Our Ref:

Your Ref:

Date: 31st March 2005

To: All Recipients of the Serviced Grid Code

Commercial Industry Codes

National Grid Company plc
National Grid Transco House
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Warwick
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Dear Sir/Madam

THE SERVICED GRID CODE – ISSUE 3 REVISION 9

Revision 9 of Issue 3 of the Grid Code has been approved by the Authority for implementation on **1st April 2005**.

I have enclosed the replacement pages that incorporate the agreed changes necessary to update the serviced copies of the Grid Code Issue 3 held by you to Revision 9 standard.

The enclosed note indicates the changes that are necessary to incorporate the pages and also attached is a brief summary of the changes made to the text.

Please note that your Grid Code Servicing arrangements will cease on 31st December 2005 and will not be renewed. If you require e-mail notification of Grid Code updates becoming available on the Industry Information website please forward your e-mail address to:

david.payne@ngtuk.com

The notification will provide a direct link to the update file in .pdf format which you will be able to down load to the folder of your choice.

Yours faithfully

D Payne
Industry Codes

THE GRID CODE – ISSUE 3 REVISION 9

INCLUSION OF REVISED PAGES

Title Page			
Connection Conditions	**CC**	**-**	**Pages 11/12**
Revisions			**Page 9**

NOTE: See Page 1 of the Revisions section of the Grid Code for details of how the revisions are indicated on the pages.

NATIONAL GRID COMPANY plc

THE GRID CODE – ISSUE 3 REVISION 9

SUMMARY OF CHANGES

The changes arise from the implementation of modifications as Directed by the Authority on 31 March 2005 – Direction in relation to the application of Grid Code requirement Connection Conditions CC.6.3 to Small Power Stations in Scotland.

1. Connection Conditions

   Amend CC.6.3.1 in order for the Grid Code to retain the nearest equivalent requirements, consistent with the GB wide transmission and trading arrangements, to those that currently exist for Small Power Stations in Scotland.

THE GRID CODE

Issue 3

Revision 9
1st April 2005

THIS DOCUMENT IS ISSUED BY:-

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(iv) For connections with the **GB Transmission System** at 400kV or 275kV, the **Back-Up Protection** will be provided by the **Network Operator** or **Non-Embedded Customer**, as the case may be, with a fault clearance time not slower than 300mS for faults on the **Network Operator's** or **Non-Embedded Customer's Apparatus**.

(v) Such **Protection** will also be required to withstand, without tripping, the loading incurred during the clearance of a fault on the **GB Transmission System** by breaker fail **Protection** at 400kV or 275kV. This will permit **Discrimination** between **Network Operator** or **Non-Embedded Customer**, as the case may be, **Back-Up Protection** and **Back-Up Protection** provided on the **GB Transmission System** and other **User Systems**. The requirement for and level of **Discrimination** required will be specified in the **Bilateral Agreement**.

(c) (i) Where the **Network Operator** or **Non-Embedded Customer** is connected to the **GB Transmission System** at 400kV or 275kV, and in Scotland also at 132kV, and a circuit breaker is provided by the **Network Operator** or **Non-Embedded Customer**, or **NGC**, as the case may be, to interrupt the interchange of fault current with the **GB Transmission System** or the **System** of the **Network Operator** or **Non-Embedded Customer**, as the case may be, circuit breaker fail **Protection** will be provided by the **Network Operator** or **Non-Embedded Customer**, or **NGC**, as the case may be, on this circuit breaker.

(ii) In the event, following operation of a **Protection** system, of a failure to interrupt fault current by these circuit-breakers within the **Fault Current Interruption Time**, the circuit breaker fail **Protection** is required to initiate tripping of all the necessary electrically adjacent circuit-breakers so as to interrupt the fault current within the next 200 ms.

(d) The target performance for the **System Fault Dependability Index** shall be not less than 99%. This is a measure of the ability of **Protection** to initiate successful tripping of circuit breakers which are associated with the faulty items of **Apparatus**.

CC.6.2.3.2 Fault Disconnection Facilities

Where no **Transmission** circuit breaker is provided at the **User's** connection voltage, the **User** must provide **NGC** with the means of tripping all the **User's** circuit breakers necessary to isolate faults or **System** abnormalities on the **GB Transmission System**. In these circumstances, for faults on the **User's System**, the **User's Protection** should also trip higher voltage **Transmission** circuit breakers. These tripping facilities shall be in accordance with the requirements specified in the **Bilateral Agreement**.

CC.6.2.3.3 Automatic Switching Equipment

Where automatic reclosure of **Transmission** circuit breakers is required following faults on the **User's System**, automatic switching equipment shall be provided in accordance with the requirements specified in the **Bilateral Agreement**.

CC.6.2.3.4 Relay Settings

Protection and relay settings will be co-ordinated (both on connection and subsequently) across the **Connection Point** in accordance with the **Bilateral Agreement** to ensure effective disconnection of faulty **Apparatus**.

CC.6.2.3.5 Work on **Protection** equipment

Where a **Transmission Licensee** owns the busbar at the **Connection Point**, no busbar **Protection**, mesh corner **Protection** relays, AC or DC wiring (other than power supplies or DC tripping associated with the **Network Operator** or **Non-Embedded Customer's Apparatus** itself) may be worked upon or altered by the **Network Operator** or **Non-Embedded Customer** personnel in the absence of a representative of **NGC** or in Scotland, a representative of **NGC**, or written authority from **NGC** to perform such work or alterations in the absence of a representative of **NGC**.

CC.6.2.3.6 Equipment to be provided

CC.6.2.3.6.1 **Protection** of Interconnecting Connections

The requirements for the provision of **Protection** equipment for interconnecting connections will be specified in the **Bilateral Agreement**.

CC.6.3 GENERAL **GENERATING UNIT** REQUIREMENTS

CC.6.3.1 This section sets out the technical and design criteria and performance requirements for **Generating Units** (whether directly connected to the **GB Transmission System** or **Embedded**) which each **Generator** must ensure are complied with in relation to its **Generating Units**, but does not apply to **Small Power Stations**, and in England and Wales, hydro units and renewable energy plant not designed for **Frequency** and voltage control. References to **Generating Units** in this CC.6.3 should be read accordingly.

Plant Performance Requirements

CC.6.3.2 All **Generating Units** must be capable of supplying rated power output (MW) at any point between the limits 0.85 power factor lagging and 0.95 power factor leading at the **Generating Unit** terminals. The short circuit ratio of **Generating Units** shall be not less than 0.5.

CC.6.3.3 Each **Generating Unit** and/or **CCGT Module** must be capable of

(a) continuously maintaining constant **Active Power** output for **System Frequency** changes within the range 50.5 to 49.5 Hz; and

(b) maintaining its **Active Power** output at a level not lower than the figure determined by the linear relationship shown in Figure 1 for **System Frequency** changes within the range 49.5 to 47 Hz, such that if the **System Frequency** drops to 47 Hz the **Active Power** output does not decrease by more than 5%.

Revision 8 Effective Date: 30th March 2005

CODE	PAGE	CLAUSE
PC	1	PC.1.1 amended
GC	1	GC.4.2 (b) amended
GC	2	GC.4.3 (c) (xi) amended
GC	6/7	GC.12.2 added

Revision 9 Effective Date: 1st April 2005

CODE	PAGE	CLAUSE
CC	12	CC.6.3.1 amended