

## THE NATIONAL GRID COMPANY plc

### Revisions to the Grid Code

#### Consultation Paper D/01

### PROVISIONS RELATING TO EMBEDDED LARGE POWER STATIONS

13<sup>th</sup> JULY 2001

A. Introduction

1. The National Grid Company plc ("NGC"), in accordance with its obligations under paragraph 2 of Condition 8A of the Transmission Licence, believes that it is now appropriate to review, in consultation with authorised electricity operators liable to be materially affected thereby, the Grid Code and its implementation in certain respects.
2. This review relates to the Grid Code provisions affecting Embedded Large Power Stations and results from an issue raised by Transmission System Users in the context of the recent changes introduced to the Grid Code as a result of the introduction of the New Electricity Trading Arrangements (NETA). The proposed changes to the Grid Code were presented by a User and discussed at the Grid Code Review Panel meeting held on 17<sup>th</sup> May 2001. Panel members agreed that NGC should issue a Consultation Paper.
3. Following receipt of comments from those authorised electricity operators which it has consulted by this Paper, NGC intends, in accordance with paragraph 2 of Condition 8A of the Transmission Licence, to send to the Authority:-
  - (a) a report on the outcome of its review, including this consultation process;
  - (b) any proposed revisions to the Grid Code which NGC (having regard to the outcome of such review) reasonably thinks fit for the achievement of the objectives of the Grid Code referred to in sub-paragraph (b) of paragraph 1 of Condition 8A of the Transmission Licence; and
  - (c) any written representations or objections from authorised electricity operators (including any proposals by such operators for revisions to the Grid Code not accepted by NGC in the course of the review) arising during the consultation process and subsequently maintained.
4. Any proposed revisions to the Grid Code sent to the Authority then require approval by that body and will, if approved, come into force on such date (or

dates) of which you will be notified by NGC, in accordance with the Authority's approval.

B. DESCRIPTION OF THE ISSUES

5. Background

5.1 Prior to the introduction of NETA, all Centrally Despatched Generating Units subject to system constraints, whether Embedded in a Distribution System or directly connected to the NGC Transmission System, were treated in a similar manner commercially through the Pool trading mechanism, as contained in the Pool Rules. By definition, the output of any Centrally Despatched Generating Unit was instructed by NGC. Post the introduction of NETA, BM Units affected by constraints on the NGC Transmission System are subject to a commercial mechanism which provides for a broadly similar outcome. In the period leading to the introduction of NETA, policy decisions were made by the NETA Programme which led to the trading arrangements reflected in NETA not providing for a similar commercial mechanism for embedded generation in respect of constraints on Distribution Systems.

5.2 The output of generating plant (whether Embedded or directly connected), whose position needs to be adjusted from its Physical Notification due to Transmission constraints, is managed by NGC in accordance with the provisions of Part D of the Balancing Principles Statement (as required by Condition 7B of NGC's Transmission Licence) and may be recompensed through the acceptance of Bids or Offers in the Balancing Mechanism.

5.3 No Bids or Offers will be accepted in the Balancing Mechanism to alleviate Distribution system constraints. The Generator, after consultation with the Network Operator, is responsible for ensuring that no BM Unit Data submitted to NGC can result in the violation of any such constraint on a User System. This results in:-

- i) the Embedded Large Power Station not being recompensed through the acceptance of Bids or Offers in the Balancing Mechanism;
- ii) the Embedded Large Power Station being potentially liable for imbalance costs arising from being unable to meet its contracted position; and
- iii) the Embedded Large Power Station potentially being at variance to its declared Final Physical Notifications,

as a result of Distribution System constraints.

5.4 The change in commercial treatment, which is reflected in certain wording of the Grid Code (as implemented at NETA Go-Live), has caused concern to the owners of the affected Gensets who consider this change to be discriminatory and acting against the facilitation of competition in generation. Following correspondence with Ofgem and the DTI, and recognising that the issue had previously been tabled at the Grid Code Review Panel, the Secretary of State urged the continued use of this route to pursue the issue. Therefore, a proposal to amend the Grid Code was submitted to the meeting of the Grid Code Review Panel on 17<sup>th</sup> May 2001 by a representative of the Users affected. In the proposed amendment, the proposers sought to amend the Grid Code to remove

the wording which currently obliges the affected Generator to ensure that no data submitted violates any constraint on the network in which it is embedded.

6. The Suggested Grid Code Changes

6.1 The Grid Code currently refers to constraints in a User System in BC1.6.1. The current wording is reproduced below:-

**BC1.6.1 User System Data from Network Operators**

- (a) *By 1000 hours each day each **Network Operator** will submit to **NGC** in writing, confirmation or notification of the following in respect of the next **Operational Day**:*
- (i) *constraints on its **User System** which **NGC** may need to take into account in operating the **NGC Transmission System**. The term "constraints" shall include restrictions on the operation of **Embedded CCGT Units** as a result of the **User System** to which the **CCGT Unit** is connected at the **User System Entry Point** being operated or switched in a particular way, for example, splitting the relevant busbar. It is a matter for the **Network Operator** and the **Generator** to arrange the operation or switching, and to deal with any resulting consequences. The **Generator**, after consultation with the **Network Operator**, is responsible for ensuring that no **BM Unit Data** submitted to **NGC** can result in the violation of any such constraint on the **User System**.*
  - (ii) *the requirements of voltage control and MVAR reserves which **NGC** may need to take into account for **System** security reasons.*
- (b) *The form of the submission will be:*
- (i) *that of a **BM Unit** output or consumption (for MW and for MVAR, in each case a fixed value or an operating range, on the **User System** at the **User System Entry Point**, namely in the case of a **BM Unit** comprising a **Generating Unit** on the higher voltage side of the generator step-up transformer) required for particular **BM Units** (identified in the submission) connected to that **User System** for each **Settlement Period** of the next **Operational Day**;*
  - (ii) *adjusted in each case for MW by the conversion factors applicable for those **BM Units** to provide output or consumption at the relevant **Grid Supply Points**.*
- (c) *At any time and from time to time, between 1000 hours each day and the expiry of the next **Operational Day**, each **Network Operator** must submit to **NGC** in writing any revisions to the information submitted under this BC1.6.1.*

- 6.2 It has been suggested that the last sentence of BC1.6.1(a)(i) is amended to read:-

*"The **Generator**, after consultation with the **Network Operator**, is responsible for ensuring that no **BM Unit Data** submitted to **NGC** in respect of an **Embedded Large Power Station with a Completion Date after 27<sup>th</sup> March 2001** or an **Embedded Medium Power Station** or an **Embedded Small Power Station** can result in the violation of any such constraint on the **User System**."*

- 6.3 This change will permit "unconstrained" as opposed to "constrained" data to be submitted by Embedded Large Power Stations which were previously Centrally Despatched, which is the stated aim of the User requesting the change. A possible alternative, also suggested, is to delete the sentence completely, which would permit the submission of "unconstrained" data on behalf of all Embedded Power Stations. The current operational procedure to manage the output of Power Stations subject to constraints on the Transmission System would need to be extended to deal (in conjunction with the Network Operator) with constraints on a Distribution System, whereby the output of the Power Station will be varied by the acceptance of Bids/Offer. As with constraints on the Transmission System, the acceptance of these Bids/Offer must take priority over the normal acceptance of Bids/Offer in the Balancing Mechanism. This change may have commercial implications, as described in the table of paragraph 7.1 below.

## 7. Wider Measures

- 7.1 Although this consultation paper cannot address the commercial impact of the measure proposed and any other measures required, it is felt that it would be helpful to highlight the likely consequences of this particular proposal and to suggest a few possible alternatives (not requiring this proposed change to the Grid Code) and their implications:-

Option	Implications
Amend Grid Code as proposed in this paper.	<p>Change may be required to NGC operational practices which may require a change to the Grid Code (and Distribution Code) to permit the collection of more data.</p> <p>Change may be required to the Balancing Principles Statement and possibly to the Transmission Licence.</p> <p>Any additional costs would be borne by industry participants in accordance with the Balancing Services cost recovery arrangements and these would be of concern to those industry participants. Currently, management of transmission constraint costs under the Balancing Services cost recovery forms part of NGC's incentivisation arrangements. Whether the management of any costs arising from this proposal in respect of constraints on distribution systems should also form part of NGC's incentivisation arrangements would be of concern to NGC as well as other industry participants.</p>

Option	Implications
	It will be necessary for owners of other documents in use in the industry to check these to establish if any changes are necessary, and to ensure that any such changes are implemented in a co-ordinated manner.
Alternative changes involving no amendment to Grid Code as proposed in this paper	
<p>Alternative 1</p> <p>BSC amended to provide for compensation payments.</p>	<p>Change will be required to the Balancing and Settlement Code.</p> <p>Decisions to be made on source of compensation. Any additional costs are likely to be borne by industry participants and therefore of concern to them.</p> <p>Changes may be required to the Balancing Principles Statement, the Grid Code and the Distribution Code.</p> <p>It will be necessary for owners of other documents in use in the industry to check these to establish if any changes are necessary, and to ensure that any such changes are implemented in a co-ordinated manner.</p>
<p>Alternative 2</p> <p>Embedded Generator and Network Operator to enter into bilateral agreements, as promoted by Ofgem.</p>	<p>The Authority may need to develop a framework under which bilateral agreements can be agreed .</p> <p>Decisions to be made on source of compensation. The source of compensation will be of concern to industry participants.</p> <p>Changes may be required to the Grid Code and the Distribution Code .</p> <p>It will be necessary for owners of other documents in use in the industry to check these to establish if any changes are necessary, and to ensure that any such changes are implemented in a co-ordinated manner.</p>
<p>Alternative 3</p> <p>Make no changes to existing arrangements.</p>	<p>Status quo.</p> <p>The issue will remain unresolved.</p> <p>The proposers consider that changes to the Grid Code, Distribution Code and other documents would be required to regularise this position and would pursue this as a separate issue. As above, owners of other industry documents would be requested to perform checks and ensure any consequential changes were implemented in a co-ordinated manner.</p>

7.2 It is important to note that the Grid Code is concerned primarily with technical and data communication requirements. However, changes to the Grid Code have commercial implications in many cases. This particular change proposal may lead to modifications to commercial arrangements for constraint payments. This may advantage or disadvantage Users. Consequently all Users are encouraged to consider this consequential aspect of this Grid Code modification proposal and to provide comments accordingly.

B. COMMENTS

8. 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. Comments would be welcomed and should be sent to NGC by 24<sup>th</sup> August 2001. The comments will be reviewed and responded to and NGC will then prepare its report to the Authority.

9. Your formal responses may be:-

Posted to: Mr G J Charter  
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The National Grid Company plc  
National Grid House  
Kirby Corner Road  
Coventry  
CV4 8JY

Faxed to: 024 7642 3298

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