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to customers*

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10 March 2006

Dear Ben

**REVIEW OF THE GRID CODE: DECISION AND DIRECTION IN RELATION TO
CONSULTATION H/05 – OC2 ‘PHASE 2 – SHORT TERM’ PROPOSALS PROVISION
OF OUTAGE DATA BY GENERATORS AT GENERATING UNIT LEVEL**

The Gas and Electricity Markets Authority (the “Authority”)¹ has carefully considered the changes that NGET² has proposed to its Grid Code as set out in the report to the Authority arising from consultation H/05 (OC2 ‘Phase 2 – Short Term’ Proposals Provision of Outage Data by Generators at Generating Unit Level)³ that has been submitted to it for approval.

The Authority has decided to approve the proposed changes to the Licensee’s Grid Code (the “Grid Code”) as set out in the Appendix A of the report to the Authority arising out of Consultation H/05. In conjunction the Authority has decided to direct the amendments to the Grid Code⁴ as set out in Appendix 1 of this letter.

This document explains the background to the proposals and sets out the Authority’s reasons for its decision to approve these changes to the Grid Code and direct the amendments set out in Appendix 1. This letter constitutes notice by the Authority under Section 49A of the Electricity Act 1989 in relation to these decisions.

¹ Ofgem is the office of the Authority. The terms “Ofgem” and “the Authority” are used interchangeably in this letter.

² National Grid Electricity Transmission plc

³ Report from NGET - Consultation Reference H/05, Issue 1, Date of Issue 16 February 2006
http://www.nationalgrid.com/NR/rdonlyres/EEE08A7D-AB9F-4F10-9A70-54F57922BDC6/6140/H05_Authority_Report.pdf

⁴ As permitted in C14.4

Background to the proposed changes to NGET's Grid Code

NGET with the assistance of a Grid Code Review Panel ("GCRP") Working Group has reviewed Operating Code 1 and Operating Code 2 ("OC2") and has developed a number of proposed changes. Some of these change proposals have previously been implemented in the Grid Code and NGET considers that these previous changes have provided additional clarity and consistency to information flows.

NGET's consultation B/05 included a proposal to require Generators to submit outage data on a Generating Unit basis rather than on a Genset basis. The Authority published its decision on the B/05 change proposals in September 2005⁵. The Authority rejected the proposal to change the requirement relating to the form of the outage data submission because it did not consider that consultation B/05 had adequately considered the impact of the proposed changes on Power Park Modules.

NGET has further reviewed OC2 and in consultation H/05 proposed changes to the Grid Code substantially based on the text included in the B/05 consultation but using the term "Synchronous Generating Unit and Power Park Module" in place of Genset. NGET considers that the changes proposed in its report to the Authority arising from consultation H/05 would require conventional generating plant to provide outage data on a Generating Unit basis and non-synchronous generators (e.g. windfarms) to submit outage data on a Power Park Module basis.

NGET received three responses to Consultation H/05 from authorised electricity operators. NGET reported that:

- Two respondents were supportive of the proposed changes.
- One respondent was opposed to the proposed changes.

Ofgem acknowledges that respondents who supported the proposed changes noted:

- Concern about the piecemeal approach that has been taken to OC2 changes.
- That the proposed change would not introduce significant additional workload for Generators as generator outages are usually less often than once a year.

Ofgem acknowledges that the respondent who opposed the proposed changes noted that:

- NGET has never previously asked for this information.
- This information need not be provided routinely but could be provided in cases when NGET deems that it is necessary.
- The Grid Code changes proposed in H/05 would change the scope of OC2 as the definition of Synchronous Generating Units and Power Park Modules include generating plant at Embedded Small and Embedded Medium Power Stations. The respondent was concerned that this change of OC2 scope was not addressed in the description of the proposed Grid Code changes in consultation H/05.

NGET noted in its report to the Authority that it had amended the drafting of the proposed Grid Code changes to take account of the comments raised about the impact on the scope of OC2. NGET confirmed that this proposal was not intended to change the scope of OC2 to include Embedded Small and Embedded Medium Power Stations.

⁵ <http://www.nationalgrid.com/NR/rdoonlyres/1F5CB2FA-80A8-4320-8DD9-1C08473763CF/2104/014aGridCodeB05DecisionD.pdf>

NGET's recommendation

In its report⁶ to the Authority on Consultation H/05 NGET set out the drafting for proposed changes to the Grid Code. It recommended that the Authority approved the proposed changes.

Ofgem's view

Approval of these changes by the Authority is required by standard condition C14(3). Having carefully considered the NGET's report on the proposed changes, Ofgem considers that, having had regard to the licensee's obligations⁷ set out in condition C14(1)(b) of the Transmission Licence ("the obligations") and Ofgem's wider statutory duties⁸, that the proposed changes to the Grid Code should/should not be approved by the Authority. Ofgem's reasons for reaching this decision are outlined below.

Ofgem acknowledges the concern raised by one of the respondents about the piecemeal approach that has been taken in respect of the review of OC2. However, Ofgem also notes the explanation from NGET that on this occasion a piecemeal approach was needed because of the unforeseen interaction with the legal text which resulted in the rejection of the change previously proposed in consultation B/05. Ofgem notes that NGET is required by its licence to periodically review both the Grid Code and the implementation of that Grid Code. Ofgem further notes that the licence does not specify the nature or extent of the review work that should be carried out. Ofgem also notes that the governance arrangements for the Grid Code allow users to submit suggested amendments to the Grid Code to NGET for the GCRP's consideration.

Ofgem notes that one respondent is opposed to these proposed Grid Code changes because of the resultant additional workload on operators of CCGT Modules should these changes be approved. Ofgem also notes that the respondent suggested that outage information on a Generating Unit basis could be provided to NGET on request. Ofgem further notes the view presented by another respondent that the additional workload for Generators should the proposed changes be implemented would not be onerous as generator outages are usually less frequent than once a year.

Ofgem considers that in relation to outages of generating plant, it would expect that forecast Generating Unit outage data from the Generator would be more accurate than outage data provided on a module basis that is interpreted by NGET. Ofgem acknowledges that there can be significant differences between the technical characteristics of individual Generating Units within a CCGT Module. Ofgem recognises the value of accuracy in NGET's transmission system security analysis and accepts that the output of such assessments is improved when the input conditions closely reflect intended operating arrangements.

⁶ As required by C14.2.a

⁷ The licensee's transmission licence defines the Grid Code objectives as follows:

- (i) to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity;
- (ii) to facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the GB transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity); and
- (iii) subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in Great Britain taken as a whole.

⁸ Ofgem's statutory duties are wider than the matters that the NGET has to take into consideration and include amongst other things a duty to have regard to social and environmental guidance provided by Ofgem to the government.

Ofgem notes that there are generally little (if any) differences in the technical characteristics of generating plant within a Power Park Module. Ofgem acknowledges that there would be little or not benefit to NGET in receiving outage data on a Power Park Unit basis.

Ofgem considers that improvements to the quality of information available for use in transmission system security analysis will enhance the efficiency of transmission system operation.

Ofgem is concerned that the proposed replacement of "Gensets" with "Synchronous Generating Units and Power Park Modules" could possibly lead to interpretation difficulties in the future recognising that for example, a Generator would not necessarily have both synchronous and non-synchronous generating plant. In order to improve the clarity of the scope of the obligations relating to outage data submission, Ofgem has decided to direct further changes to the Grid Code as shown in Appendix 1. Appendix 1 shows all of the proposed Grid Code changes shown against the current version of the Grid Code and these subsequent changes are highlighted in yellow.

The Authority's decision

Based on the reasons set out above the Authority has therefore decided to approve the Grid Code changes set out in Appendix A of the report submitted to the Authority arising from consultation H/05 (OC2 'Phase 2 – Short Term' Proposals Provision of Outage Data by Generators at Generating Unit Level). In conjunction it has decided to direct the amendments set out in Appendix 1 to clarify that outage data submission obligations which are applicable under OC2 are in respect of Synchronous Generating Units and/or Power Park Modules.

The implementation date for these Grid Code changes is 1 April 2006.

Please do not hesitate to contact me on the above number if you have any queries in relation to the issues raised in this letter or alternatively contact Bridget Morgan on 020 7901 7080.

Yours sincerely

A handwritten signature in black ink that reads "John Scott". The signature is written in a cursive style with a horizontal line underneath the name.

John Scott
Technical Director

Signed on behalf of the Authority and authorised for that purpose by the Authority

cc: Lilian MacLeod, GCRP Secretary

Appendix 1 – Amendment to Changes Proposed in the Report to the Authority Arising from Consultation H/05 (OC2 ‘Phase 2 – Short Term’ Proposals Provision of Outage Data by Generators at Generating Unit Level)

OC2.1 INTRODUCTION

OC2.1.1 **Operating Code No. 2** ("OC2") is concerned with:

- (a) the co-ordination of the release of **Gensets Synchronous Generating Units and Power Park Modules**, the **GB Transmission System** and **Network Operators' Systems** for construction, repair and maintenance;
- (b) provision by **NGET** of the **Surpluses** both for the **GB Transmission System** and **System Zones**;
- (c) the provision by **Generators** of **Generation Planning Parameters** for **Gensets**, including **CCGT Module Planning Matrices** and **Power Park Module Planning Matrices**, to **NGET** for planning purposes only; and
- (d) the agreement for release of **Existing Gas Cooled Reactor Plant** for outages in certain circumstances.

OC2.1.2 (a) **Operational Planning** involves planning, through various timescales, the matching of generation output with forecast **GB Transmission System Demand** together with a reserve of generation to provide a margin, taking into account outages of certain **Generating Units**, **Power Park Modules** and **DC Converters**, and of parts of the **GB Transmission System** and of parts of **Network Operators' Systems** which is carried out to achieve, so far as possible, the standards of security set out in **NGET's Transmission Licence**, each **Relevant Transmission Licensee's Transmission Licence** or **Electricity Distribution Licence** as the case may be.

- (b) In general terms there is an "envelope of opportunity" for the release of **Gensets Synchronous Generating Units and Power Park Modules** and for the release of parts of the **GB Transmission System** and parts of the **Network Operator's User Systems** for outages. The envelope is defined by 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**.

OC2.1.3 In this **OC2** for the purpose of **Generator** 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** "best estimate" shall be that **Generator's** best estimate acting as a reasonable and prudent **Generator** in all the circumstances.
- OC2.1.5 References to **NGET** planning the **GB Transmission System** outage programme on the basis of the **Final Generation Outage Programme**, are to **NGET** 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 day, 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 **NGET**, 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 **NGET** shall, in its reasonable discretion, determine. However, **NGET** 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 **NGET** to reduce the administrative burden for **Users** in producing planning information where either the output or demand is small.

OC2.2 OBJECTIVE

- OC2.2.1 (a) The objective of **OC2** is to seek to enable **NGET** to harmonise outages of **Gensets Synchronous Generating Units and Power Park Modules** in order that such outages are co-ordinated (taking account of **Medium Power Stations**) between **Generators** and **Network Operators**, and that such outages are co-ordinated taking into account **GB Transmission System** outages and other **System** outages, so far as possible to minimise the number and effect of constraints on the **GB Transmission System** or any other **System**.
- (b) In the case of **Network Operator' User Systems** directly connected to the **GB Transmission System** this means in particular that there will also need to be harmonisation of outages of **Embedded Gensets Synchronous Generating Units and Embedded Power Park Modules**, and **GB Transmission System** outages, with **Network Operators** in respect of their outages on those **Systems**.
-

In the event that the Authority approves the Grid Code changes proposed in Consultation D/05 prior to a decision to approve the changes proposed in this consultation paper, OC2.2.1 would read as follows:

OC2.2 OBJECTIVE

- OC2.2.1 (a) The objective of **OC2** is to seek to enable **NGET** to harmonise outages of Synchronous Generating Units and Power Park Modules Gensets 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 **GB Transmission System** outages and other **System** outages, so far as possible to minimise the number and effect of constraints on the **GB Transmission System** or any other **System**.
- (b) In the case of **Network Operator' User Systems** directly connected to the **GB Transmission System** this means in particular that there will also need to be harmonisation of outages of Embedded Synchronous Generating Units and Embedded Power Park Modules Gensets, and **GB Transmission System** outages, with **Network Operators** in respect of their outages on those **Systems**.
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OC2.2.2 The objective of **OC2** is also to enable the provision by **NGET** of the **Surpluses** both for the **GB Transmission System** and **System Zones**.

OC2.2.3 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.

OC2.2.4 The boundaries of the **System Zones** will be determined by **NGET** from time to time taking into account the disposition of **Generators' Power Stations** within the **System Zones**. The location of the boundaries will be made available to all **Users**. Any **User** may request that **NGET** reviews any of the **System Zonal** boundaries if that **User** considers that the current boundaries are not appropriate, giving the reasons for their concerns. On receipt of such a request **NGET** will review the boundaries if, in **NGET's** reasonable opinion, such a review is justified.

OC2.3 SCOPE

OC2.3.1 **OC2** applies to **NGET** and to **Users** which in **OC2** means: -

- (a) **Generators**, only in respect of their Large Power Stations or their Power Stations which are directly connected to GB Transmission System other than those which only have Embedded Small Power Stations or Embedded Medium Power Stations, (and the term **Generator** in this **OC2** shall be construed accordingly);
- (b) **Network Operators**; and
- (c) **Non-Embedded Customers**; and
- (d) **DC Converter Station** owners.

OC2.4 PROCEDURE

OC2.4.1 Co-ordination of Outages

OC2.4.1.1 Under **OC2** the interaction between **NGET** and **Users** will be as follows:

- | | |
|--|---|
| (a) Each Generator and NGET | In respect of outages of Gensets Synchronous Generating Units and Power Park Modules and in respect of outages of other Plant and/or Apparatus directly connected to the GB Transmission System ; |
| (b) NGET and each Generator | in respect of GB Transmission System outages relevant to each Generator (other than in respect of Embedded Small Power Stations or Embedded Medium Power Stations); |
| (c) NGET 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 ; |
| (d) NGET and each Network Operator and each Non-Embedded Customer | in respect of GB Transmission System outages relevant to the particular Network Operator or Non-Embedded Customers ; |
| (e) Each Network Operator and each Non-Embedded Customer and NGET | in respect of User System outages relevant to NGET . |

OC2.4.1.2 PLANNING OF **GENSETSYNCHRONOUS GENERATING UNIT AND POWER PARK MODULE** OUTAGES

OC2.4.1.2.1 **Operational Planning Phase** - Planning for Calendar Years 3 to 5 inclusive – Weekly Resolution

In each calendar year:

- (a) By the end of week 2

Each **Generator** will provide **NGET** in writing with:

- (i) a provisional **GensetSynchronous Generating Unit and Power Park Module** outage programme (covering all non-Embedded Power Stations and Embedded Large Power Stations) for Year 3 to Year 5 (inclusive) specifying the **GensetSynchronous Generating Unit and/or Power Park Module** and MW concerned, duration of proposed outages, the preferred date for each outage and where there is a possibility of flexibility, the earliest start date and latest finishing date; and
 - (ii) a best estimate weekly **Output Usable** forecast of all its **Gensets** for Year 3 to Year 5.
- (b) Between the end of week 2 and the end of week 12

NGET will be:

- (i) calculating total winter peak generating capacity assumed to be available to the **Total System** (taking into account the import capacity which may be available from **External Interconnections**);
- (ii) calculating the total winter peak generating capacity expected from **Large Power Stations**, taking into account **Demand** forecasts and details of proposed use of **Demand Control** received under **OC1**, and an operational planning margin set by **NGET** (the "**Operational Planning Margin**");
- (iii) calculating the weekly peak generating capacity expected from **Large Power Stations** taking into account demand forecasts and details of proposed use of **Demand Control** received under **OC1**, and the **Operational Planning Margin** and **Zonal System Security Requirements**. The total weekly peak MW needed to be available is the "weekly total MW required".

The calculation under (iii) will effectively define the envelope of opportunity for outages of **GensetsSynchronous Generating Units and Power Park Modules**.

During this period, **NGET** may, as appropriate, contact each **Generator** who has supplied information to seek clarification on points.

- (c) By the end of week 12

NGET will:

- (i) having taken into account the information notified to it by **Generators** and taking into account:-
 - (1) **GB Transmission System** constraints and outages,
 - (2) **Network Operator System** constraints and outages, known to **NGET**, and

- (3) the **Output Usable** required, in its view, to meet weekly total MW requirements,

provide each **Generator** in writing with any suggested amendments to the provisional outage programme supplied by the **Generator** which **NGET** believes necessary, and will advise **Generators** with **Large Power Stations** of the **Surpluses** both for the **GB Transmission System** and **System Zones** and potential export limitations, on a weekly basis, which would occur without such amendments;

- (ii) provide each **Network Operator** in writing with potential outages of **GensetsSynchronous Generating Units and/or Power Park Modules** which may, in the reasonable opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** provided that, in such circumstances **NGET** has notified the **Generator** concerned at least 48 hours beforehand of its intention to do so (including identifying the **GensetSynchronous Generating Unit and/or Power Park Module** concerned).

- (d) By the end of week 14

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

- (e) By the end of week 25

Each **Generator** will provide **NGET** in writing with an updated provisional **GensetSynchronous Generating Unit and Power Park Module** outage programme covering both **Embedded** and non-**Embedded Large Power Stations** together with the best estimate weekly **Output Usable** forecasts for each **Genset**, in all cases for Year 3 to Year 5 (inclusive). The updated provisional **GensetSynchronous Generating Unit and Power Park Module** outage programme will contain the MW concerned, duration of proposed outages, the preferred date for each outage and, where applicable, earliest start date and latest finishing date, together with an update of the **Output Usable** estimate supplied under (a)(ii) above.

- (f) Between the end of week 25 and the end of week 28

NGET will be considering the updated provisional **Genset Synchronous Generating Unit and Power Park Module** outage programme, together with the best estimate weekly **Output Usable** forecasts supplied to it by **Generators** under (e) and their **Registered Capacity** and will be analysing **Operational Planning Margins** for the period.

(g) By the end of week 28

NGET will:

- (i) provide each **Generator** in writing with details of any suggested revisions considered by NGET as being necessary to the updated provisional **Genset Synchronous Generating Unit and Power Park Module** outage programme supplied to NGET under (e) and will advise **Generators** with **Large Power Stations** of the **Surpluses** for the **GB Transmission System** and **System Zones** and potential export limitations on a weekly basis which would occur without such revisions; and
- (ii) provide each **Network Operator** in writing with the update of potential outages of **Gensets Synchronous Generating Units and/or Power Park Modules** which, in the reasonable opinion of NGET and the **Network Operator**, affect the integrity of that **Network Operator's User System**.

(h) By the end of week 31

Where a **Generator** or a **Network Operator** is unhappy with the revisions suggested to the updated provisional **Genset Synchronous Generating Unit and Power Park Module** outage programme (in the case of a **Generator**) or such update of potential outages (in the case of a **Network Operator**) under (g) it may contact NGET to explain its concerns and the provisions set out in (d) above will apply to that process.

(i) By the end of week 42

NGET will:

- (1) provide each **Generator** in writing with details of suggested revisions considered by NGET as being necessary to the updated provisional **Genset Synchronous Generating Unit and Power Park Module** outage programme supplied to NGET and will advise **Generators** with **Large Power Stations** of the **Surpluses** for the **GB Transmission System** and **System Zones** and potential export limitations, on a weekly basis which would occur without such revisions;
- (2) provide each **Network Operator** in writing with the update of potential outages of **Gensets Synchronous Generating Units and/or Power Park Modules** which may, in the reasonable

opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** provided that, in such circumstances **NGET** has notified the **Generator** concerned at least 48 hours beforehand of its intention to do so (including identifying the **GensetsSynchronous Generating Units** and/or **Power Park Modules** concerned).

(j) By the end of week 45

NGET will seek to agree a **Final Generation Outage Programme** for Year 3 to Year 5. If agreement cannot be reached on all aspects, **NGET** and each **Generator** will record their agreement on as many aspects as have been agreed and **NGET** will advise each **Generator** with **Large Power Stations** and each **Network Operator**, of the **Surpluses** for the **GB Transmission System** and **System Zones** on a weekly basis which would occur in relation to those aspects not agreed. It is accepted that agreement of the **Final Generation Outage Programme** is not a commitment on **Generators** or **NGET** to abide by it, but **NGET** will be planning the **GB Transmission System** outage programme on the basis of the **Final Generation Outage Programme** and if in the event the **Generator's** outages differ from those contained in the **Final Generation Outage Programme**, or in any way conflict with the **GB Transmission System** outage programme, **NGET** need not alter the **GB Transmission System** outage programme.

OC2.4.1.1.2.2 **Operational Planning Phase - Planning for Calendar Year 1 and Calendar Year 2 – Weekly Resolution**

The basis for **Operational Planning** for Year 1 and Year 2 will be the **Final Generation Outage Programmes** agreed for Years 2 and 3:

In each calendar year:

(a) By the end of week 10

Each **Generator** will provide **NGET** in writing with its previously agreed **Final Generation Outage Programme** updated and best estimate weekly **Output Usable** forecasts for each **Genset** for weeks 1-52 of Years 1 and 2.

(b) Between the end of week 10 and the end of week 12

NGET will be considering the updated proposed **GensetSynchronous Generating Unit and Power Park Module** outage programme together with the estimate of **Output Usable** supplied by **Generators** under (a) and will be analysing **Operational Planning Margins** for the period. Taking these into account together with **GB Transmission System** constraints and outages and **Network Operator User System** constraints and outages known to **NGET**, **NGET** will assess whether the estimates of **Output Usable** supplied

by **Generators** are sufficient to meet forecast **GB Transmission System Demand** plus the **Operational Planning Margin**.

(c) By the end of week 12

NGET will:

- (i) notify each **Generator** in writing whether the **Output Usable** estimates are adequate for weeks 1-52 of Years 1 and 2, together with suggested changes to its **Final Generation Outage Programme** where necessary and will advise each **Generator** with **Large Power Stations** of the **Surpluses** both for the **GB Transmission System** and **System Zones** and potential export limitations, on a weekly resolution which would occur without such changes;
- (ii) provide each **Network Operator** in writing with weekly **Output Usable** estimates of **Generators** for weeks 1-52 of Years 1 and 2, and updated details of potential outages of, in each case relating to **Gensets**, **Synchronous Generating Units** and/or **Power Park Modules** which may, in the reasonable opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** provided that, in such circumstances, **NGET** has notified the **Generator** concerned at least 48 hours beforehand of its intention to do so (including identifying the affected **Gensets**, or **Synchronous Generating Units** and/or **Power Park Modules**, as appropriate concerned).

(d) By the end of week 14

Where a **Generator** or a **Network Operator** is unhappy with any suggested changes to its **Final Generation Outage Programme** (in the case of a **Generator**) or such update of potential outages (in the case of a **Network Operator**), equivalent provisions to those set out in OC2.4.1.2.1(d) will apply.

(e) By the end of week 34

Each **Generator** will provide **NGET** in writing with revised best estimate weekly **Output Usable** forecasts for each **Genset** for weeks 1-52 of Years 1 and 2.

(f) Between the end of week 34 and the end of week 39

NGET will be analysing the revised estimates of **Output Usable** supplied by **Generators** under (e) and will be analysing **Operational Planning Margins** for the period. Taking these into account together with **GB Transmission System** constraints and outages and **Network Operator User System** constraints and outages known to **NGET**, **NGET** will assess whether the estimates of **Output Usable** supplied by **Generators** are sufficient to meet forecast **GB Transmission System Demand** plus the **Operational Planning Margin**.

(g) By the end of week 39

NGET will:

- (i) notify each **Generator** in writing whether it accepts the **Output Usable** estimates for weeks 1-52 of Years 1 and 2, and of any suggested changes to its **Final Generation Outage Programme** where necessary and will advise **Generators** with **Large Power Stations** of the **Surpluses** both for the **GB Transmission System** and **System Zones** and potential export limitations on a weekly basis which would occur without such changes;
- (ii) provide each **Network Operator** in writing with **Output Usable** estimates of **Generators** for weeks 1-52 of Years 1 and 2, and updated details of potential outages ~~of, in each case relating to~~ **Gensets Synchronous Generating Units and/or Power Park Modules** which may, in the reasonable opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** provided that, in such circumstances, **NGET** has notified the **Generator** concerned at least 48 hours beforehand of its intention to do so (including identifying the **affected Gensets or Synchronous Generating Units and/or Power Park Modules, as appropriate concerned**).

(h) By the end of week 46

Where a **Generator** or a **Network Operator**, is unhappy with any suggested changes to its **Final Generation Outage Programme** (in the case of a **Generator**) or such update of potential outages (in the case of a **Network Operator**), equivalent provisions to those set out in OC2.4.1.2.1(d) will apply.

(i) By the end of week 48

NGET will seek to agree the revised **Final Generation Outage Programme** for Year 1 and Year 2. If agreement cannot be reached on all aspects, **NGET** and each **Generator** will record their agreement on as many aspects as have been agreed and **NGET** will advise each **Generator** with **Large Power Stations** and each **Network Operator**, of **Generating Plant Demand Margins** for national and zonal groups, on a weekly basis, which would occur in relation to those aspects not agreed. It is accepted that agreement of the **Final Generation Outage Programme** is not a commitment on **Generators** or **NGET** to abide by it, but **NGET** will be planning the **GB Transmission System** outage programme on the basis of the **Final Generation Outage Programme** and if, in the event, a **Generator's** outages differ from those contained in the **Final Generation Outage Programme**, or in any way conflict with the **GB Transmission System** outage programme, **NGET** need not alter the **GB Transmission System** outage programme.

The basis for **Operational Planning** for Year 0 will be the revised **Final Generation Outage Programme** agreed for Year 1:

In each week:

- (a) By 1600 hours each Wednesday – Weekly Resolution

Each **Generator** will provide **NGET** in writing with an update of the **Final Generation Outage Programme** and a best estimate weekly **Output Usable** forecast for each of its **Gensets** from the 2nd week ahead to the 52nd week ahead.

- (b) Between 1600 hours Wednesday and 1600 hours Friday

NGET will be analysing the revised estimates of **Output Usable** supplied by **Generators** under (a) and will be analysing **Operational Planning Margins** for the period. Taking into account **GB Transmission System** constraints and outages and **Network Operator User System** constraints and outages known to **NGET**, **NGET** will assess whether the estimates of **Output Usable** supplied by **Generators** are sufficient to meet forecast **GB Transmission System Demand** plus the **Operational Planning Margin**.

- (c) By 1600 hours each Friday

NGET will:

- (i) notify each **Generator** with **Large Power Stations** and **Network Operator**, in writing if it considers the **Output Usable** forecasts will give **Surpluses** and potential export limitations both for the **GB Transmission System** and **System Zones** from the 2nd week ahead to the 52nd week ahead;
- (ii) provide each **Network Operator**, in writing with weekly **Output Usable** estimates of Gensets from the 2nd week ahead to the 52nd week ahead and updated outages of, each relating to Gensets Synchronous Generating Units and/or Power Park Modules which may, in the reasonable opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** and in such circumstances, **NGET** shall notify the **Generator** concerned within 48 hours of so providing (including identifying the affected Gensets or Synchronous Generating Units and/or Power Park Modules, as appropriate), from the 2nd week ahead to the 52nd week ahead.

OC2.4.1.2.4 Programming Phase – 2-49 Days Ahead – Daily Resolution

- (a) By 1200 hours each Friday

NGET will notify in writing each **Generator** with **Large Power Stations** and **Network Operator** if it considers the **Output Usable**

forecasts will give MW shortfalls both nationally and for constrained groups for the period 2-7 weeks ahead.

(b) By 1100 hours each **Business Day**

Each **Generator** shall provide **NGET** in writing with the best estimate of daily **Output Usable** for each **Genset** for the period from and including day 2 ahead to day 14 ahead, including the forecast return to service date for any such **Generating Unit** or **Power Park Module** subject to **Planned Outage** or breakdown.

(c) By 1100 hours each Wednesday

For the period 2 to 49 days ahead, every Wednesday by 11:00 hours, each **Generator** shall provide **NGET** in writing best estimate daily **Output Usable** forecasts for each **Genset**, and changes (start and finish dates) to **Planned Outage** or to the return to service times of each **Genset**, **Synchronous Generating Unit** and/or **Power Park Module** which is subject to breakdown.

(d) Between 1100 hours and 1600 hours each **Business Day**

NGET will be analysing the revised estimates of **Output Usable** supplied by **Generators** under (b) and will be analysing **Operational Planning Margins** for the period 2-14 days ahead. Taking into account **GB Transmission System** constraints and outages and **Network Operator User System** constraints and outages known to **NGET**, **NGET** will assess whether the estimates of **Output Usable** are sufficient to meet forecast **GB Transmission System Demand** plus the **Operational Planning Margin**.

(e) By 1600 hours each **Business Day**

- (i) **NGET** will notify in writing each **Generator** with **Large Power Stations** and each **Network Operator**, of the **Surpluses** both for the **GB Transmission System** and **System Zones** and potential export limitations, for the period from and including day 2 ahead to day 14 ahead which it considers the **Output Usable** forecasts will give. The time of 1600 hours can only be met in respect of any **Generator** or **Network Operator** if all the information from all **Generators** was made available to **NGET** by 1100 hours and if a suitable electronic data transmission facility is in place between **NGET** and the **Generator** or the **Network Operator**, as the case may be, and if it is fully operational. In the event that any of these conditions is not met, or if it is necessary to revert to a manual system for analysing the information supplied and otherwise to be considered, **NGET** reserve the right to extend the timescale for issue of the information required under this sub-paragraph to each, or the relevant, **Generator** and/or **Network Operator** (as the case may

be) provided that such information will in any event be issued by 1800 hours.

- (ii) **NGET** will provide each **Network Operator**, where it has an effect on that **User**, in writing with **Output Usable** estimates of **Gensets** from and including day 2 ahead to day 14 ahead and updated outages ~~of, each relating to Gensets~~ **Synchronous Generating Units** and/or **Power Park Modules** **Generating Units** which are either in its **User System** or which may, in the reasonable opinion of **NGET** and the **Network Operator**, affect the integrity of that **Network Operator's User System** and in such circumstances, **NGET** shall notify the **Generator** concerned within 48 hours of so providing (including identifying the **affected Gensets** or **Synchronous Generating Units** and/or **Power Park Modules, as appropriate** ~~concerned~~), for the period from and including day 2 ahead to day 14 ahead.

OC2.4.1.3 Planning of GB Transmission System Outages

OC2.4.1.3.1 Operational Planning Phase - Planning for Financial Years 2 to 5 inclusive ahead

NGET shall plan **GB 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 **GB Transmission System** outages required in Years 0 and 1 ahead, when **NGET** also takes into account **GB Transmission System** outages required as a result of maintenance.

Users should bear in mind that **NGET** will be planning the **GB Transmission System** outage programme on the basis of the previous year's **Final Generation Outage Programme** and if in the event a **Generator'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 **NGET**, or in any way conflict with the **GB Transmission System** outage programme, **NGET** need not alter the **GB 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 **NGET** 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 **Gensets** **Synchronous Generating Units** and/or **Power Park Modules** Embedded within that **User System**).

- (b) By the end of week 13

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

NGET will provide to each **Network Operator** and to each **Generator** a copy of the information given to **NGET** 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 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

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

(d) By the end of week 30

Where **NGET** 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

NGET will draw up a draft **GB Transmission System** outage plan covering the period Years 2 to 5 ahead and **NGET** will notify each **Generator** 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**) or **Network Operator**. **NGET** 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 Intertipping** scheme) or **Emergency Instructions** to **Users** in accordance with **BC2** to allow the security of the **GB Transmission System** to be maintained within the **Licence Standards**.

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

Each calendar year **NGET** shall update the draft **GB 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 **NGET** in writing of proposed outages for Year 1 of **Generator** owned **Apparatus** at each **Grid Entry Point** (e.g. busbar selectors) other than **GensetsSynchronous 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

NGET will provide each **Network Operator** and each **Non-Embedded Customer** in writing with details of proposed outages in Year 1 ahead which may, in **NGET'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 **NGET** 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 **GensetsSynchronous Generating Units and/or Power Park Modules** Embedded within that **User System**).

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

NGET will draw up a revised **GB Transmission System** outage plan (which for the avoidance of doubt includes **Transmission Apparatus** at the **Connection Points**).

- (e) By the end of week 34

NGET will notify each **Generator** and **Network Operator**, in writing, of those aspects of the **GB Transmission System** outage programme which may, in **NGET's** reasonable opinion, operationally affect that **Generator** (other than those aspects which may operationally affect **Embedded Small Power Stations** or **Embedded Medium Power Stations**) or **Network Operator** including in particular proposed start dates and end dates of relevant **GB Transmission System** outages.

NGET will provide to each **Network Operator** and to each **Generator** a copy of the information given to **NGET** 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 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** 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

NGET will draw up a final **GB Transmission System** outage plan covering Year 1.

(h) By the end of week 49

(i) **NGET** will complete the final **GB 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) **NGET** will notify each **Generator** 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**) or **Network Operator** including in particular proposed start dates and end dates of relevant **GB Transmission System** outages. **NGET** 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 **GB Transmission System** to be maintained within the **Licence Standards**. **NGET** will also inform each relevant **Non-Embedded Customer** of the aspects of the plan which may affect it.

(iii) In addition, in relation to the final **GB Transmission System** outage plan for Year 1, **NGET** will provide to each **Generator** a copy of the final **GB Transmission System** outage plan for that year. OC2.4.1.3.4 contains provisions whereby updates of the final **GB Transmission System** outage plan are provided. The plan and the updates will be provided in writing. It should be noted that the final **GB Transmission System** outage plan for Year 1 and the updates will not give a complete understanding of how the **GB Transmission System** will operate in real time, where the **GB 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 **NGET**, 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 **NGET** 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 **NGET** and the **User**, **NGET** 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 **NGET** 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 **GB Transmission System**; or

System Data Exchange

- (z) as part of a process to facilitate understanding of the operation of the **Total System**,
 - (1) **NGET** will make available to each **Network Operator**, the **GB Transmission System Study Network Data Files** covering Year 1 which are of relevance to that **User's System**;
 - (2) where **NGET** 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 **GB 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 **NGET** and may be subject to separate agreements governing the manner of access. In the absence of agreement, the copy of the **GB Transmission System Study Network Data Files** will be given to the **User** on a disc, or in hard copy, as determined by **NGET**;
 - (3) the data contained in the **GB Transmission Study Network Data Files** represents **NGET's** view of indicative operating conditions only and should be used for technical analysis only on the basis that it only represents a view and that operating conditions may be different in the event;
 - (4) **NGET** will notify each **Network Operator**, as soon as reasonably practicable after it has updated the **GB 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).

NGET 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 **GB 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 **GB Transmission System Study Network Data Files** received by each **Network Operator** must only be used by that **User** in 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.