GRID CODE REVIEW PANEL

MAXIMUM GENERATION SERVICE

1. Introduction

1.1 The majority of generators are able to produce energy over and above the normal design operating capability of the plant. Different plant types have different methods of generating this energy, for example, switching out feeder heaters, duct firing, oil over burn or via GT NOx control. In addition, certain generators may be effectively able to provide extra MW by reducing site demand (for example switching off the FGD plant – subject to emissions limits). In all of the above situations the additional output is non-sustainable. In the Pool this energy was available via the use of Maxgen instructions, and was delivered on a 'reasonable endeavours' basis, paid on delivered energy and was not subject to TNUoS.

1.2 This energy is comparatively expensive to provide as it usually involves inefficient processes (around 50% less efficient than normal operation) and can potentially increase wear and tear. By its nature, this energy is uncertain as it is dependant upon a number of facets such as ambient temperature, prevailing operating conditions, state of the plant or quality of the fuel and is therefore difficult to offer as a firm service. Potential providers have indicated purchasing additional TEC to cover this capacity is not commercially viable.

1.3 The current BSC and Grid Code rules preclude Generators from offering BM offers to provide this energy (e.g. even if it were only accessed by issuing an Emergency Instruction to the generators) since as currently drafted it would have to be delivered on a firm basis. Indications show that the volume of this capacity could be up to 600MW.

1.4 The suggestion that a "Maximum Generation Service" should be developed was made at a recent Operational Forum by several market participants, who pointed out that this extra capacity would have provided a useful extra security margin when the system was tight (e.g. on 10th December 2002). National Grid considers that it is important that it has access to this additional capacity as a further tool for managing the system over periods of maximum demand or generation shortage.

2.0 Proposal

2.1 It is proposed to introduce a mechanism to gain access to this energy for winter 2003/04 so that it may be used at times of system stress for security of supply. In the longer term a more developed service could be considered, but this could involve substantial changes to the BSC and/or CUSC (for example to allow for non-firm BM offers) but it is unlikely that it could be implemented in time for this winter.

2.2 The proposal is to establish a new Ancillary Service (Maximum Generation Service) which would only be called via an Emergency Instruction under Emergency Circumstances as set out in BC2.9 of the Grid Code. The circumstances in which it could be called would be set out in the Balancing Principles Statement. The Procurement Guidelines would set out the process for delivering the service.

2.3 The service will be delivered outside the Balancing Mechanism and thus a BM Offer would not be accepted for the delivered volume of energy. It may be appropriate to treat the delivered volume under the ABSVD methodology. The precise contractual terms will be for discussion but it is envisaged that the service would not involve an option fee – the payment would be on an utilisation only basis for delivered energy.

2.4 In providing the service a generator may exceed their TEC. The CUSC currently allows a generator to export power in excess of TEC if instructed to do so through an Emergency Instruction (under BC2.9). This service will be delivered under existing provisions in the CUSC (i.e. no change required).

2.5 However, the definition of an Emergency Instruction in BC2.9 would need to be extended to specifically allow for the new service. This is required as BC2.9.2.3 (and also section Q of the BSC) state that Emergency Instructions will be treated as a Bid-Offer acceptance in the BM, with the exception of those set out in BC2.9.1.2 (e). Therefore the Grid Code change would be to include the new service within BC2.9.1.2 (e).

2.6 If the Maximum Generation Service is to be available from the autumn "clock change" then it is essential that the proposed modification is considered by Grid Code Review Panel Members as a matter of urgency.

3.0 Recommendation

3.1 The Grid Code Review Panel is invited to:

- consider the proposed draft Grid Code revisions and provide their views and comments.
- note that having taken into account comments from GCRP members, National Grid intends to initiate a wider consultation on the proposed Grid Code provisions set out in this paper with a view to providing a report to the Authority early in October 2003.

National Grid Company plc

Date 26 August 03

ATTACHMENT

Proposed draft indicative changes to the Grid Code to enable Maximum Generation Services

The following sets out indicative changes required to the Grid Code to allow NGC to call for Maximum Generation Services.

All changes are in red text with deletions struck out and insertions underlined.

Glossary and Definitions: insert new definitions:

Maximum Generation Service, MGS	A service utilised by **NGC** in operating the **Total System** if a **User** (or other person) has agreed to provide it under a **Maximum Generation Services Agreement.**
Maximum Generation Services Agreement	An agreement between a **User** and **NGC** for the payment by **NGC** to that **User** in respect of the provision by such **User** of **Maximum Generation Services.**

Balancing Code 2
The following indicative changes are proposed to BC2.9. The entirety of BC2.9.1-3 has been included for completeness.

BC2.9 EMERGENCY CIRCUMSTANCES

BC2.9.1 Emergency Actions

BC2.9.1.1 In certain circumstances (as determined by **NGC** in its reasonable opinion) it will be necessary, in order to preserve the integrity of the **NGC Transmission System** and any synchronously connected **External System**, for **NGC** to issue **Emergency Instructions.** In such circumstances, it may be necessary to depart from normal **Balancing Mechanism** operation in accordance with BC2.7 in issuing **Bid-Offer Acceptances**. **BM Participants** must also comply with the requirements of **BC3**.

BC2.9.1.2 Examples of circumstances that may require the issue of **Emergency Instructions** include:-

(a) **Events** on the **NGC Transmission System** or the **System** of another **User**; or

(b) the need to maintain adequate **System** and **Localised NRAPM** in accordance with BC2.9.4 below; or

(c) the need to maintain adequate frequency sensitive **Generating Units** in accordance with BC2.9.5 below; or

(d) the need to implement **Demand Control** in accordance with OC6; or

(e) (i) the need to invoke the **Black Start** process or the **Re-Synchronisation of De-Synchronised Island** process in accordance with OC9~~.~~; or

(ii) the need to issue request the provision of a **Maximum Generation Service.**

BC2.9.1.3 In the case of **BM Units** in England or Wales, **Emergency Instructions** will be issued by **NGC** direct to the **User** at the **Control Point** for the **BM Unit** and may require an action or response which is outside its **Other Relevant Data**, **QPN**s, or **Export and Import Limits** submitted under **BC1,** or revised under **BC1** or **BC2**, or **Dynamic Parameters** submitted or revised under **BC2**.

BC2.9.1.4 In the case of a **Network Operator** or an **Externally Interconnected System Operator**, **Emergency Instructions** will be issued to its **Control Centre.**

BC2.9.2 Implementation of **Emergency Instructions**

BC2.9.2.1 **Users** will respond to **Emergency Instructions** issued by **NGC** without delay and using all reasonable endeavours to so respond. **Emergency Instructions** may only be rejected by an **User** on safety grounds (relating to personnel or plant) and this must be notified to **NGC** immediately by telephone.

BC2.9.2.2 **Emergency Instructions** will always be prefixed with the words "This is an **Emergency Instruction**".

BC2.9.2.3 In all cases under this BC2.9 except BC2.9.1.2 (e) where **NGC** issues an **Emergency Instruction** to a **BM Participant** which is not rejected under BC2.9.2.1, the **Emergency Instruction** shall be treated as a **Bid-Offer Acceptance**. For the avoidance of doubt, any **Emergency Instruction** issued to a **Network Operator** or to an **Externally Interconnected System Operator** will not be treated as a **Bid-Offer Acceptance**.

BC2.9.2.4 In the case of BC2.9.1.2 (e) (ii) where NGC issues an **Emergency Instruction** under a **Maximum Generation Service Agreement** payment will be dealt with under the **Maximum Generation Service Agreement**.

BC2.9.3 Examples of **Emergency Instructions**

BC2.9.3.1 In the case of a **BM Unit**, **Emergency Instructions** may include an instruction for the **BM Unit** to operate in a way that is not consistent with the **Dynamic Parameters**, **QPNs** and/or **Export and Import Limits**.

BC2.9.3.2 In the case of a **Generator, Emergency Instructions** may include**:**

(a) an instruction to trip one or more **Gensets;** or

(b) an instruction to trip **Mills** or to **Part Load** a **Generating Unit;** or

(c) an instruction to **Part Load** a **CCGT Module**; or

(d) an instruction for the operation of **CCGT Units** within a **CCGT Module** (on the basis of the information contained within the **CCGT Module Matrix**) when emergency circumstances prevail (as determined by **NGC** in **NGC's** reasonable opinion)~~.~~ ;or

(e) an instruction to generate outside normal parameters, as allowed for in the **Maximum Generation Service Agreement.**