ("OC2") is concerned with:</p> <ul style="list-style-type: none"> (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; (b) provision by The Company of the Surplus for the National Electricity Transmission System; (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 (d) the agreement for release of Existing Gas Cooled Reactor Plant for outages in certain circumstances. (e) the co-ordination of outages on Plant and Apparatus necessary for the operation of RestorationPlans. | <p>OC2.1.1 The objectives of OC2 are:</p> <ul style="list-style-type: none"> a) To facilitate the co-ordination of Planned Outages of the NETS and Users' Plant and Apparatus. b) To enable The Company to: <ul style="list-style-type: none"> i. publish the NETS Surplus; ii. establish the level of System Negative Reserve Active Power Margin (NRAPM); iii. plan the deployment of Frequency Sensitive Mode; iv. establish Operating Margin parameters; and v. agree for release of Existing Gas Cooled Reactor Plant for outages in certain circumstances. c) To enable the co-ordination of outages on Plant and Apparatus necessary for the operation of the System Restoration Plan. |
| OC2.1.2 | <ul style="list-style-type: none"> (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. (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:- <ul style="list-style-type: none"> 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>OC2.1.2 Operational Planning considers matching generation output with forecast NETS Demand and Interconnector flows in order to maintain a reserve of generation output 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 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>OC2.1.5 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> |

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| | <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> | 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 . |
| OC2.1.3 | 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. | OC2.1.8 | 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 |
| OC2.1.4 | 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. | 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 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. |
| OC2.1.5 | 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. | | |
| OC2.1.6 | 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. | | |
| OC2.1.7 | 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. | | |
| 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 . 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. | | |
| OC2.2 | <u>OBJECTIVE</u> | | |
| OC2.2.1 | (a) 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 . | | |

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| <p>(b)</p> <p>OC2.2.2</p> <p>OC2.2.3</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 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> | |
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| <p>OC2.3</p> <p>OC2.3.1</p> <p>OC2.3.2</p> <p>OC2.3.3</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>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>OC2.4.1.2.1</p> <p>OC2.4.1.3.2 (a)</p> <p>OC2.4.1.3.2 (b)</p> <p>OC2.4.1.3.3</p> <p>OC2.4.2.1 (a)</p> <p>For the purpose of OC2 only, the term Output Usable shall include the terms Interconnector Export Capacity and Interconnector Import Capacity where the term Output Usable is being applied to an External Interconnection.</p> | <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>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 OC2. (OC2.3.1.2, OC2.3.1.3.2 a), OC2.3.1.3.2 b), OC2.3.1.3, OC2.3.2.1 a)</p> |

| OC2.4 <u>PROCEDURE</u> | | OC2.3 PROCEDURE | |
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| OC2.4.1 <u>Co-ordination of Outages</u> | | OC2.3.1 Co-ordination of Outages | |
| OC2.4.1.1 Under OC2 the interaction between The Company and Users will be as follows: | | OC2.3.1.1 OC2 makes provision for information exchange between the following parties: | |
| (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 ; | a) Each Generator and each Interconnector Owner and The Company | In respect of outages of generating Plant , External Interconnection Circuits , and/or Apparatus directly connected to the NETS . |
| (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 ; | b) The Company and each Generator and each Interconnector Owner | In respect of NETS outages relevant to the Generator and/or Interconnector Owner . |
| (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 ; | c) The Company and each Network Operator | In respect of outages of all Embedded Large Power Stations and related Plant and Apparatus . |
| (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 ; | 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 . |
| (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: <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. | 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: <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. |

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| OC2.4.1.2 | <p><u>Data Provision of Output Usable of Power Generating Modules, Generating Units, External Interconnection Circuits and Power Park Modules and the Publication of National Surplus.</u></p> | OC2.3.1.2 | <p><u>Provision of Output Usable data of generating Plant and External Interconnection Circuits, and the publication of Surplus.</u></p> |
| OC2.4.1.2.1 | <p>In the event that:</p> <ul style="list-style-type: none"> 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 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 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>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>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> | OC2.3.1.2.1 | <p>If a Generator, Interconnector Owner, or Restoration Contractor referred to in OC2.2.1 f) where applicable:</p> <ul style="list-style-type: none"> 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. 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. c) experiences any unplanned change to the availability of generating Plant or External Interconnection Circuits or makes a future plan which would affect the availability of that 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. |
| | | OC2.3.1.2.2 | <p>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 must also be provided at the same time. For those Generators, Interconnector Owners and/or Restoration Contractor subject to Assimilated EU Law (Commission Regulation (EU) 543/2013) the revised data must be provided within 1 hour of planning the availability change.</p> |
| | | OC2.3.1.2.3 | <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> |
| | | OC2.3.1.2.4 | <p>Restoration Contractors referred to in OC2.2.1 f) which are subject to either a planned or an unplanned change in availability, shall provide the data within 1 hour of planning the availability change, or of the unplanned change in availability.</p> |
| | | OC2.3.1.2.5 | <p>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 clarification on their Output Usable submissions.</p> |

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| <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> | |
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| <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); 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); <p>with daily resolution, for at least the peak Demand of each day for 2 day-ahead to 14 day-ahead time scope, and</p> <p>with weekly resolution, for at least peak Demand of each week for 2 week-ahead up to 3 year-ahead time scope.</p> <p>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.</p> | <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>a) having taken into account the information notified to it by Generators and Interconnector Owners and Restoration Contractor as provided for in OC2.2.1f) via the process defined in OC2.3.1.2.1 and taking into account:</p> <ol style="list-style-type: none"> i. Demand forecasts and details of proposed use of Demand Control received under OC1, and an Operational Planning Margin requirement set by The Company, ii. NETS constraints and outages, iii. Network Operator System constraints and outages, known to The Company, and iv. 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 OC2.2.1 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 shall 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>b) calculate and submit to BMRA:</p> <ol style="list-style-type: none"> i. total generating Output Usable from Generating Units assumed to be available to the Total System (National Output Usable); ii. generating Output Usable by fuel type from Generating Units assumed to be available to the Total System (Output Usable by fuel type); iii. generating Output Usable by individual Generating Units assumed to be available to the Total System (Output Useable by Generating Unit); iv. total Generating Plant Demand Margin assumed to be available to the Total System (This is sometimes referred to as the National Margin); v. total generating Surplus assumed to be available to the Total System (this is sometimes referred to as the National Surplus) <p>with daily resolution, for at least the peak Demand of each day for 2 day-ahead to 14 day-ahead time scope, and</p> <p>with weekly resolution, for at least peak Demand of each week for 2 week-ahead up to 3 year-ahead time scope.</p> <p>Information from the calculations referred to in OC2.3.1.2.6 under ii. shall 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.</p> <p>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.</p> |

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| <p>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.</p> <p>(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.</p> <p>(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.</p> <p>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.</p> <p>The Company will then consider the updated Output Usable and takes this into account in the next calculation and submission to BMRA.</p> <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>c) 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 shall then discuss the problem and seek to resolve it.</p> <p>d) 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 shall be determined at the time.</p> <p>Each Generator shall 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.</p> <p>The Company shall then consider the updated Output Usable and take this into account in the next calculation and submission to BMRA.</p> <p>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 NETS 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>OC2.3.1.3 <u>Planning of NETS 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 for maintenance, construction or refurbishment works.</p> <p>OC2.3.1.3.1 <u>Operational Planning Phase - Planning for Years 2 to 5 inclusive ahead</u></p> <p>The Company shall take into account NETS outages required for construction or refurbishment works. Maintenance is taken into account in Years 0-1 outage planning.</p> <p>The Company shall 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 planned 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> |

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.

OC2.4.1.3.2 In each calendar year:

(a) By the end of week 8

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**.

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.

(b) By the end of week 13

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

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.

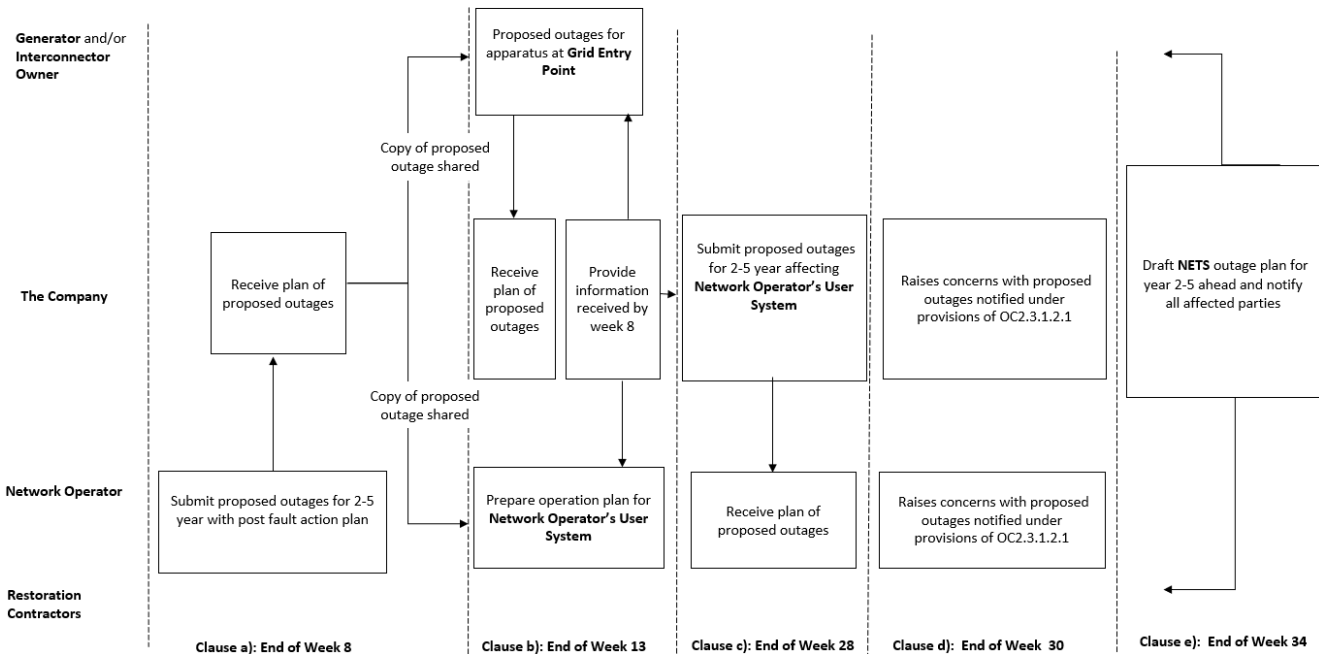
Provides information

Receives information

Do nothing

| | | | | | |
|--|---|---------------|---------------|------------|---------------|
| | By the end of week | | | | |
| Party | 8 | 13 | 28 | 30 | 34 |
| Generator and/or Interconnector Owner | Do nothing | Provides info | Receives info | Do nothing | Receives info |
| The Company | Receives info | Provides info | | | |
| Non-Embedded Customer | Do nothing | | | | |
| Network Operator | Provides info | Receives info | | | |
| Restoration Contractors as provided for in OC2.2.1f) | 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.



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**.

*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** shall 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 **User System** which 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 and 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** shall 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** shall 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 shall 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 OC2.3.1.2.6 (c) and (d) shall apply.

e. By the end of Week 34

The Company shall 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** shall also indicate where a need may exist to issue other relevant 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 retain the necessary security of the **NETS**.

OC2.4.1.3.3 Operational Planning Phase - Planning for Financial Year 1 ahead

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.

In each calendar year:

(a) By the end of week 13

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**.

(b) By the end of week 28

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**.

(c) By the end of week 32

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**.

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.

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.

(d) Between the end of week 32 and the end of week 34

OC2.3.1.4 Operational Planning Phase - Planning for Financial Year 1 ahead

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.

Key
 Provides information
 Receives information
 Do nothing

| | 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 | Provides info | Do nothing | | | Receives info | Provides info | Do nothing | Receives info |
| The Company | Receives info | Provides info | Receives info | Provides info | Receives info | Provides info | Provides info | |
| Non-Embedded Customer | Provides info | Receives info | Do nothing | | | | | Receives info |
| Network Operator | Do nothing | Receives info | Provides info | Do nothing | Receives info | Provides info | Do nothing | Receives info |
| Restoration Contractors as provided for in OC2.2.1(f) | Same as Generator and/or Interconnector Owner obligations | | | | | | | |

Figure 3: Overview of Operational Planning Phase – Planning for Financial Year 1 Ahead.

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**).

(e) By the end of week 34

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.

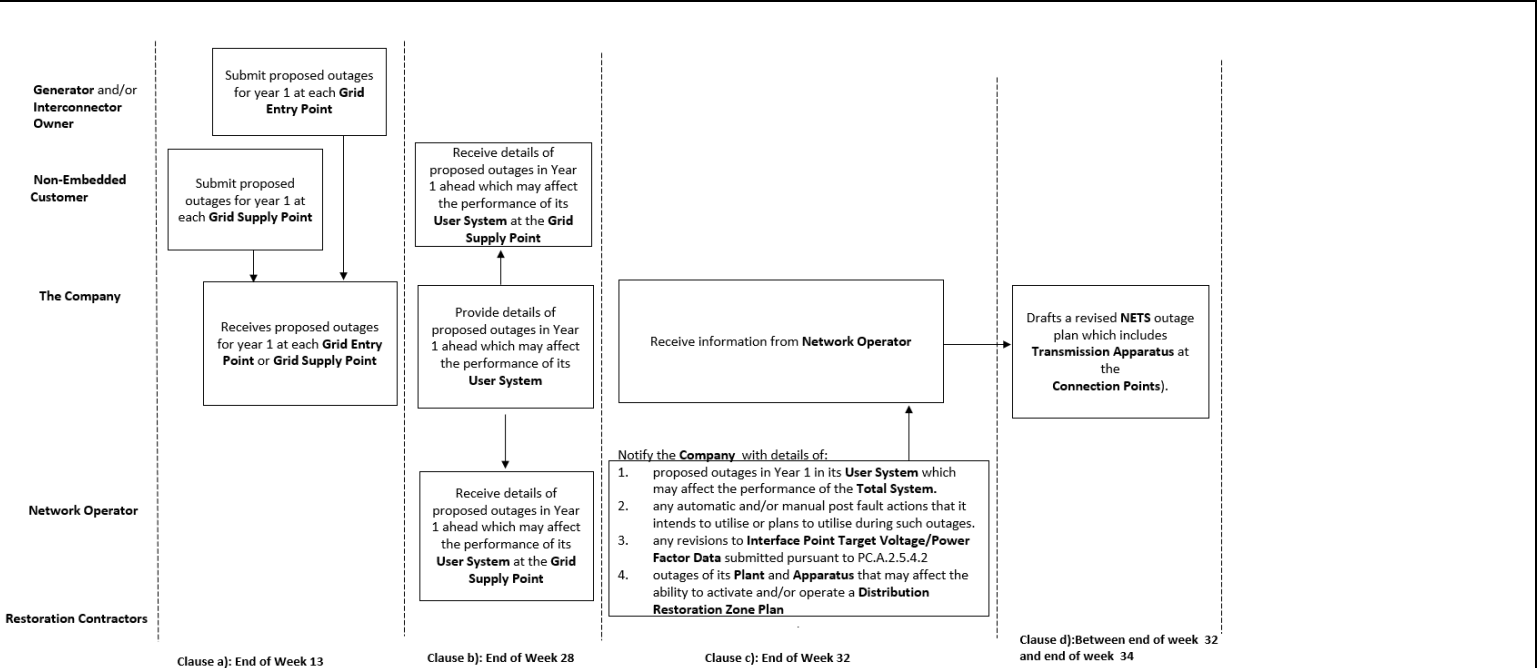


Figure 4: Overview of the Operational Planning Phase from end of Week 13 to end of Week 34.

In each calendar year:

a. By the end of week 13

Each **Generator** shall inform **The Company** of proposed outages for Year 1 of **Generator-owned Apparatus** (e.g., busbar selectors) at each **Grid Entry Point**. Each **Non-Embedded Customer** shall inform **The Company** of proposed outages for Year 1 of **Non-Embedded Customer owned Apparatus**, at each **Grid Entry Point**.

b. By the end of week 28

The Company shall 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** shall notify **The Company** of:

- 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 and any automatic and/or manual post fault actions that it intends to use or plans to use during such outages.
- iii. any revisions to **Interface Point Target Voltage/Power Factor** data submitted pursuant to PC.A.2.5.4.2.

(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**;
- (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**;

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

e. By the end of week 34

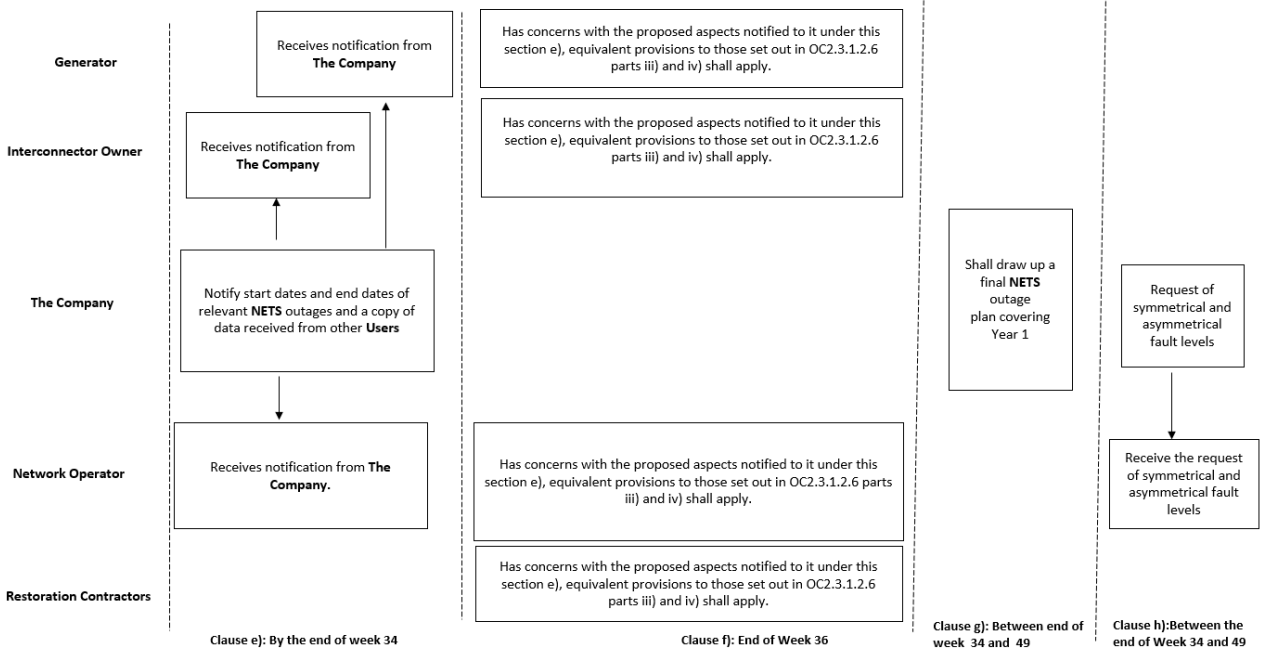


Figure 5: Overview of Obligations in Operational Planning Phase from end of Week 34 to end of Week 49.

The Company shall:

- i. Notify each **Generator**, **Interconnector Owner**, **Restoration Contractor** (as provided for in OC2.2.1f) 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 each **User** with 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 **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 (c) and (d) shall apply.

g. Between the end of week 34 and 49

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

- (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 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.

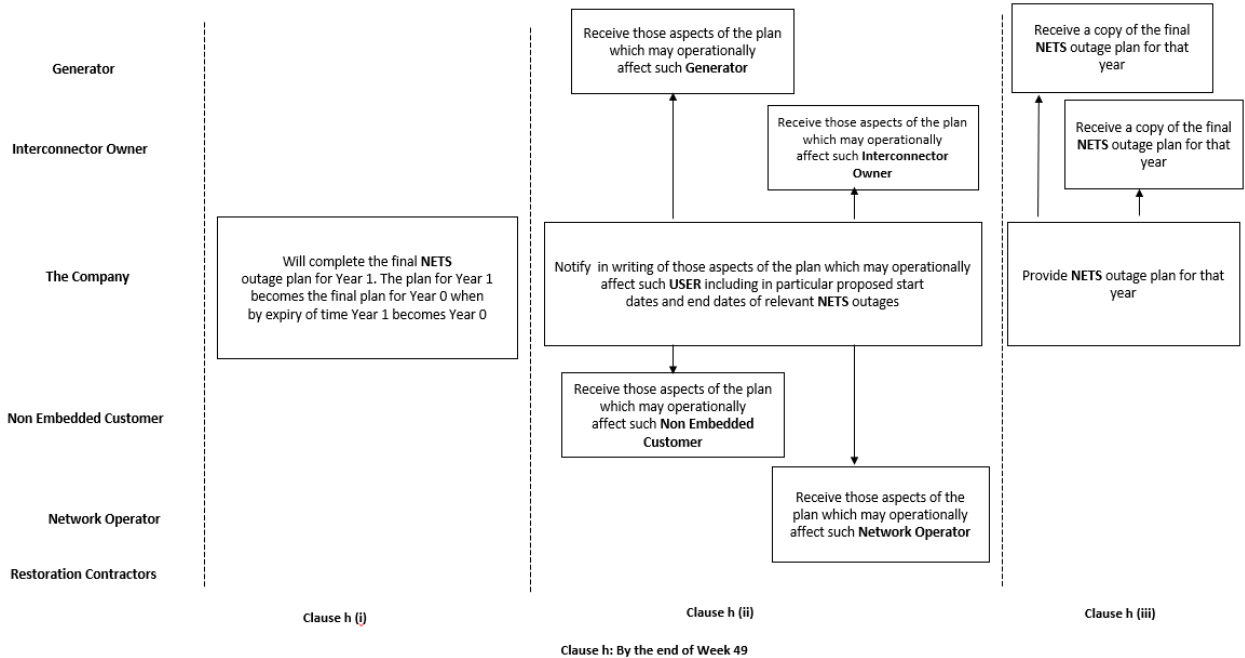


Figure 6: Overview of Obligations in Operational Planning Phase by the end of Week 49.

h. By the end of week 49

- (i) **The Company** shall 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** shall 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 proposed start dates and end dates of relevant **NETS** outages.
 - 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 retain the necessary security of the **NETS**.
- (iii) In addition, **The Company** shall 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 **System** conditions in real time may have an impact on the plan.

i. Information Release or Exchange

This paragraph i) contains requirements on **The Company**, paragraph iii.) being an alternative to a combination of paragraphs i. and ii. Paragraph iii. shall only apply in relation to a particular **User** if **The Company** and that **User** agree that paragraphs i. and ii.

apply. Without any such agreement **The Company** shall only be required to comply with paragraphs i.) and ii.) in the section below

Information Provision to Each Network Operator and Non-Embedded Customer

Between the end of week 34 and the end of Week 49 **The Company** shall 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
- (c) as part of a process to facilitate understanding of the operation of the **Total System**,
 1. **The Company** shall 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 access shall 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** shall 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 different. **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** shall 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 i). **The Company** shall 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.

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)

(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.

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:-

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 | Provides info | Receives info | |
| The Company | Receives Info | | Provides info |
| Non-Embedded Customer | Provides info | Receives Info | |
| Network Operator | | Do nothing | Receives info |
| Restoration Contractors as provided for in OC2.2.1(f) | Same as Generator and/or Interconnector Owner obligations | | |

Figure 7: Overview of Operational Planning Phase - Planning in 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 the passage of time Year 1 becomes Year 0.

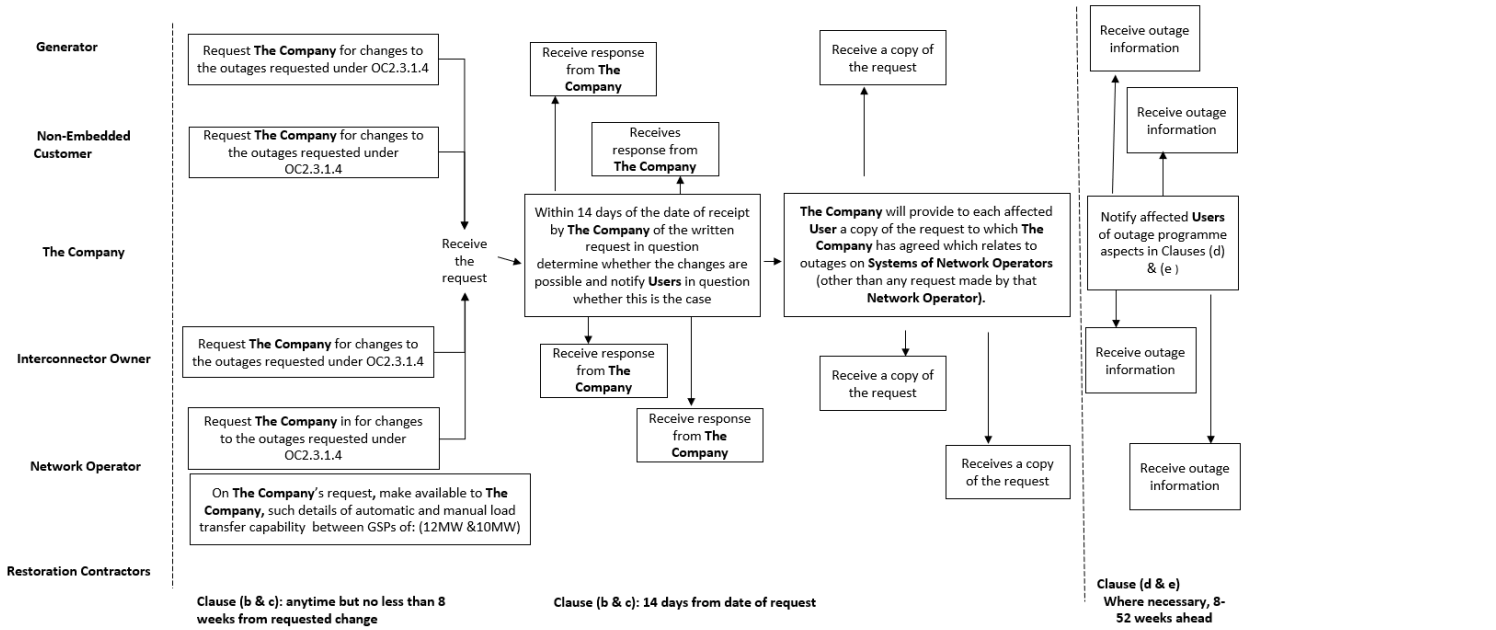


Figure 8: Overview of Obligations in Operational Planning Phase Year 0

(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-

| | |
|--|--|
| <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>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.</p> <p>(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.</p> | <p>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.</p> <p>Where The Company determines that the requested change is possible and notifies the relevant User accordingly, The Company shall provide to each User a copy of the request to which The Company has agreed which relates to outages on Network Operator's User System.</p> <p>(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:</p> <p>i. 12MW or more (averaged over any half hour) for England and Wales</p> <p>ii. 10MW or more (averaged over any half hour) for Scotland</p> <p>between Grid Supply Points.</p> <p>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 Grid Supply Points as soon as reasonably practicable after the Network Operator becomes aware of the need to make such revisions.</p> <p>(d) When necessary, during Year 0, The Company shall 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.</p> <p>The Company shall 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: -</p> <p>(i) The Company shall, 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.</p> <p>(ii) The Company shall 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 shall then make available the iupdated NETS Study Network Data Files covering the remaining balance of Year 0.</p> <p>(iii) The provisions of OC2.3.1.4. i) iii.2, 3 and 5 shall also apply to the provision of data under this part of OC2.3.1.5 d).</p> <p>The Company shall 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.</p> <p>(e) In addition, by the end of each month during Year 0, The Company shall 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.</p> |
| OC2.4.1.3.5 <u>Programming Phase</u> | OC2.3.1.6 <u>Programming Phase</u> |

(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:

- (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:



| | Programming Phase |
|--|-----------------------------|
| Party | By 1600 hours each Thursday |
| Generator and/ or Interconnector Owner | Receives info |
| The Company | Provides info |
| Non-embedded Customer | Receives info |
| Network Operator | Receives info |

Figure 9: Overview of Programming Phase

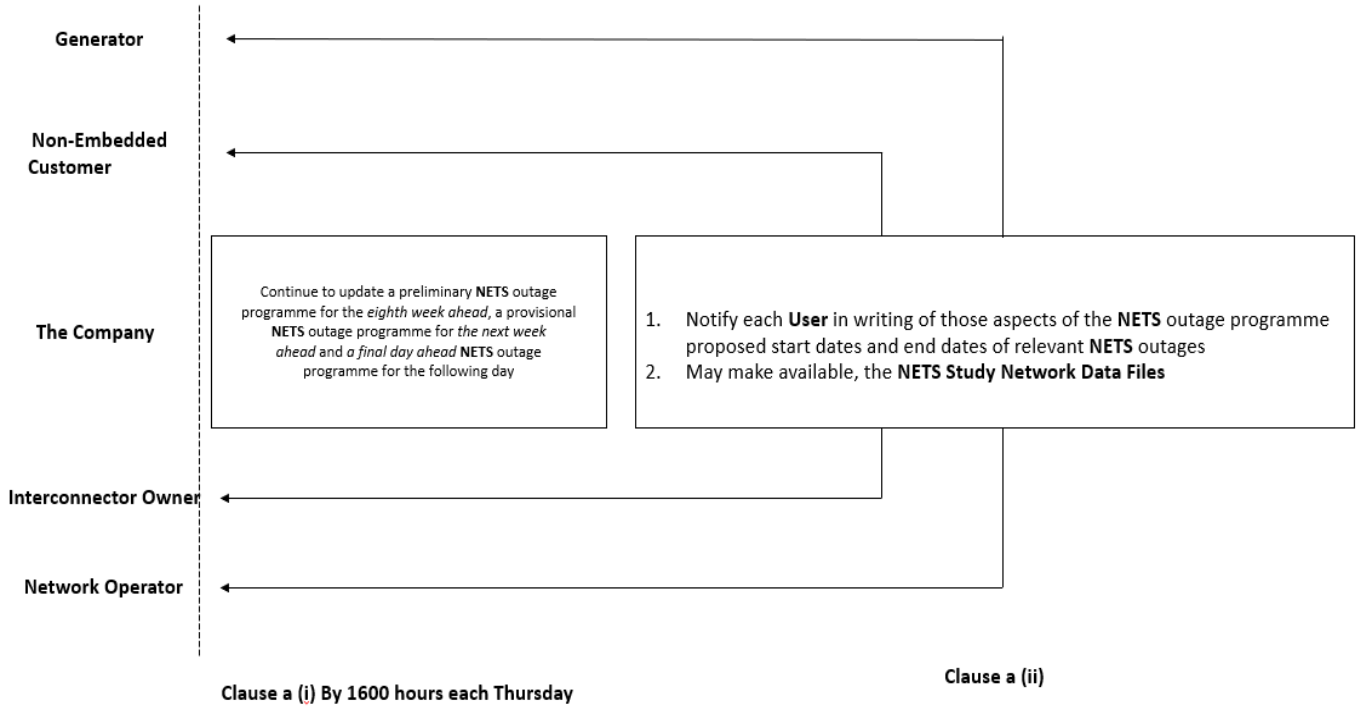


Figure 10: Overview of obligations in the Programming Phase by 1600 hours each Thursday

(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 .

| | |
|---|--|
| <p>(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</p> <p>(ii) any changes to the previously declared values of the Interface Point Target Voltage/Power Factor.</p> <p>(c) <u>By 1600 hours each Friday</u></p> <p>(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.</p> <p>(ii) The Company shall finalise the provisional National Electricity Transmission System outage programme for the next week ahead.</p> <p>(iii) The Company shall finalise the National Electricity Transmission System 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 (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>(ii) The Company shall 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.</p> <p>The Company shall also notify changes to information supplied by The Company pursuant to OC2.3.1.4 i 1 and 2 except where in relation to a User information was supplied pursuant to OC2.3.1.4 i.3. In that latter case:</p> <ol style="list-style-type: none"> 1. The Company shall, by way of update of the information supplied by it pursuant to OC2.3.1.4 i. 3, make available the NETS Study Network Data Files for the next week ahead. 2. The Company shall 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 OC2.3.1.6. a) ii. as if set out in full. <p>The Company may make available, the NETS Study Network Data Files for the next week ahead where The Company and a particular User agree.</p> <p>The Company shall 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 (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.</p> <p>(c) <u>By 1000 hours each Friday</u></p> <p>Users shall discuss with The Company and confirm to The Company acceptance or otherwise of the requirements detailed under OC2.3.1.6</p> <p>Network Operators shall confirm for the following week:</p> <ol style="list-style-type: none"> 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 System for the following week; and ii. any changes to the previously declared values of the Interface Point Target Voltage/Power Factor. <p>(d) <u>By 1600 hours each Friday</u></p> <ol style="list-style-type: none"> i. The Company shall finalise the preliminary NETS outage programme up to the seventh week ahead. The Company shall 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 NETS outage programme for the next week ahead. iii. The Company shall finalise the NETS outage programme for the weekend through to the next normal working day. iv. In each case, The Company shall indicate the factors set out in (b)(ii) above to the relevant Users. 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 |
|---|--|

| | |
|---|--|
| | <p>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>OC2.4.2.1 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,</p> <p>(a) each Generator shall (subject to OC2.4.2.1(k)) in respect of each of its:-</p> <ul style="list-style-type: none"> (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) <p>submit to The Company in writing the Generation Planning Parameters and the Generator Performance Charts as required.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(e) Any changes to the Generator Performance Chart or Generation Planning Parameters should be notified to The Company promptly.</p> <p>(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.</p> <p>(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.</p> | <p>OC2.3.2 Data Requirements</p> <p>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,</p> <p>(a) each Generator shall (subject to OC2.3.2.1 j)) in respect of each of its Gensets submit to The Company in writing the Generation Planning Parameters and the Generator Performance Charts as required.</p> <p>(b) The Generation Planning Parameters and the Generator Performance Chart(s) shall reasonably reflect the true operating characteristics of the Genset 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).</p> <p>(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.</p> <p>(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 G of the Planning Code.</p> <p>(e) Any changes to the Generator Performance Chart or Generation Planning Parameters should be notified to The Company as soon as the Generator becomes aware of the issue and are able to notify The Company through the necessary communication channels.</p> <p>(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.</p> <p>(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.</p> <ul style="list-style-type: none"> (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. |

- (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).
- (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).

- (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).
- (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 **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 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 OC2.3.2.1 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**).

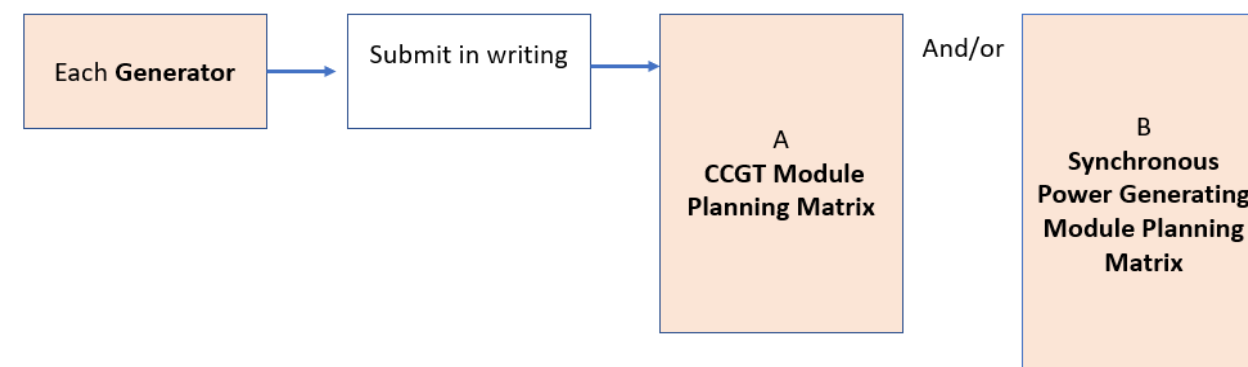


Figure 11: Types of Planning Matrices to be submitted by each Generator to The Company

- (j) Each **Generator** shall in respect of each of its **Synchronous Power Generating Modules** or **CCGT 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 shall 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

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| <p>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.</p> <p>(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.</p> <p>(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.</p> <p>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).</p> <p>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.</p> <p>(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.</p> <p>In the case of Restoration Contractors (as provided for in OC2.3.1(f)) who are Generators, it would expected that the above data required in OC2.4.2.1 (a) – (m) would apply.</p> <p>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.</p> <p>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.</p> | <p>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 G of the Planning Code.</p> <p>The CCGT Module Planning Matrix or Synchronous Power-Generating Module Planning Matrix shall be used by The Company for operational planning purposes only and not in connection with the operation of the Balancing Mechanism.</p> <p>(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.</p> <p>(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.</p> <div data-bbox="1596 667 2525 814"> <pre> graph LR A[Each Generator] --> B[Submit in writing to The Company] B --> C[A Power Park Module Planning Matrix for each Power Park Module] B --> D[B A graph showing variation in MW output within Intermittent Power Source for that Power Park Module] B --> E[C In case an amendment is made in accordance with PCA.3.2.4) an updated Power Park Module Planning Matrix] </pre> </div> <p>Figure 12: Types of Planning Matrices and Graph to be Submitted by each Generator to The Company.</p> <p>Each Generator submission shall:</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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</p> <p>(v) Be used by The Company for operational planning purposes only and not in connection with the operation of the Balancing Mechanism.</p> <p>(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.</p> <p>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.</p> |
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| <p>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.</p> | <p>OC2.3.2.2 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</p> <p>OC2.3.2.3 Under Assimilated 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>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 shall, 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> <ol style="list-style-type: none"> a) 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 b) 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 shall contact Generators and Interconnector Owners to discuss outages as set out in the following paragraphs of this OC2.3.3.2. (b) The Company shall contact all Generators and Interconnector Owners in the case of low System NRAPM or low Localised NRAPM. The Company shall liaise with each Generator |

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| <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>(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:</p> <p>(1) whether any change is possible to the estimate of Genset inflexibility; and</p> <p>(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).</p> <p>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.</p> <p>(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.</p> <p>(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:-</p> <p>(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.</p> <p>(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.</p> | <p>and Interconnector Owner the problems it is anticipating due to the low System NRAPM or Localised NRAPM and shall discuss:</p> <p>i. whether any change is possible to the estimate of generating Plant</p> <p>ii. inflexibility and whether generating Plant or External Interconnection outages can be taken to coincide with the periods of low System NRAPM or Localised NRAPM.</p> <p>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.</p> <p>(c) If agreement is reached with a Generator or an Interconnector Owner, then the Generator or Interconnector Owner may take such outage, as agreed with The Company, and the Generator or Interconnector Owner shall update its Output Useable via the data provision process defined in OC2.3.1.2.1. The Company shall process the updated data which will then be included in the next published update of the System NRAPM and/or Localised NRAPM.</p> <p>(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, shall reflect those in the operational plans for the next following Operational Day or shall, 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 shall not other than as provided for below instruct to De-Synchronise any generating Plant within an Existing Gas Cooled Reactor Plant.</p> <p>BC2 further provides that: -</p> <p>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.</p> <p>ii. The Company shall 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> |
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| OC2.4.4 | <p><u>FREQUENCY SENSITIVE OPERATION</u></p> <p><u>By 1600 hours each Wednesday</u></p> | <h3>OC2.3.4 Frequency Sensitive Operation</h3> <div><p>Key</p><div><div></div>Provides information</div><div><div></div>Receives information</div><div><div></div>Do nothing</div></div> <table><tr><td>Party</td><td>By 1600 hours each Wednesday</td><td></td><td></td></tr><tr><td>Generator</td><td></td><td></td><td>Receives info</td></tr><tr><td>The Company</td><td colspan="3">Provides info</td></tr><tr><td>Non-Embedded Customer</td><td colspan="3">Do nothing</td></tr><tr><td>Network Operator</td><td colspan="3">Do nothing</td></tr></table> <p>Figure 13: Overview of Obligations during Frequency Sensitive Operation</p> <div><div><div>Generator</div><div>Interconnector Owner</div><div>The Company</div><div>Non-Embedded Customer</div><div>Network Operator</div></div><div><div><div>OC2.3.4.1</div><div>Shall consider forecast Demand, any estimates provided by Generators of Genset inflexibility and anticipated plant mix relating to operation in Frequency Sensitive Mode</div></div><div><div>Shall;</div><div><div>determine for the period 2 to 7 weeks ahead (inclusive) whether it is possible that there will be insufficient Gensets to operate in Frequency Sensitive Mode for all or any part of that period</div><div>determine how many MW are required to take outages to enable replacement by other Gensets which can operate in a Frequency Sensitive Mode</div></div></div></div><div><div><div>OC2.3.4.2</div><div>Existing Gas Cooled Reactor Plant other than Frequency Sensitive AGR Units and Power Park Modules which were in operation before 1 January 2006 and owned and/or operated by GB Generators may operate in Limited Frequency Sensitive Mode at all times as explained in (BC3.5.3)</div></div><div><div><div>OC2.3.4.3</div><div>If foresees that there will be an insufficiency in Gensets operating in a Frequency Sensitive Mode, shall contact Generators to agree that all or some Gensets (the Gensets involved being determined by the Generator) will take outages to coincide with such period as specified to enable replacement by other Gensets which can operate in a Frequency Sensitive Mode.</div><div>If agreement is not reached, then the provisions of BC2.9.5 may apply</div></div><div><div>Negotiate and take agreed outages</div></div></div></div></div> | | Party | By 1600 hours each Wednesday | | | Generator | | | Receives info | The Company | Provides info | | | Non-Embedded Customer | Do nothing | | | Network Operator | Do nothing | | |
|-----------------------|--|---|---------------|-------|------------------------------|--|--|-----------|--|--|---------------|-------------|---------------|--|--|-----------------------|------------|--|--|------------------|------------|--|--|
| Party | By 1600 hours each Wednesday | | | | | | | | | | | | | | | | | | | | | | |
| Generator | | | Receives info | | | | | | | | | | | | | | | | | | | | |
| The Company | Provides info | | | | | | | | | | | | | | | | | | | | | | |
| Non-Embedded Customer | Do nothing | | | | | | | | | | | | | | | | | | | | | | |
| Network Operator | Do nothing | | | | | | | | | | | | | | | | | | | | | | |

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| | <div>By 1600 hours each Wednesday</div> <div>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.</div> <div>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.</div> <div>OC2.3.4.3 If The Company foresees that there will be an insufficiency in generating Plant operating in a Frequency Sensitive Mode, it shall 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) shall 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 shall take such outage as agreed with The Company. If agreement is not reached, then the provisions of BC2.9.5 May apply.</div> |
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| OC2.4.6 | <u>OPERATING MARGIN DATA REQUIREMENTS</u> |
| OC2.4.6.1 | <div><u>Modifications to relay settings</u></div> <div>'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.</div> <div><div>By 1600 hours each Wednesday</div><div>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.</div></div> |

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**

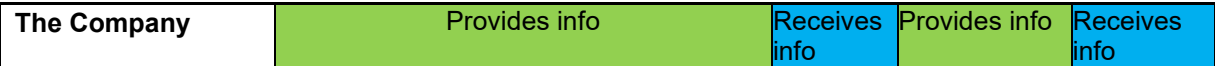


Figure 15: Overview of obligations under Operating Margin Data Requirements

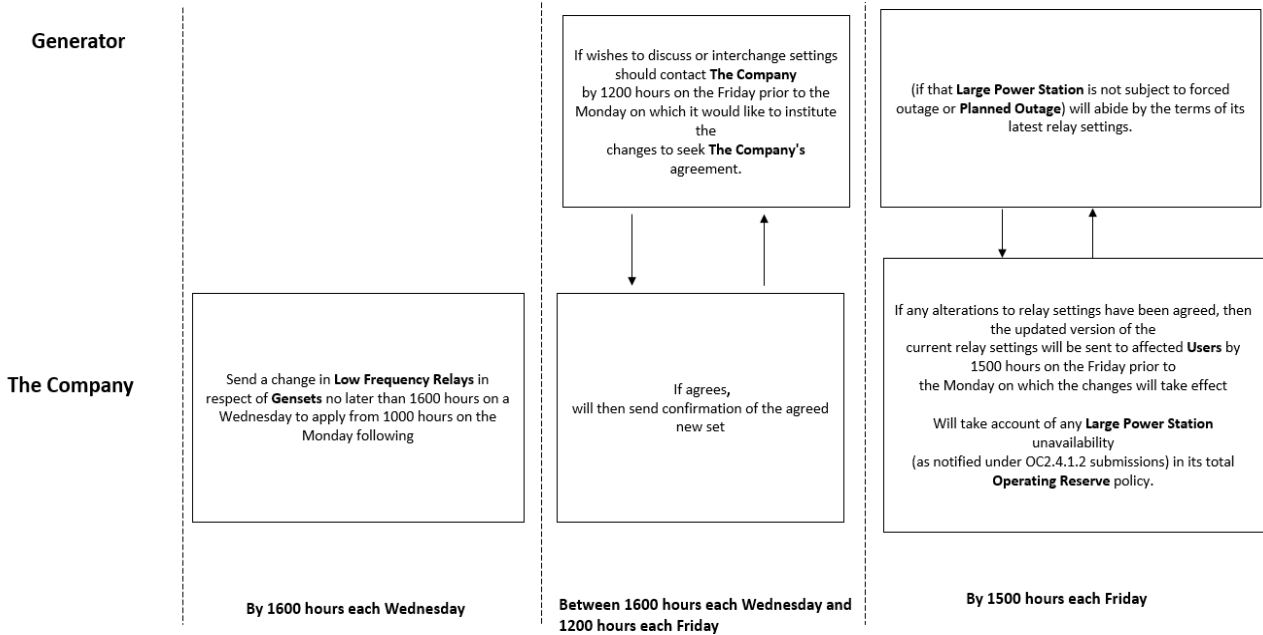


Figure 16: Overview of obligations under Operating Margin Data Requirements

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 shall 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.

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** shall then send confirmation of the agreed new settings.

By 1500 hours each Friday

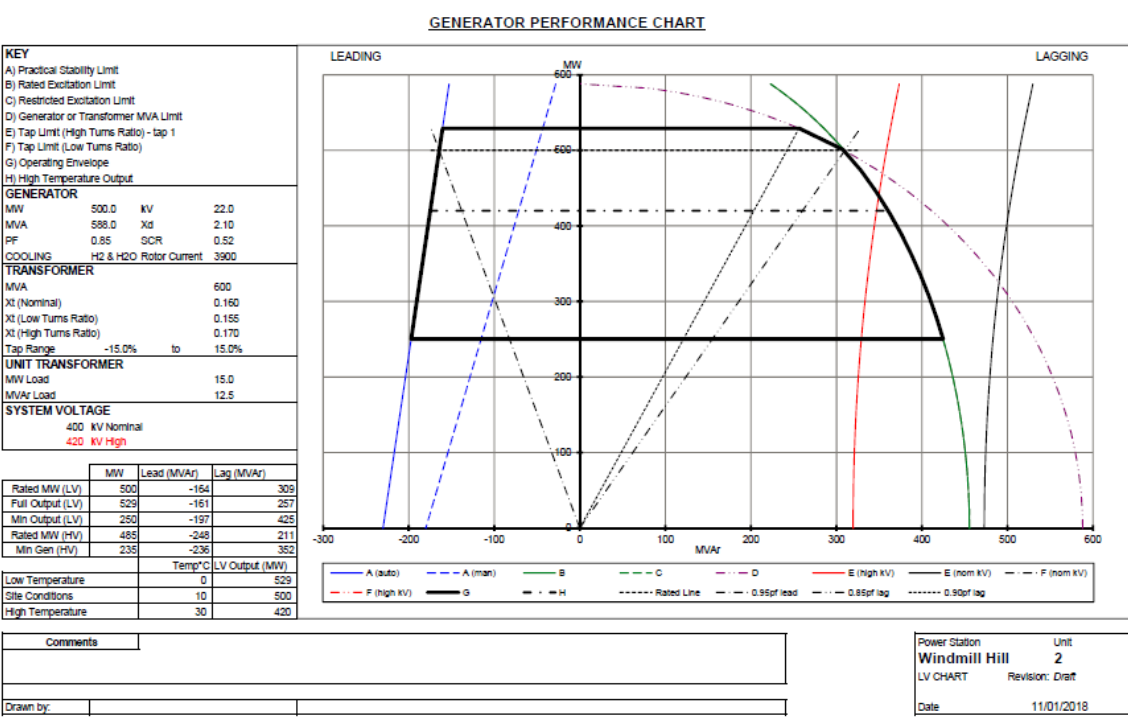
If any alterations to relay settings have been agreed, then the updated version of the current relay settings shall be sent to affected **Users** by 1500 hours on the Friday prior to the Monday on which the changes shall take effect. Once accepted, each **Generator** (if that **Large Power Station**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

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| | <p>In addition, The Company shall 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> |
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| <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 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 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 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>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 shall 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 shall 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 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>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> |

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).

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.

APPENDIX 1 - PERFORMANCE CHART EXAMPLES



OC2 APPENDIX 1– 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
 - Latest de-synchronising time:
Monday to Thursday
Friday
Saturday to Sunday
- OC2.A.2.2 Synchronising Intervals
- (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.
- 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.

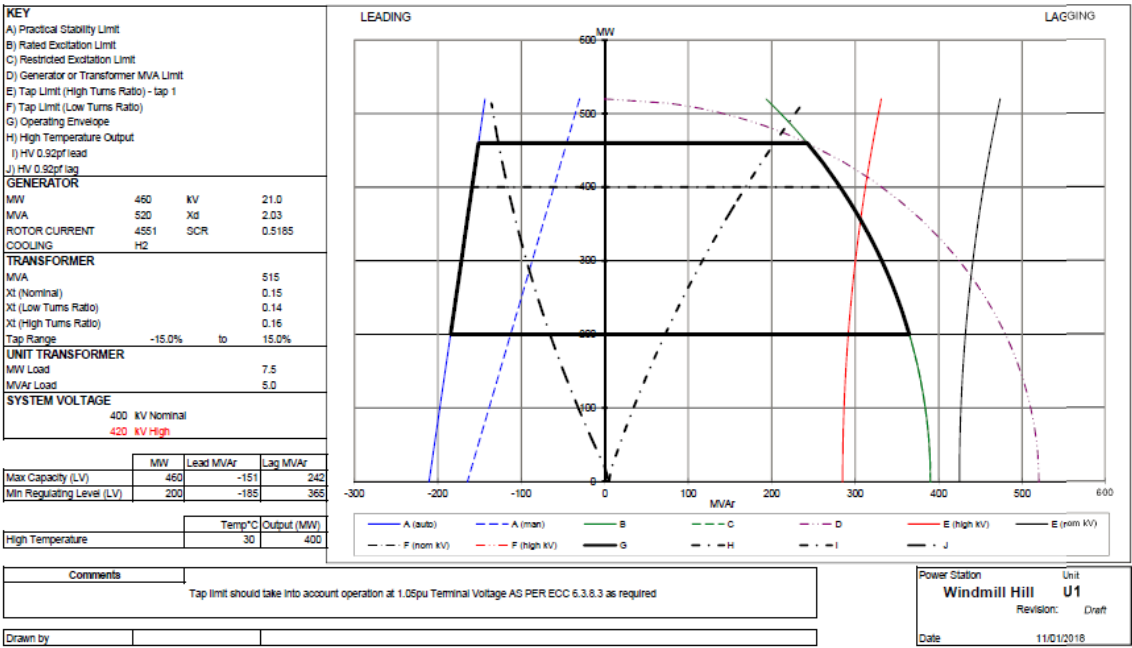
OC2.A.2.9 Minimum Zero time (MZZ)

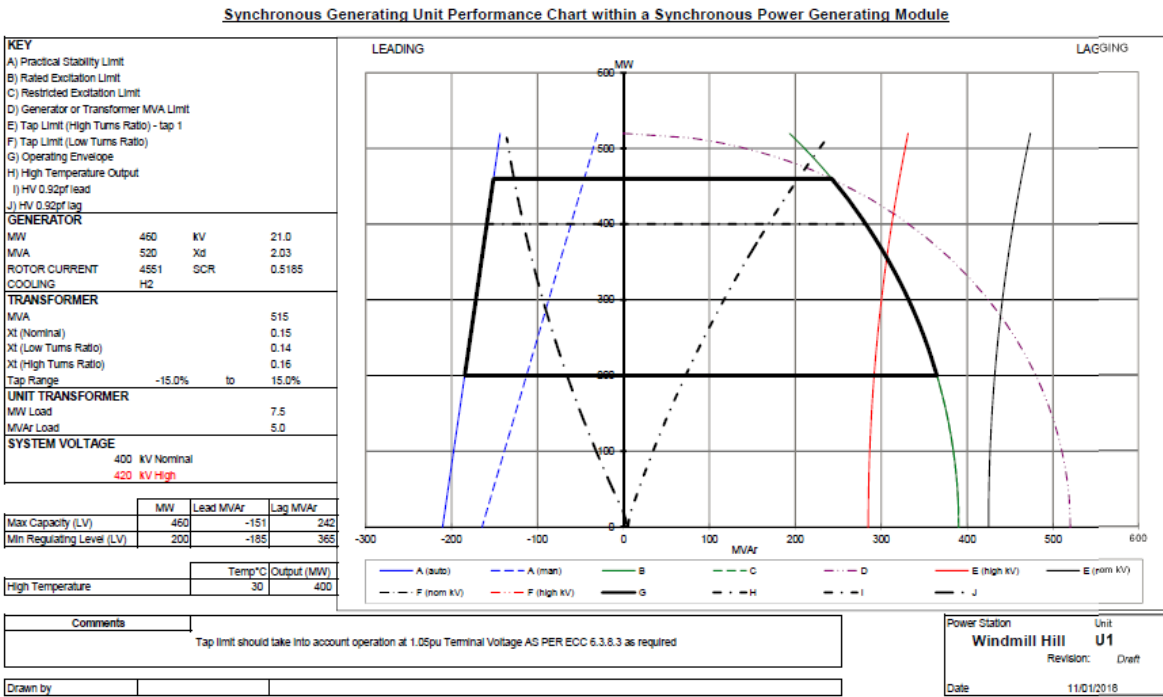
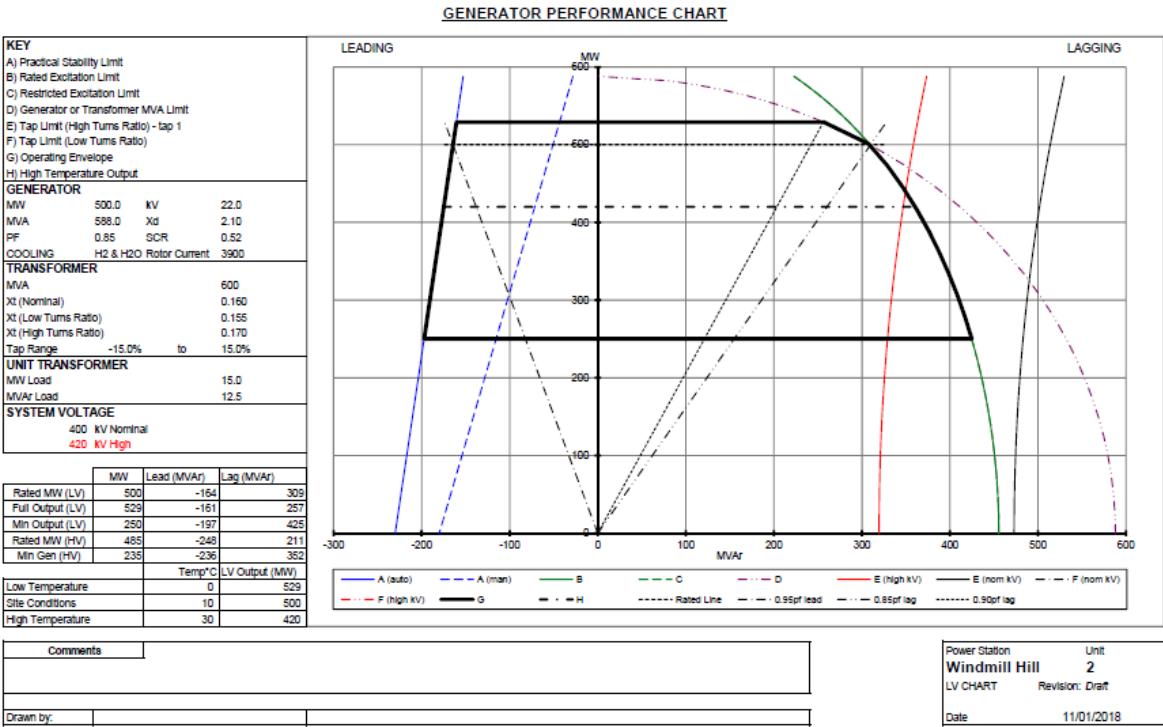
The minimum interval between **De-Synchronising** and **Synchronising** a **Generating Unit**.

OC2.A.2.10 Gas Turbine Units loading parameters

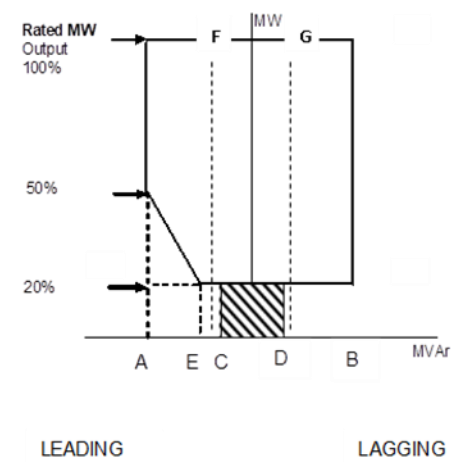
- Loading rate for fast starting
- Loading rate for slow starting

Synchronous Generating Unit Performance Chart within a Synchronous Power Generating Module





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 Dispatch Network Restriction |
|------------------------------------|---|

9

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 | | | | | | | | |

[illegible]

| | |
|------------|---|
| OC2.A.2.11 | <u>Gas Turbine Units loading parameters</u> <ul style="list-style-type: none">- 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 | 150 | 150 | 150 | | | | 100 | | |
| MW | | | | | | | | | |
| 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 | | | | |

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**.

< END OF OPERATING CODE NO. 2 >

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|--|--|--------|--------|--------|--|--|--|---|--|--|--|----------------------|--|--|--|--|---------------------------------------|--|--|--|--|---------------------------------|------------------|--|--|--|--------|--------|--------|--------|-----------------------------|--|--|--|--|-----------------|--|--|--|--|---------------------------------------|--|--|--|--|---------------------------------|------------------|--|--|--|--------|--------|--------|--------|-----------------------------|--|--|--|--|-----------------|--|--|--|--|--|
| | 451MW to 550MW | / | / | / | | | | / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <div><div>APPENDIX 4 - POWER PARK MODULE PLANNING MATRIX</div><div>Power Park Module Planning Matrix Example Form</div><div><table><tr><td colspan="5">BM Unit Name</td></tr><tr><td colspan="5">Power Park Module [unique identifier]</td></tr><tr><td rowspan="2">POWER PARK UNIT AVAILABILITY</td><td colspan="4">POWER PARK UNITS</td></tr><tr><td>Type A</td><td>Type B</td><td>Type C</td><td>Type D</td></tr><tr><td>Description (Make/Model)</td><td></td><td></td><td></td><td></td></tr><tr><td>Number of units</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="5">Power Park Module [unique identifier]</td></tr><tr><td rowspan="2">POWER PARK UNIT AVAILABILITY</td><td colspan="4">POWER PARK UNITS</td></tr><tr><td>Type A</td><td>Type B</td><td>Type C</td><td>Type D</td></tr><tr><td>Description (Make/Model)</td><td></td><td></td><td></td><td></td></tr><tr><td>Number of units</td><td></td><td></td><td></td><td></td></tr></table><p>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.</p></div></div> | | | | | | | | | | | | 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 | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <div><div>APPENDIX 5 – SYNCHRONOUS POWER GENERATNG MODULE PLANNING MATRIX</div><div>Synchronous Power Generating Module Planning Matrix Example Form</div><div><table><tr><td rowspan="2">SYNCHRONOUS POWER</td><td colspan="9">SYNCHRONOUS POWER GENERATING UNITS AVAILABLE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></div></div> | | | | | | | | | | | | SYNCHRONOUS POWER | SYNCHRONOUS POWER GENERATING UNITS AVAILABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SYNCHRONOUS POWER | SYNCHRONOUS POWER GENERATING UNITS AVAILABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | |
|----------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| GENERATING MODULE | 1st GT | 2nd GT | 3rd GT | 4th GT | 5th GT | 6th GT | 1st ST | 2nd ST | 3rd ST |
| | OUTPUT USABLE | | | | | | | | |
| | 150 | 150 | 150 | | | | 100 | | |
| OUTPUT USABLE | | | | | | | | | |
| 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 >

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