



National Grid

GRID CODE

TRANSITIONAL CONSULTATION DOCUMENT

‘Grid Code - BETTA Go-Live cut over requirements’

The purpose of this document is to consult on the above Grid Code Modification Proposal with authorised electricity operators liable to be materially affected by the proposed changes

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Prepared by	National Grid

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National Grid website:

http://www.nationalgridinfo.co.uk/grid_code/mn_consultation_papers.html

DISTRIBUTION

Name	Organisation
AEO's	Various
GCRP Members/Alternates	Various
Interested Parties	Various
National Grid Industry Information Website	

Introduction

1. The transitional provisions in the NGC's Transmission Licence and the Grid Code provide for NGC to consult on GB activation of specific obligations needed to manage implementation of BETTA in the Transition Period.
2. Condition C19 of the Transmission Licence requires NGC to use all reasonable endeavours to identify any matters which are not addressed in the transition provisions of, amongst other things, the Grid Code, but which should in NGC's opinion be so addressed and to submit details of such matters to the Authority.
3. The General Conditions of the Grid Code contain transitional provisions including those for the Grid Code 'cut-over' arrangements to be put in place for the final transition to BETTA. NGC are currently anticipating Go-Live to be on 1st April 2005.
4. These provisions also provide for the process in relation to transitional consultations. NGC is required to inform the Authority of its consultation plans. Following this NGC shall consult in accordance with the instructions of the Authority.
5. A Grid Code transitional consultation document (Ref T01/04) has been issued to cover the provisions of OC2 data in advance of the cut-over to BETTA. Section 12.6 of that consultation made reference to 'a further consultation' which would consult on additional aspects of the code which require 'switching on' prior to Go-Live.
6. This consultation considers those additional aspects of the Grid Code which it is considered prudent to make effective in advance of BETTA Go-Live (assumed to be midnight (0000hrs) on 1st April 2005).
7. NGC has informed the Authority of its intention to consult on the issues in this consultation and has been instructed by the Authority to do so directly with parties likely to be affected by such requirements.
8. This consultation is concerned with 'cut-over' requirements, as covered for under General Conditions GC.A3.1, in relation to the period immediately prior to Go-Live where parts of the Grid Code will need to be activated for Scottish Users prior to Go-Live. Activation in the context of this consultation is the switching on of obligations for Scottish Users to comply with the obligations listed in Appendix 1 to this consultation which will take effect before Go-Live and which will reside in the transition section of the GB Grid Code General Conditions.
9. The transitional requirements in the Grid Code can be broadly split into three main areas: Energy Balancing (frequency control), Transmission Despatch (switching) and market reporting. NGC have looked at the cut-over process for each of these areas and it is our view that, in terms of the Grid Code, only Energy Balancing requires explicit provision in the Transitional section of the Grid Code.
10. Following receipt of comments on the issues contained in this Paper, NGC intends, in accordance with the instructions of the Authority, to send to the Authority :-

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- (a) a report on the outcome of its review, including this consultation process;
 - (b) the proposed revisions to the Grid Code which NGC reasonably thinks fit for the achievement of the objectives of the Grid Code referred to in Conditions 14 and 19 of the Transmission Licence and the General Conditions of the Grid Code; and
 - (c) any written responses received in relation to this consultation.
11. The report to the Authority and any responses not marked as confidential will subsequently be made publicly available on NGC's website.
 12. The revisions to the Grid Code proposed by NGC and sent to the Authority then require approval by the Authority and will, if approved, come into force on such date (or dates) agreed between NGC and the Authority. NGC will notify interested parties of that date once the Authority has directed the modification.

Overview of process

13. Of the three main areas referred to earlier, Energy Balancing, Transmission Despatch and market reporting, this consultation proposes that only Balancing Codes 1 and 2 and Operating Code 7 are affected.
14. Market reporting prior to Go-Live is to be carried out exclusively by Elexon via the Elexon website. The exact details of this reporting are being covered in the Elexon transitional consultations. For this reasons the activation of Balancing Code 1 prior to Go-Live excludes BC1.5.1, BC1.5.2 and BC1.5.3. Therefore no changes to the Grid Code are considered necessary for cut-over purposes in relation to market reporting.
15. The high level approach for Transmission Despatch is that Scottish Users should continue to liaise with the respective Scottish system operator under the Scottish Grid Code up to Go-Live. After Go-Live Users should liaise with NGC as required under the GB Grid Code (except for as specifically provided for in the GB Grid Code i.e. OC8). For a period before Go-Live we expect that transmission licensees will be exchanging information on transmission despatch that may have an effect on or after Go-Live. This is therefore the reason why no changes to the Grid Code are considered necessary for cut-over purposes in relation to transmission despatch.
16. For Energy Balancing, as with Transmission Despatch, the process will be for Users to liaise with the existing system operator up to Go-Live and NGC after Go-Live. Although, in order to maintain system security immediately after Go-Live and for NGC to forecast for the following day, it will be necessary for NGC to be provided with the data submitted under BC1 in the normal timescales i.e. initially at 1100 hrs the day before Go-Live and updated until Gate Closure.
17. In order to facilitate a smooth change over, NGC will also require the facility, under BC2, to issue instructions from 2300hrs (1 hour before Go-Live) in relation to the period after Go-Live only. NGC will not issue despatch instructions to Scottish Users covering the period before Go-Live. The wider

obligations in BC2 will also need to become active from 2300 hrs, to cover the period after Go-Live, in respect of the data previously submitted under BC1. Again, as with Transmission Despatch, the Scottish system operators will be liaising with NGC on the conditions on the Scottish system prior to Go-Live.

Overview of BC1 and BC2

18. BC1 covers the submission of data to the GBSO in advance of Gate Closure. From this data NGC ascertains which BMUs will be connected to the transmission system at any given time, and whether the combined electrical output is sufficient to meet the national electricity demand at that time. NGC consider whether those BMUs indicated to operate will enable them to ensure the integrity of the GB Transmission System and compliance with the security and quality of supply standard is maintained.
19. Under BC1, NGC principally receives the following data items:
 - a) Physical Notification Data: providing a time-profiled planned MW delivery or consumption for each BMU. This is the level at which the BMU is planned to operate in the absence of any technical problems or instructions from NGC. It is a compulsory data item.
 - b) Maximum Import/Export Data: indicating the maximum MW delivery or consumption for each BMU. This indicates the maximum delivery or consumption volume that may be instructed. NGC may not issue an instruction which would take a BMU beyond this level.
 - c) Dynamic Data: indicate the parameters by which the BMU will change its input or output in response to a instruction from NGC. Any instruction from NGC must adhere to these dynamic parameters.
 - d) Bid Offer Data: are volumes and associated prices by which NGC may alter the physical input or output of a BMU. Trading agents may only provide Bid Offer Data if their BMU has installed an electronic terminal for receipt of such instructions from NGC.
20. BC1 requires that this data is provided for all BMUs (including interconnector BMUs) by 1100hrs on the day before the operational day (which starts from 0500hrs the following day). However, this data may be provided to NGC up to 5 days in advance.
21. Following initial submission by 1100hrs on the day ahead of the operational day, BC1 obliges BM Participants to use reasonable endeavours to ensure the data held by NGC is accurate at all times. All data items submitted under BC1 can be revised up until, but not beyond, Gate Closure for the settlement period to which they apply.
22. In the event that the data items referred to within BC1 are not submitted for a BMU by 1100hrs on the day ahead, NGC creates BC1 data in accordance with the published Data Defaulting Rules (contained within the Data Validation, Consistency and Defaulting Rules, available from NGC's industry information website). In general, with the exception of the dynamic data set, NGC's systems will initially be populated with zeros for all User submitted data. Dynamic data will be set to normal values. If no other data is submitted this will be used in the defaulting routine. Therefore NGC would encourage

Scottish Users to submit more realistic data prior to 1100 hrs on the day before Go-Live

23. BC2 details the actions and interactions between NGC and BM participants after Gate Closure. NGC takes the most recent submission of data under BC1 to be the final notification for a BMU. BC2 obliges BM Participants to adhere to good industry practice by operating their BMUs in accordance with the data provided to NGC, unless technical or safety considerations require them to do otherwise, or unless they receive an instruction to deviate from NGC.
24. Under normal circumstances, an instruction from NGC for a BMU to deviate from its notified operating regime will take the form of a Bid-Offer Acceptance (BOA). This will be issued in accordance with the prices and parameters declared in a BMUs BC1 submission prior to Gate Closure. Once accepted by NGC, a BOA forms a binding contract between NGC and the BM Participant for delivery or consumption on the specified BMU, unless technical or safety considerations prevent its delivery. NGC may issue BOAs at any point from Gate Closure until 2 minutes prior to the start time of the BOA.
25. BM Participants may not submit Physical Notification or Bid Offer data to NGC in respect of settlement periods that the Gate Closure has occurred. However, they may resubmit Maximum Export/Import and Dynamic Data from the control point of the BMU to reflect any changing conditions. Any BOAs subsequently issued will adhere to these revised parameters.
26. BC2 also details other instructions that NGC may issue to BM Participants from time to time for delivery by a specified BMU. Among others, these include:
 - a) Ancillary Service Instructions: these include instructions for the BMU to operate in frequency responsive mode, or to adjust the reactive power produced or consumed by a BMU. Such instructions are usually issued electronically and can be either coincident with, or independent of a BOA for active energy. NGC will issue Ancillary Service instructions in accordance with the relevant MSA or Ancillary Services Agreement for that BMU, and in accordance with the Maximum Export/Import limits and Dynamic Parameters provided under BC1 and BC2.
 - b) Emergency Instructions: these are issued by NGC when action is required from a BM participant in order to help preserve the integrity of the GB Transmission System. Instructions may depart from normal Balancing Mechanism operation and parameters declared under BC1 and BC2. BM participants should use all reasonable endeavours to respond to Emergency Instructions unless safety implications prevent them from doing so.

Description of the proposed amendments and their effects

27. In preparation for Go-Live, and in accordance with the normal arrangements in BC1, it is proposed that Scottish Generators inform NGC (through the submission of physical notifications) of the electrical output they expect their units to deliver from Go-Live. It is envisaged that through the Scottish Grid Code Scheduling and Despatch arrangements these will correspond to the despatch instructions they receive from the Scottish Grid Control centres. To assist with a smooth transition, the Scottish system operators will also liaise

with NGC directly in respect of despatch decisions in the final hours of operation under the Scottish arrangements.

28. From 2300hrs on the day before Go-Live NGC will be able to issue BOAs applicable from Go-Live. If issued, Users would be expected to begin to follow/deliver these BOAs at or from Go-Live. At Go-Live, the enduring GB arrangement will take effect, with Scottish generating stations following their Physical Notifications as submitted previously under BC1.
29. It is feasible that between the first GB Gate Closure (2300hrs) and Go-Live (midnight), Scottish Generators may be issued with instructions from the Scottish Grid Control Centres which result in them being unable to meet the Go-Live PN position they have advised to NGC. In this event they should follow the Scottish despatch instruction until Go-Live and immediately post Go-Live take controlled actions to return to their PN in accordance with their declared (to NGC) ramp rates. If NGC requires an alternative course of action it will issue BOAs accordingly.
30. If a Scottish Generator is unable to meet its Physical Notification at Go-Live, and is unable to resubmit it to NGC because Gate Closure has passed, they should re-declare their Maximum Export/Import parameters in accordance with BC2.
31. Up to Go-Live, NGC may issue BOAs to the Scottish Interconnector BMUs against the physical notification and Bid Offer data provided by them under BC1. In the final two settlement periods prior to Go-Live, NGC will liaise with the EISO to understand the implications, if any, on the new GB BMU(s) at the point of Go-Live before the issue of any BOA to the existing Scottish Interconnector BMUs. This is expected only to be an issue where the BOA would not allow the interconnector BMU to return to FPN prior to Go-Live and therefore give a potential need for a GB based BOA to commence immediately at Go-Live for the relevant new Scottish BMU(s).

Enabling BC1

32. In order to achieve secure and economic energy balance, NGC will begin its in depth analysis of the energy position on the GB Transmission System at the day ahead stage, generally following receipt of the BC1 submissions at 1100hrs. In order to carry out this analysis for the first day of BETTA Go-Live, information is required on Scottish Generating Units by this point. The analysis is repeated continually up to real time and activating the relevant sections of BC1 at 1100hrs would ensure all BM participants (including Cascade Hydro Schemes and Embedded Exemptable Large Power Stations) provide NGC with accurate data for its analysis.
33. It is proposed that this should be achieved by activating at 1100hrs on the day before Go-Live, those sections of BC1 under which BM Participants submit data pertaining to the operation of their BMUs.
34. Although it is proposed that the obligations under BC1 be formally switched on at 1100hrs on the day prior to BETTA Go-Live, NGC will be enabling submissions from Scottish BM Participants prior to this as set out in the legal drafting. As noted previously, under normal arrangements participants can submit BC1 data up to 5 days prior to the operational day. For the BETTA Go-Live date of 1st April, this would permit first submissions to be made on

Sunday 27th March (Easter Day). Experience with enabling submissions from new E&W participants indicates that despite qualification testing, IS issues are often encountered when the first 'live' submission is made. To minimise the risk of these interrupting normal operations on Easter Day, it is proposed to limit advance submissions from Scottish Users for the operational day of BETTA Go-Live to 3 days for new participants only. Thus for these participants, NGC's systems would accept submissions from 1100hrs on 29th March 2005.

35. Activation of the relevant sections of BC1 at 1100hrs on the day prior to BETTA Go-Live provides for participants to submit data relevant for the periods from the start of the following operational day. The Grid Code defines the operational day as starting at 0500hrs. In order cover the period from Go-Live up to 0500hrs NGC propose that this be amended for Scottish Users which would allow for submission of data from Go-Live to 0500hrs. Consequently, submissions made by Scottish Users by 1100hrs on 31st March 2005 should cover the period 0000hrs 1st April 2005 to 0500hrs 2nd April 2005.
36. Activation of the relevant sections of BC1 and the additional provision covering from Go-Live up to 0500hrs as described in the previous paragraph allows for participants to submit data for operational periods from BETTA Go-Live. However, to ensure a smooth transition from the existing through to the enduring GB arrangements, NGC is actively encouraging participants to submit accurate data for new Scottish BMUs for periods in advance of BETTA Go-Live. For new or existing participants with BMUs that become active at BETTA Go-Live, submissions will be accepted from 1100hrs on 29th March 2005 for any periods beyond 1200 on 29th March 2005. Any data submitted for such BMUs for periods in advance of BETTA Go-Live will not be released to the BMRA in either raw or aggregated form, nor used to set any imbalance prices until BETTA Go-Live.
37. In addition, the Scottish system operators will be liaising directly with NGC for several hours prior to Go-Live. This will include the Scottish system operators informing NGC of Scottish despatch instructions that will or may have an impact on cut over and NGC informing the current Scottish system operators of relevant GB data submissions and plans at the point of Go-Live.
38. Gate Closure for the first period of system operation under BETTA occurs at 2300hrs of the previous day. As explained previously, beyond this point, BM Participants are unable to issue further updates to physical notifications or Bid Offer Data. To enable participants to provide revisions to BM Unit data post Gate Closure, it is proposed to activate BC2 as detailed below.

Enabling BC2

39. As described above, the Grid Code permits NGC to issue BOAs to a BMU at any time after Gate Closure. To ensure that Scottish BMUs are not discriminated against immediately post BETTA Go-Live, NGC requires the ability to issue BOAs to Scottish BMUs from the first Gate Closure. It is therefore proposed that BC2 be activated from 2300 hrs 31st March 2005 to allow this. For the avoidance of doubt, any such BOA issued would not require the commencement of any energy delivery or consumption (including ramping up or down) from a Generator before Go-Live.

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40. In addition to issuing BOAs from Gate Closure, the GB Grid Code permits NGC to issue ancillary service instructions and emergency instructions. To avoid discrimination and ensure NGC can operate the GB Transmission System in accordance with its licence obligations, the ability to issue such instructions from the first BETTA Gate Closure for delivery post BETTA Go-Live is required.

OC7 - System Warnings

41. To ensure Scottish Users receive the system warnings applicable for the periods after Go-Live NGC also propose to switch on from 1100 hrs 31st March 2005 the relevant section in OC7. These are referred to in both BC1 and BC2.

IT System Outages

42. To effect the transition to BETTA, NGC envisage the need for 2 IT system outages. Formal confirmation of the dates, times and expected duration for these will be provided to market participants in the normal way (via the System Warnings and Other Messages screen on the BMRS). However, it is envisaged that the first outage will be during early March and the second outage during the afternoon of 31st March 2005.

PROPOSED CHANGES

43. Based on the assumption that BETTA Go-Live date will be midnight on 31 March 2005, it is proposed to insert additional requirements in the transition section of the General Conditions:

BC 1: proposed activation time: 11:00 hrs 31st March 2005 (excluding BC1.5.1, BC1.5.2 and BC1.5.3)

BC1 generally provides for the submission of data for operation of the Balancing Mechanism. It contains a description of the data items that should be submitted and their associated submission timescales. It also provides for the submission of data at the day ahead by Network Operators. Information is provided regarding constraints and embedded generation restrictions that NGC may need to take into account in the operation of the Transmission Network. In addition, it provides for NGC to identify and agree with Users, usually at the day ahead stage, special actions that the User may be required to undertake either pre or post fault.

In addition a transitional provision to cover data for the period from Go-Live to 0500hrs. This effectively extends the submission for the following operation day by 5 hours i.e. 29hrs from Go-Live to 0500hrs on Go-Live +1day.

Users should note that although the data defaulting mechanism described earlier will be used, the obligation in BC1.4.3, '**BM Participants** should use reasonable endeavours to ensure that the data held by **NGC** in relation to its **BM Units** is accurate at all times', covers all the data held by NGC, including that for the period from 00:00hrs to 0500hrs from Go-Live.

BC 2 proposed activation time: 23:00 hrs 31st March 2005

BC2 describes how NGC shall use the information supplied by BM participants under BC1 once the Gate Closure has passed and how participants should operate their BMUs which respect to this data. It also provides for the revision of certain BMU data after Gate Closure. BC2 also covers the process for NGC in issuing of BOAs and various other operational instructions.

OC7.4.8 proposed activation time: 11:00 hrs 31st March 2005

This will ensure Scottish Users will receive the appropriate system warnings, if any were to be issued prior to Go-Live.

- 44. The proposed text that supports these changes is shown in Appendix 1 as double underlined.

COMMENTS

- 45. NGC would be grateful to receive your comments on, or any suggestions you may have in relation to, these proposed amendments to the Grid Code, and any additional views in relation to further activation of the Grid Code for Users in Scotland prior to Go-live.
- 46. All comments would be welcomed and should be sent to NGC by 31 January 2005. Two weeks have been added on to the normal consultation timetable to allow for the holiday period. NGC will review and respond to the comments and then prepare its report to the Authority.
- 47. Respondents should note that unless marked as confidential any responses to this consultation will be published on NGCs Industry Information website. All written responses, whether marked as confidential or not, will be sent to the Authority.
- 48. If you wish to discuss any aspect of this consultation please contact Patrick Hynes on 01926 656319 / patrick.hynes@ngtuk.com or Matthew Ray on 01189 363058 / matthew.ray@ngtuk.com .
- 49. Your formal responses may be:-

Posted to: David Payne
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APPENDIX 1

Additional text for GC.A2

GC.A2.13 Cut over

- (a) The provisions of **BC1** (excluding BC1.5.1, BC1.5.2 and BC1.5.3) shall apply to and be complied with by **Scottish Users** and by **NGC** in respect of such **Scottish Users** with effect from 11:00 hours on the day prior to **Go-Live**
- (b) Notwithstanding (a) above, **Scottish Users** may submit data for **Go-Live** 3 days in advance of **Go-Live** on the basis set out in the **Data Validation, Consistency and Defaulting Rules** which shall apply to **Scottish Users** and **NGC** in respect of such **Scottish Users** on that basis and for such purpose.
- (c) The **Operational Day** for the purposes of any submissions by **Scottish Users** prior to **Go-Live** under a) and b) above for the day of **Go-Live** shall be 00:00 hours on **Go Live** to 05:00 hours on the following day.
- (c) The provisions of **BC2** shall apply to and be complied with by **Scottish Users** and by **NGC** in respect of such **Scottish Users** with effect from 23:00 hours on the day prior to **Go-Live**.
- (e) The provisions of **OC7.4.8** shall apply to and be complied with by **Scottish Users** and by **NGC** in respect of such **Scottish Users** with effect from 11:00 hours on the day prior to **Go-Live**.
- (f) In order to facilitate cut over, **Scottish Users** acknowledge and agree that **NGC** will exchange data submitted by such **Scottish Users** under BC1 prior to **Go-Live** with the Scottish system operators to the extent necessary to enable the cut over.