

# **OPERATING CODE NO. 7**

**(OC7)**

## **OPERATIONAL LIAISON**

### **CONTENTS**

(This contents page does not form part of the Grid Code)

<u>Paragraph No/Title</u>	<u>Page Number</u>
OC7.1 INTRODUCTION.....	2
OC7.2 OBJECTIVE .....	2
OC7.3 SCOPE.....	3
OC7.4 PROCEDURE .....	3
OC7.4.5 Requirement To Notify Operations.....	3
OC7.4.6 Requirements To Notify Events .....	6
OC7.4.7 Significant Incidents .....	9
Oc7.4.8 National Electricity Transmission System Warnings.....	10
OC7.5 PROCEDURE IN RELATION TO INTEGRAL EQUIPMENT TESTS .....	14
OC7.6 PROCEDURE IN RESPECT OF OPERATIONAL SWITCHING IN SCOTLAND AND OFFSHORE.....	16
APPENDIX 1 - NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNINGS TABLE.....	20

## OC7.1 INTRODUCTION

OC7.1.1 **Operating Code No. 7** ("OC7") sets out the requirements for the exchange of information in relation to **Operations** and/or **Events** on the **Total System** which have had (or may have had) or will have (or may have) an **Operational Effect**:

- (a) on the **National Electricity Transmission System** in the case of an **Operation** and/or **Event** occurring on the **System** of a **User** or **Users**; and
- (b) on the **System** of a **User** or **Users** in the case of an **Operation** and/or **Event** occurring on the **National Electricity Transmission System**.

It also describes the types of **National Electricity Transmission System Warning** which may be issued by **The Company**.

OC7.1.2 The requirement to notify in **OC7** relates generally to notifying of what is expected to happen or what has happened and not the reasons why. However, as **OC7** provides, when an **Event** or **Operation** has occurred on the **National Electricity Transmission System** which itself has been caused by (or exacerbated by) an **Operation** or **Event** on a **User's System**, **The Company** in reporting the **Event** or **Operation** on the **National Electricity Transmission System** to another **User** can pass on what it has been told by the first **User** in relation to the **Operation** or **Event** on the first **User's System**.

OC7.1.3 Where an **Event** or **Operation** on the **National Electricity Transmission System** falls to be reported by **The Company** to an **Externally Interconnected System Operator** under an **Interconnection Agreement**, **OC7** provides that in the situation where that **Event** or **Operation** has been caused by (or exacerbated by) an **Operation** or **Event** on a **User's System**, **The Company** can pass on what it has been told by the **User** in relation to the **Operation** or **Event** on that **User's System**.

OC7.1.4 **OC7** also deals with **Integral Equipment Tests**.

OC7.1.5 To reconfigure the **National Electricity Transmission System**, **The Company** may reasonably require the assistance of a **User** to reconfigure parts of the **User System**. To reconfigure its **User System** a **User** may reasonably require the reasonable assistance of **The Company** to direct the reconfiguration of parts of the **National Electricity Transmission System**.

OC7.1.6 **OC7.6** sets down the arrangements for the exchange of information required when configuring **Connection Sites** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time**, **Transmission Interface Sites**) and parts of the **National Electricity Transmission System** adjacent to those **Connection Sites** (or **Transmission Interface Sites**) in Scotland and **Offshore**. It also covers the setting up of a **Local Switching Procedure**. **The Company** shall procure that **Relevant Transmission Licensees** shall comply with section **OC7.6** and any relevant **Local Switching Procedure** where and to the extent that such matters apply to them.

## OC7.2 OBJECTIVE

The objectives of **OC7** are:

OC7.2.1 To provide for the exchange of information so that the implications of an **Operation** and/or **Event** can be considered, possible risks arising from it can be assessed and appropriate action taken by the relevant party in order to maintain the integrity of the **Total System**. **OC7** does not seek to deal with any actions arising from the exchange of information, but merely with that exchange.

OC7.2.2 To provide for types of **National Electricity Transmission System Warnings** which may be issued by **The Company**.

OC7.2.3 To provide the framework for the information flow and discussion between **The Company** and certain **Users** in relation to **Integral Equipment Tests**.

OC7.2.4 To provide the procedure to be followed in respect of **Operational Switching**

### OC7.3 SCOPE

OC7.3.1 **OC7** applies to **The Company** and to **Users**, which in **OC7** means:

- (a) **Generators** (other than those which only have **Embedded Small Power Stations** or **Embedded Medium Power Stations**) and including **Generators** undertaking **OTSDUW**;
- (b) **Network Operators**;
- (c) **Non-Embedded Customers**;
- (d) **Suppliers** (for the purposes of **National Electricity Transmission System Warnings**);
- (e) **Externally Interconnected System Operators** (for the purposes of **National Electricity Transmission System Warnings**); and
- (f) **DC Converter Station** owners and **HVDC System Owners**.

The procedure for operational liaison by **The Company** with **Externally Interconnected System Operators** is set out in the **Interconnection Agreement** with each **Externally Interconnected System Operator**.

OC7.6 also applies to **Relevant Transmission Licensees**.

### OC7.4 PROCEDURE

OC7.4.1 The term "**Operation**" means a scheduled or planned action relating to the operation of a **System** (including an **Embedded Power Station**).

OC7.4.2 The term "**Event**" means an unscheduled or unplanned (although it may be anticipated) occurrence on, or relating to, a **System** (including an **Embedded Power Station**) including, without limiting that general description, faults, incidents and breakdowns and adverse weather conditions being experienced.

OC7.4.3 The term "**Operational Effect**" means any effect on the operation of the relevant other **System** which causes the **National Electricity Transmission System** or the **Systems** of the other **User** or **Users**, as the case may be, to operate (or be at a materially increased risk of operating) differently to the way in which they would or may have normally operated in the absence of that effect.

OC7.4.4 References in this **OC7** to a **System** of a **User** or **User's System** shall not include **Embedded Small Power Stations** or **Embedded Medium Power Stations**, unless otherwise stated.

#### OC7.4.5 Requirement To Notify Operations

##### OC7.4.5.1 Operation On The National Electricity Transmission System

In the case of an **Operation** on the **National Electricity Transmission System**, which will have (or may have) an **Operational Effect** on the **System(s)** of a **User** or **Users**, **The Company** will notify the **User** or **Users** whose **System(s)** will, or may, in the reasonable opinion of **The Company**, be affected, in accordance with **OC7**.

##### OC7.4.5.2 Operation On a User's System

In the case of an **Operation** on the **System** of a **User** which will have (or may have) an **Operational Effect** on the **National Electricity Transmission System** (including an equivalent to an **Operation** on the equivalent of a **System** of a **User** or other person connected to that **User's System** which, via that **User System**, will or may have an **Operational Effect** on the **National Electricity Transmission System**), the **User** will notify **The Company** in accordance with **OC7**. Following notification by the **User**, **The Company** will notify any other **User** or **Users** on whose **System(s)** the **Operation** will have, or may have, in the reasonable opinion of **The Company**, an **Operational Effect**, in accordance with **OC7** and will notify any **Externally Interconnected System Operator** on whose **System** the **Operation** will have, or may have, in the reasonable opinion of **The Company**, an **Operational Effect**, if it is required to do so by the relevant **Interconnection Agreement**.

##### OC7.4.5.3 Examples Of Situations Where Notification By The Company Or a User may be Required

Whilst in no way limiting the general requirement to notify in advance set out in OC7.4.5.1 and OC7.4.5.2, the following are examples of situations where notification in accordance with OC7.4.5 will be required if they will, or may, have an **Operational Effect**:

- (a) the implementation of a planned outage of **Plant** and/or **Apparatus** which has been arranged pursuant to **OC2**;
- (b) the operation (other than, in the case of a **User**, at the instruction of **The Company**) of any circuit breaker or isolator/disconnector or any sequence or combination of the two; or
- (c) voltage control.

#### OC7.4.5.4 Operations Caused By Another Operation Or By An Event

An **Operation** may be caused by another **Operation** or an **Event** on another's **System** (including an **Embedded Power Station**) (or by the equivalent of an **Event** or **Operation** on the **System** of an **Externally Interconnected System Operator** or **Interconnector User**) and in that situation the information to be notified is different to that where the **Operation** arose independently of any other **Operation** or **Event**, as more particularly provided in OC7.4.5.6.

#### OC7.4.5.5 Form

A notification and any response to any questions asked under OC7.4.5, of an **Operation** which has arisen independently of any other **Operation** or of an **Event**, shall be of sufficient detail to describe the **Operation** (although it need not state the cause) and to enable the recipient of the notification reasonably to consider and assess the implications and risks arising (provided that, in the case of an **Operation** on a **User's System** which **The Company** is notifying to other **Users** under OC7.4.5.2, **The Company** will only pass on what it has been told by the **User** which has notified it) and will include the name of the individual reporting the **Operation** on behalf of **The Company** or the **User**, as the case may be. The recipient may ask questions to clarify the notification and the giver of the notification will, insofar as it is able, answer any questions raised, provided that, in the case of an **Operation** on a **User's System** which **The Company** is notifying to other **Users** under OC7.4.5.2, in answering any question, **The Company** will not pass on anything further than that which it has been told by the **User** which has notified it. **The Company** may pass on the information contained in the notification as provided in OC7.4.5.6.

- OC7.4.5.6 (a) A notification by **The Company** of an **Operation** under OC7.4.5.1 which has been caused by another **Operation** (the "first **Operation**") or by an **Event** on a **User's System**, will describe the **Operation** and will contain the information which **The Company** has been given in relation to the first **Operation** or that **Event** by the **User**. The notification and any response to any questions asked (other than in relation to the information which **The Company** is merely passing on from a **User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Operation** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Operation** on behalf of **The Company**. The recipient may ask questions to clarify the notification and **The Company** will, insofar as it is able, answer any questions raised, provided that in relation to the information which **The Company** is merely passing on from a **User**, in answering any question **The Company** will not pass on anything further than that which it has been told by the **User** which has notified it.
- (b) Where a **User** is reporting an **Operation** or an **Event** which itself has been caused by an incident or scheduled or planned action affecting (but not on) its **System**, the notification to **The Company** will contain the information which the **User** has been given by the person connected to its **System** in relation to that incident or scheduled or planned action (which the **User** must require, contractually or otherwise, the person connected to its **System** to give to it) and **The Company** may pass on the information contained in the notification as provided in this OC7.4.5.6.

- OC7.4.5.7 Where an **Operation** on the **National Electricity Transmission System** falls to be reported by **The Company** under an **Interconnection Agreement** and the **Operation** has been caused by another **Operation** (the "first **Operation**") or by an **Event** on a **User's System**, **The Company** will include in that report the information which **The Company** has been given in relation to the first **Operation** or that **Event** by the **User** (including any information relating to an incident or scheduled or planned action, as provided in OC7.4.5.6).
- OC7.4.5.8 (a) A notification to a **User** by **The Company** of an **Operation** under OC7.4.5.1 which has been caused by the equivalent of an **Operation** or of an **Event** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, will describe the **Operation** on the **National Electricity Transmission System** and will contain the information which **The Company** has been given, in relation to the equivalent of an **Operation** or of an **Event** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, by that **Externally Interconnected System Operator** or **Interconnector User**.
- (b) The notification and any response to any question asked (other than in relation to the information which **The Company** is merely passing on from that **Externally Interconnected System Operator** or **Interconnector User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Operation** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Operation** on behalf of **The Company**. The recipient may ask questions to clarify the notification and **The Company** will, insofar as it is able, answer any questions raised, provided that, in relation to the information which **The Company** is merely passing on from an **Externally Interconnected System Operator** or **Interconnector User**, in answering any question **The Company** will not pass on anything further than that which it has been told by the **Externally Interconnected System Operator** or **Interconnector User** which has notified it.
- OC7.4.5.9 (a) A **Network Operator** may pass on the information contained in a notification to it from **The Company** under OC7.4.5.1, to a **Generator** with a **Power Generating Module** (including a **DC Connected Power Park Module**), **Generating Unit** or a **Power Park Module** connected to its **System**, or to a **DC Converter Station** owner with a **DC Converter** or to a **HVDC System Owner** with a **HVDC System** connected to its **System**, or to the operator of another **User System** connected to its **System** (which, for the avoidance of doubt, could be another **Network Operator**), in connection with reporting the equivalent of an **Operation** under the **Distribution Code** (or the contract pursuant to which that **Power Generating Module** (including a **DC Connecting Power Generating Module**), and/or **Generating Unit** and/or **Power Park Module** or other **User System**, or to a **DC Converter Station** or to an **HVDC System** is connected to the **System** of that **Network Operator**) (if the **Operation** on the **National Electricity Transmission System** caused it).
- (b) A **Generator** may pass on the information contained in a notification to it from **The Company** under OC7.4.5.1, to another **Generator** with a **Power Generating Module** (including a **DC Connected Power Park Module**) and/or a **Generating Unit** or a **Power Park Module** connected to its **System**, or to the operator of a **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), if it is required (by a contract pursuant to which that **Power Generating Module** (including a **DC Connected Power Park Module**) and/or **Generating Unit** and/or that **Power Park Module** or that **User System** is connected to its **System**) to do so in connection with the equivalent of an **Operation** on its **System** (if the **Operation** on the **National Electricity Transmission System** caused it).

- OC7.4.5.10 (a) Other than as provided in OC7.4.5.9, a **Network Operator** or a **Generator** may not pass on any information contained in a notification to it from **The Company** under OC7.4.5.1 (and an operator of a **User System** or **Generator** receiving information which was contained in a notification to a **Generator** or a **Network Operator**, as the case may be, from **The Company** under OC7.4.5.1, as envisaged in OC7.4.5.9 may not pass on this information) to any other person, but may inform persons connected to its **System** (or in the case of a **Generator** which is also a **Supplier**, inform persons to which it supplies electricity which may be affected) that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected) an estimated time of return to service.
- (b) In the case of a **Generator** which has an **Affiliate** which is a **Supplier**, the **Generator** may inform it that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected in a particular area) an estimated time of return to service in that area, and that **Supplier** may pass this on to persons to which it supplies electricity which may be affected).
- (c) Each **Network Operator** and **Generator** shall use its reasonable endeavours to procure that any **Generator** or operator of a **User System** receiving information which was contained in a notification to a **Generator** or **Network Operator**, as the case may be, from **The Company** under OC7.4.5.1, which is not bound by the **Grid Code**, does not pass on any information other than as provided above.
- OC7.4.5.11 The notification will, if either party requests, be recorded by the sender and dictated to the recipient, who shall record and repeat each phrase as it is received and on completion of the dictation shall repeat back the notification in full to the sender who shall confirm that it has been accurately recorded.
- OC7.4.5.12 Timing
- A notification under OC7.4.5 will be given as far in advance as possible and in any event shall be given in sufficient time as will reasonably allow the recipient to consider and assess the implications and risks arising.
- OC7.4.6 Requirements To Notify Events
- OC7.4.6.1 Events On The National Electricity Transmission System
- In the case of an **Event** on the **National Electricity Transmission System** which has had (or may have had) an **Operational Effect** on the **System(s)** of a **User** or **Users**, **The Company** will notify the **User** or **Users** whose **System(s)** have been, or may have been, in the reasonable opinion of **The Company**, affected, in accordance with **OC7**.
- OC7.4.6.2 Events On A User's System
- In the case of an **Event** on the **System** of a **User** which has had (or may have had) an **Operational Effect** on the **National Electricity Transmission System**, the **User** will notify **The Company** in accordance with **OC7**.
- OC7.4.6.3 Events Caused By Another Event Or By An Operation
- An **Event** may be caused (or exacerbated by) another **Event** or by an **Operation** on another's **System** (including on an **Embedded Power Station**) (or by the equivalent of an **Event** or **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**) and in that situation the information to be notified is different to that where the **Event** arose independently of any other **Event** or **Operation**, as more particularly provided in OC7.4.6.7.
- OC7.4.6.4 **The Company** or a **User**, as the case may be, may enquire of the other whether an **Event** has occurred on the other's **System**. If it has, and the party on whose **System** the **Event** has occurred is of the opinion that it may have had an **Operational Effect** on the **System** of the party making the enquiry, it shall notify the enquirer in accordance with **OC7**.
- OC7.4.6.5 Examples Of Situations Where Notification By The Company or a User may be Required

Whilst in no way limiting the general requirement to notify set out in OC7.4.6.1, OC7.4.6.2 and OC7.4.6.3, the following are examples of situations where notification in accordance with OC7.4.6 will be required if they have an **Operational Effect**:

- (a) where **Plant** and/or **Apparatus** is being operated in excess of its capability or may present a hazard to personnel;
- (b) the activation of any alarm or indication of any abnormal operating condition;
- (c) adverse weather conditions being experienced;
- (d) breakdown of, or faults on, or temporary changes in the capabilities of, **Plant** and/or **Apparatus**;
- (e) breakdown of, or faults on, control, communication and metering equipment; or
- (f) increased risk of inadvertent protection operation.

Form

- OC7.4.6.6 A notification and any response to any questions asked under OC7.4.6.1 and OC7.4.6.2 of an **Event** which has arisen independently of any other **Event** or of an **Operation**, will describe the **Event**, although it need not state the cause of the **Event**, and, subject to that, will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising and will include the name of the individual reporting the **Event** on behalf of **The Company** or the **User**, as the case may be. The recipient may ask questions to clarify the notification and the giver of the notification will, insofar as it is able (although it need not state the cause of the **Event**) answer any questions raised. **The Company** may pass on the information contained in the notification as provided in OC7.4.6.7.
- OC7.4.6.7 (a) A notification (and any response to any questions asked under OC7.4.6.1) by **The Company** of (or relating to) an **Event** under OC7.4.6.1 which has been caused by (or exacerbated by) another **Event** (the "first **Event**") or by an **Operation** on a **User's System** will describe the **Event** and will contain the information which **The Company** has been given in relation to the first **Event** or that **Operation** by the **User** (but otherwise need not state the cause of the **Event**). The notification and any response to any questions asked (other than in relation to the information which **The Company** is merely passing on from a **User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Event** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Event** on behalf of **The Company**. The recipient may ask questions to clarify the notification and **The Company** will, insofar as it is able, answer any questions raised, provided that in relation to the information which **The Company** is merely passing on from a **User**, in answering any question **The Company** will not pass on anything further than that which it has been told by the **User** which has notified it.
- (b) Where a **User** is reporting an **Event** or an **Operation** which itself has been caused by (or exacerbated by) an incident or scheduled or planned action affecting (but not on) its **System** the notification to **The Company** will contain the information which the **User** has been given by the person connected to its **System** in relation to that incident or scheduled or planned action (which the **User** must require, contractually or otherwise, the person connected to its **System** to give to it) and **The Company** may pass on the information contained in the notification as provided in this OC7.4.6.7.
- OC7.4.6.8 Where an **Event** on the **National Electricity Transmission System** falls to be reported by **The Company** under an **Interconnection Agreement** and the **Event** has been caused by (or exacerbated by) another **Event** (the "first **Event**") or by an **Operation** on a **User's System**, **The Company** will include in that report the information which **The Company** has been given in relation to the first **Event** or that **Operation** by the **User** (including any information relating to an incident or scheduled or planned action on that **User's System**, as provided in OC7.4.6.7).

- OC7.4.6.9 (a) A notification to a **User** (and any response to any questions asked under OC7.4.6.1) by **The Company** of (or relating to) an **Event** under OC7.4.6.1 which has been caused by (or exacerbated by) the equivalent of an **Event** or of an **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, will describe the **Event** on the **National Electricity Transmission System** and will contain the information which **The Company** has been given, in relation to the equivalent of an **Event** or of an **Operation** on the equivalent of a **System** of an **Externally Interconnected System Operator** or **Interconnector User**, by that **Externally Interconnected System Operator** or **Interconnector User** (but otherwise need not state the cause of the **Event**).
- (b) The notification and any response to any questions asked (other than in relation to the information which **The Company** is merely passing on from that **Externally Interconnected System Operator** or **Interconnector User**) will be of sufficient detail to enable the recipient of the notification reasonably to consider and assess the implications and risks arising from the **Event** on the **National Electricity Transmission System** and will include the name of the individual reporting the **Event** on behalf of **The Company**. The recipient may ask questions to clarify the notification and **The Company** will, insofar as it is able (although it need not state the cause of the **Event**) answer any questions raised, provided that, in relation to the information which **The Company** is merely passing on from an **Externally Interconnected System Operator** or **Interconnector User**, in answering any question **The Company** will not pass on anything further than that which it has been told by the **Externally Interconnected System Operator** or **Interconnector User** which has notified it.
- OC7.4.6.10 (a) A **Network Operator** may pass on the information contained in a notification to it from **The Company** under OC7.4.6.1, to a **Generator** with a **Power Generating Module** (including a **DC Connected Power Park Module**) and/or **Generating Unit** and/or a **Power Park Module** connected to its **System** or to a **DC Converter Station** owner with a **DC Converter** or to an **HVDC System Owner** with an **HVDC System** connected to its **System** or to the operator of another **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), in connection with reporting the equivalent of an **Event** under the **Distribution Code** (or the contract pursuant to which that **Power Generating Module** and/or **Generating Unit** and/or **Power Park Module** or **DC Converter** or **HVDC System** or other **User System** is connected to the **System** of that **Network Operator**) (if the **Event** on the **National Electricity Transmission System** caused or exacerbated it).
- (b) A **Generator** may pass on the information contained in a notification to it from **The Company** under OC7.4.6.1, to another **Generator** with a **Power Generating Module** and/or **Generating Unit** and/or a **Power Park Module** connected to its **System** or to the operator of a **User System** connected to its **System** (which, for the avoidance of doubt, could be a **Network Operator**), if it is required (by a contract pursuant to which that **Power Generating Module** (including a **DC Connected Power Park Module**) and/or **Generating Unit** and/or that **Power Park Module** or that **User System** is connected to its **System**) to do so in connection with the equivalent of an **Event** on its **System** (if the **Event** on the **National Electricity Transmission System** caused or exacerbated it).
- OC7.4.6.11 (a) Other than as provided in OC7.4.6.10, a **Network Operator** or a **Generator**, may not pass on any information contained in a notification to it from **The Company** under OC7.4.6.1 (and an operator of a **User System** or **Generator** receiving information which was contained in a notification to a **Generator** or a **Network Operator**, as the case may be, from **The Company** under OC7.4.6.1, as envisaged in OC7.4.6.10 may not pass on this information) to any other person, but may inform persons connected to its **System** (or in the case of a **Generator** which is also a **Supplier**, inform persons to which it supplies electricity which may be affected) that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected) an estimated time of return to service.



- (b) In the case of a **Generator** which has an **Affiliate** which is a **Supplier**, the **Generator** may inform it that there has been an incident on the **Total System**, the general nature of the incident (but not the cause of the incident) and (if known and if power supplies have been affected in a particular area) an estimated time of return to service in that area, and that **Supplier** may pass this on to persons to which it supplies electricity which may be affected).
- (c) Each **Network Operator** and **Generator** shall use its reasonable endeavours to procure that any **Generator** or operator of a **User System** receiving information which was contained in a notification to a **Generator** or **Network Operator**, as the case may be, from **The Company** under OC7.4.6.1, which is not bound by the **Grid Code**, does not pass on any information other than as provided above.

OC7.4.6.12 When an **Event** relating to a **Power Generating Module** and/or **Generating Unit** and/or a **Power Park Module** or a **DC Converter** or an **HVDC System** (or **OTSUA** operational prior to the **OTSUA Transfer Time**), has been reported to **The Company** by a **Generator** or **DC Converter Station** owner or **HVDC System Owner** under OC7.4.6 and it is necessary in order for the **Generator** or **DC Converter Station** owner or **HVDC System Owner** to assess the implications of the **Event** on its **System** more accurately, the **Generator** or **DC Converter Station** owner or **HVDC System Owner** may ask **The Company** for details of the fault levels from the **National Electricity Transmission System** to that **Power Generating Module** and/or **Generating Unit** and/or **Power Park Module** or **DC Converter** or **HVDC System** (or **OTSUA** operational prior to the **OTSUA Transfer Time**) at the time of the **Event**, and **The Company** will, as soon as reasonably practicable, give the **Generator** or **DC Converter Station** owner or **HVDC System Owner** that information provided that **The Company** has that information.

OC7.4.6.13 Except in an emergency situation the notification of an **Event** will, if either party requests, be recorded by the sender and dictated to the recipient, who shall record and repeat each phrase as it is received and on completion of the dictation shall repeat the notification in full to the sender who shall confirm that it has been accurately recorded.

#### Timing

OC7.4.6.14 A notification under OC7.4.6 shall be given as soon as possible after the occurrence of the **Event**, or time that the **Event** is known of or anticipated by the giver of the notification under **OC7**, and in any event within 15 minutes of such time.

#### Significant Incidents

OC7.4.7.1 Where a **User** notifies **The Company** of an **Event** under **OC7** which **The Company** considers has had or may have had a significant effect on the **National Electricity Transmission System**, **The Company** will require the **User** to report that **Event** in writing in accordance with the provisions of **OC10** and will notify that **User** accordingly.

OC7.4.7.2 Where **The Company** notifies a **User** of an **Event** under **OC7** which the **User** considers has had or may have had a significant effect on that **User's System**, that **User** will require **The Company** to report that **Event** in writing in accordance with the provisions of **OC10** and will notify **The Company** accordingly.

OC7.4.7.3 **Events** which **The Company** requires a **User** to report in writing pursuant to OC7.4.7.1, and **Events** which a **User** requires **The Company** to report in writing pursuant to OC7.4.7.2, are known as "**Significant Incidents**".

OC7.4.7.4 Without limiting the general description set out in OC7.4.7.1 and OC7.4.7.2, a **Significant Incident** will include **Events** having an **Operational Effect** which result in, or may result in, the following:

- (a) operation of **Plant** and/or **Apparatus** either manually or automatically;
- (b) voltage outside statutory limits;
- (c) **Frequency** outside statutory limits; or
- (d) **System** instability.

#### OC 7.4.8 National Electricity Transmission System Warnings

##### OC7.4.8.1 Role Of National Electricity Transmission System Warnings

**National Electricity Transmission System Warnings** as described below provide information relating to **System** conditions or **Events** and are intended to:

- (i) alert **Users** to possible or actual **Plant** shortage, **System** problems and/or **Demand** or generation **Active Power** reductions;
- (ii) inform of the applicable period;
- (iii) indicate intended consequences for **Users**; and
- (iv) enable specified **Users** to be in a state of readiness to react properly to instructions received from **The Company**.

A table of **National Electricity Transmission System Warnings**, set out in Appendix 1 to **OC7**, summarises the warnings and their usage. In the case of a conflict between the table and the provisions of the written text of **OC7**, the written text will prevail.

##### OC7.4.8.2 Recipients Of National Electricity Transmission System Warnings

- (a) Where **National Electricity Transmission System Warnings**, (except those relating to **Demand Control Imminent** and **Embedded Generation Control Imminent**), are applicable to **System** conditions or **Events** which have widespread effect, **The Company** will notify all **Users** under **OC7**.
- (b) Where in **The Company's** judgement **System** conditions or **Events** may only have a limited effect, the **National Electricity Transmission System Warning** will as a minimum only be issued to those **Users** who are or may in **The Company's** judgement be affected.
- (c) Where a **National Electricity Transmission System Warning - Demand Control Imminent** is issued it will as a minimum only be sent to those **Users** who are likely to receive **Demand Control** instructions from **The Company**.
- (d) Where a **National Electricity Transmission System Warning Embedded Generation Control Imminent** is issued it will as a minimum only be sent to those **Network Operators** who are likely to receive **Embedded Generation Control** instructions.

##### OC7.4.8.3 Preparatory Action

- (a) Where possible, and if required, recipients of the warnings should take such preparatory action as they deem necessary taking into account the information contained in the **National Electricity Transmission System Warning**. All warnings will be of a form determined by **The Company** and will remain in force from the stated time of commencement until the cancellation, amendment or re-issue, as the case may be, is notified by **The Company**.
- (b) Where a **National Electricity Transmission System Warning** has been issued to a **Network Operator** and is current, **Demand Control** should not (subject as provided below) be employed unless instructed by **The Company**. If **Demand Control** is, however, necessary to preserve the integrity of the **Network Operator's System**, then the impact upon the integrity of the **Total System** should be considered by the **Network Operator** and where practicable discussed with **The Company** prior to its implementation.

Where a **National Electricity Transmission System Warning** has been issued to a **Supplier**, further **Customer Demand Management** (in addition to that previously notified under **OC1 - Demand Forecasts**) must only be implemented following notification to **The Company**.

- (c) **National Electricity Transmission System Warnings** will be issued by such data transmission facilities as have been agreed between **The Company** and **Users**. In the case of **Generators** with **Gensets** this will normally be at their **Trading Points** (if they have notified **The Company** that they have a **Trading Point**).
- (d) **Users** may at times be informed by telephone of **National Electricity Transmission System Warnings** and in these circumstances confirmation will be sent to those **Users** so notified by such data transmission facilities as have been agreed between **The Company** and **Users**, as soon as possible.

#### OC7.4.8.4 Types Of National Electricity Transmission System Warnings

**National Electricity Transmission System Warnings** consist of the following types:-

- (i) **National Electricity Transmission System Warning - Electricity Margin Notice**
- (ii) **National Electricity Transmission System Warning - High Risk of Demand Reduction**
- (iii) **National Electricity Transmission System Warning - Demand Control Imminent**
- (iv) **National Electricity Transmission System Warning – System NRAPM**
- (v) **National Electricity Transmission System Warning – Localised NRAPM**
- (vi) **National Electricity Transmission System Warning – High Risk of Embedded Generation Reduction**
- (vii) **National Electricity Transmission System Warning - Embedded Generation Control Imminent**
- (viii) **National Electricity Transmission System Warning - Risk of System Disturbance**

#### OC7.4.8.5 National Electricity Transmission System Warning - Electricity Margin Notice

A **National Electricity Transmission System Warning - Electricity Margin Notice** may be issued to **Users** in accordance with OC7.4.8.2, at times when there is a reduced **System Margin**, as determined under BC1.5.4. It will contain the following information:

- (i) the period for which the warning is applicable; and
- (ii) the availability shortfall in MW; and
- (iii) intended consequences for **Users**, including notification that **Maximum Generation Service** may be instructed.

#### OC 7.4.8.6 National Electricity Transmission System Warning - High Risk of Demand Reduction

- (a) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** may be issued to **Users** in accordance with OC7.4.8.2 at times when there is a reduced **System Margin**, as determined under BC1.5.4 and in **The Company's** judgement there is increased risk of **Demand** reduction being implemented under OC6.5.1. It will contain the following information in addition to the required information in a **National Electricity Transmission System Warning - Electricity Margin Notice**:

- (i) the possible percentage level of **Demand** reduction required; and
- (ii) Specify those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.1.

- (b) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** may also be issued by **The Company** to those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.1 relating to a **Demand** reduction in circumstances not related to **System Margin** (for example **Demand** reduction required to manage **System** overloading).

The **National Electricity Transmission System Warning - High Risk of Demand Reduction** will specify the period during which **Demand** reduction may be required and the part of the **Total System** to which it applies and any other matters specified in OC6.5.

#### OC7.4.8.6.1 Protracted Periods Of Generation Shortage

- (a) Whenever **The Company** anticipates that a protracted period of generation shortage may exist a **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** may be issued, to give as much notice as possible to those **Network Operators** and **Non Embedded Customers** who may subsequently receive instructions under OC6.5.
- (b) A **National Electricity Transmission System Warning - High Risk of Demand Reduction** will in these instances include an estimate of the percentage of **Demand** reduction that may be required and the anticipated duration of the **Demand** reduction. It may also include information relating to estimates of any further percentage of **Demand** reduction that may be required.
- (c) The issue of the **National Electricity Transmission System Warning - Electricity Margin Notice** or **High Risk of Demand Reduction** is intended to enable recipients to plan ahead on the various aspects of **Demand** reduction.

#### OC7.4.8.7 National Electricity Transmission System Warning - Demand Control Imminent

- (a) A **National Electricity Transmission System Warning - Demand Control Imminent**, relating to a **Demand** reduction under OC6.5, will be issued by **The Company** to **Users** in accordance with OC7.4.8.2. It will specify those **Network Operators** who may subsequently receive instructions under OC6.5.
- (b) A **National Electricity Transmission System Warning - Demand Control Imminent**, need not be preceded by any other **National Electricity Transmission System Warning** and will be issued when a **Demand** reduction is expected within the following 30 minutes, but will not cease to have effect after 30 minutes from its issue. However, **The Company** will either reissue the **National Electricity Transmission System Warning - Demand Control Imminent** or cancel the **National Electricity Transmission System Warning - Demand Control Imminent** no later than 2 hours from first issue, or from re-issue, as the case may be.

#### OC7.4.8.8 **National Electricity Transmission System Warning – System NRAPM**

- (a) Procedures for maintaining **System NRAPM** are defined in BC1.5.5 but where this is, in the view of **The Company** and as set out in BC1.5.5, deemed likely to be insufficient this will be communicated to all **Users** and will be treated as a **System Warning**.
- (b) Such a **System Warning** will where possible include information on the likely reduction in **Active Power** that will be required and the timing and duration of this.
- (c) A **System NRAPM** refers to the margin of **Active Power** across the whole **System**.

#### OC7.4.8.9 **National Electricity Transmission System Warning – Localised NRAPM**

- (a) Procedures for maintaining **Localised NRAPM** are defined in BC1.5.5 but where this is, in the view of **The Company** and as set out in BC1.5.5, deemed likely to be insufficient this will be communicated to all **Users** and will be treated as a **System Warning**.
- (b) Such a **System Warning** will where possible include information on the likely reduction in **Active Power** that will be required and the timing and duration of this.
- (c) A **Localised NRAPM** refers to the management of transfers to and from a **System Constraint Group**.

OC 7.4.8.10 **National Electricity Transmission System Warning - High Risk of Embedded Generation Reduction**

- (a) A **National Electricity Transmission System Warning - High Risk of Embedded Generation Reduction** may be issued to **Users** in accordance with OC7.4.8.2 at times when in **The Company's** judgement there is increased risk of **Embedded Generation Control** being required as defined in OC6B.5.1.
- (b) In addition to any information communicated through a **System NRAPM** or **Localised NRAPM**, the **National Electricity Transmission System Warning - High Risk of Embedded Generation Reduction** will specify the period during which **Embedded Generation Control** may be required and the part of the **Total System** to which it applies and any other matters specified in OC6B.5.
- (c) The issue of the **National Electricity Transmission System Warning - High Risk of Embedded Generation Reduction** is intended to enable recipients to plan ahead on the various aspects of **Embedded Generation Control**.

OC7.4.8.11 **National Electricity Transmission System Warning – Embedded Generation Control Imminent**

- (a) A **National Electricity Transmission System Warning – Embedded Generation Control Imminent** will be issued by **The Company** to **Users** in accordance with OC7.4.8.2. It will specify those **Network Operators** who may subsequently receive instructions under OC6B.5.
- (b) A **National Electricity Transmission System Warning – Embedded Generation Control Imminent**, need not be preceded by any other **National Electricity Transmission System Warning** and will be issued when an **Embedded Generation Control** instruction is expected within the following 30 minutes, but will not cease to have effect after 30 minutes from its issue. However, **The Company** will either reissue the **National Electricity Transmission System Warning – Embedded Generation Control Imminent** or cancel the **National Electricity Transmission System Warning – Embedded Generation Control Imminent** no later than 2 hours from first issue, or from re-issue, as the case may be.

OC7.4.8.12 **National Electricity Transmission System Warning - Risk of System Disturbance**

- (a) A **National Electricity Transmission System Warning - Risk of System Disturbance** will be issued by **The Company** to **Users** who may be affected when **The Company** knows there is a risk of widespread and serious disturbance to the whole or part of, the **National Electricity Transmission System**;
- (b) The **National Electricity Transmission System Warning - Risk of System Disturbance** will contain such information as **The Company** deems appropriate;
- (c) For the duration of the **National Electricity Transmission System Warning - Risk of System Disturbance**, each **User** in receipt of the **National Electricity Transmission System Warning - Risk of System Disturbance** shall take the necessary steps to warn its operational staff and to maintain its **Plant** and/or **Apparatus** in the condition in which it is best able to withstand the anticipated disturbance;
- (d) During the period that the **National Electricity Transmission System Warning - Risk of System Disturbance** is in effect, **The Company** may issue **Emergency Instructions** in accordance with **BC2** and it may be necessary to depart from normal **Balancing Mechanism** operation in accordance with **BC2** in issuing **Bid-Offer Acceptances**.

OC7.4.8.13 **Cancellation of National Electricity Transmission System Warning**

- (a) **The Company** will give notification of a **Cancellation of National Electricity Transmission System Warning** to all **Users** issued with the **National Electricity Transmission System Warning** when in **The Company's** judgement **System** conditions have returned to normal.

- (b) A **Cancellation of National Electricity Transmission System Warning** will identify the type of **National Electricity Transmission System Warning** being cancelled and the period for which it was issued. The **Cancellation of National Electricity Transmission System Warning** will also identify any **National Electricity Transmission System Warnings** that are still in force.

OC7.4.8.14 General Management of National Electricity Transmission System Warnings

- (a) **National Electricity Transmission System Warnings** remain in force for the period specified unless superseded or cancelled by **The Company**.
- (b) A **National Electricity Transmission System Warning** issued for a particular period may be superseded by further related warnings. This will include **National Electricity Transmission System Warning - Electricity Margin Notice** being superseded by **National Electricity Transmission System Warning - High Risk of Demand Reduction** and vice-versa, and **National Electricity Transmission System Warning – System NRAPM** being superseded by **National Electricity Transmission System Warning - High Risk of Embedded Generation Reduction**.
- (c) In circumstances where it is necessary for the period of a **National Electricity Transmission System Warning** to be changed:
  - (i) the period applicable may be extended by the issue of a **National Electricity Transmission System Warning** with a period which follows on from the original period, or
  - (ii) revised or updated **National Electricity Transmission System Warnings** will be issued where there is an overlap with the period specified in an existing **National Electricity Transmission System Warning**, but only if the revised period also includes the full period of the existing **National Electricity Transmission System Warning**.

In any other case the existing **National Electricity Transmission System Warning** will be cancelled and a new one issued.

- (c) A **National Electricity Transmission System Warning** is no longer applicable once the period has passed and to confirm this **The Company** will issue a **Cancellation of National Electricity Transmission System Warning**.

OC7.4.8.15 Publication of Other System Alerts and Warnings

- (a) All instructions, warnings, alerts and notifications upon being received or issued by **The Company** (whether activating or deactivating an action) as per Appendix 2 of OC7 will be published on the **BMRS**. Should the **BMRS** be unavailable, for example due to communications or systems failures, other appropriate channels including email will be utilised until the **BMRS** can be restored.
  - (b) **The Company** will employ reasonable endeavours to publish such information within 15 minutes of issue or receipt, or if not possible within as short a time as is reasonably practicable.

OC7.5 PROCEDURE IN RELATION TO INTEGRAL EQUIPMENT TESTS

OC7.5.1 This section of the **Grid Code** deals with **Integral Equipment Tests**. It is designed to provide a framework for the exchange of relevant information and for discussion between **The Company** and certain **Users** in relation to **Integral Equipment Tests**.

OC7.5.2 An **Integral Equipment Test** :

- (a) is carried out in accordance with the provisions of this OC7.5 at:
  - (i) a **User Site**,
  - (ii) a **Transmission Site**,
  - (iii) an **Embedded Large Power Station**, or,

- (iv) an **Embedded DC Converter Station**; or
- (v) an **Embedded HVDC System**
- (b) will normally be undertaken during commissioning or re-commissioning of **Plant** and/or **Apparatus**;
- (c) may, in the reasonable judgement of the person wishing to perform the test, cause, or have the potential to cause, an **Operational Effect** on a part or parts of the **Total System** but which with prior notice is unlikely to have a materially adverse effect on any part of the **Total System**; and
- (d) may form part of an agreed programme of work.

In the case of **OTSUA** operation prior to the **OTSUA Transfer Time**, a **User's Site** or **Transmission Site** shall, for the purposes of this **OC7**, include a site at which there is an **Interface Point** until the **OTSUA Transfer Time** and the provisions of this **OC7.5** and references to **OTSUA** shall be construed and applied accordingly until the **OTSUA Transfer Time**.

OC7.5.3 A set of guidance notes is available from **The Company** on request, which provide further details on suggested procedures, information flows and responsibilities.

#### Notification Of An IET

OC7.5.4 In order to undertake an **Integral Equipment Test** (and subject to OC7.5.8 below), the **User** or **The Company**, as the case may be, (the proposer) must notify the other (the recipient) of a proposed **IET**. Reasonable advance notification must be given, taking into account the nature of the test and the circumstances which make the test necessary. This will allow recipients time to adequately assess the impact of the **IET** on their **System**.

OC7.5.5 The notification of the **IET** must normally include the following information:-

- (a) the proposed date and time of the **IET**;
- (b) the name of the individual and the organisation proposing the **IET**;
- (c) a proposed programme of testing; and
- (d) such further detail as the proposer reasonably believes the recipient needs in order to assess the effect the **IET** may have on relevant **Plant** and/or **Apparatus**.

OC7.5.6 In the case of an **IET** in connection with commissioning or re-commissioning, the test should be incorporated as part of any overall commissioning programme agreed between **The Company** and the **User**.

#### Response To Notification of an IET

OC7.5.7 The recipient of notification of an **IET** must respond within a reasonable timescale prior to the start time of the **IET** and will not unreasonably withhold or delay acceptance of the **IET** proposal.

OC7.5.8 (a) Where **The Company** receives notification of a proposed **IET** from a **User**, **The Company** will consult those other **Users** whom it reasonably believes may be affected by the proposed **IET** to seek their views. Information relating to the proposed **IET** may be passed on by **The Company** with the prior agreement of the proposer. However it is not necessary for **The Company** to obtain the agreement of any such **User** as **IETs** should not involve the application of irregular, unusual or extreme conditions. **The Company** may however consider any comments received when deciding whether or not to agree to an **IET**.

(b) In the case of an **Embedded Large Power Station** or **Embedded DC Converter Station**, or **Embedded HVDC System**, the **Generator** or **DC Converter Station** owner or **HVDC System Owner** as the case may be, must liaise with both **The Company** and the relevant **Network Operator**. **The Company** will not agree to an **IET** relating to such **Plant** until the **Generator** or **DC Converter Station** owner or **HVDC System Owner** has shown that it has the agreement of the relevant **Network Operator**.

- (c) A **Network Operator** will liaise with **The Company** as necessary in those instances where it is aware of an **Embedded Small Power Station** or an **Embedded Medium Power Station** which intends to perform tests which in the reasonable judgement of the **Network Operator** may cause an **Operational Effect** on the **National Electricity Transmission System**.

OC7.5.9 The response from the recipient, following notification of an **IET** must be one of the following:

- (a) to accept the **IET** proposal;
- (b) to accept the **IET** proposal conditionally subject to minor modifications such as date and time;
- (c) not to agree the **IET**, but to suggest alterations to the detail and timing of the **IET** that are necessary to make the **IET** acceptable.

Final Confirmation Of an IET

OC7.5.10 The date and time of an **IET** will be confirmed between **The Company** and the **User**, together with any limitations and restrictions on operation of **Plant** and/or **Apparatus**.

OC7.5.11 The **IET** may subsequently be amended following discussion and agreement between **The Company** and the **User**.

Carrying Out an IET

OC7.5.12 **IETs** may only take place when agreement has been reached and must be carried out in accordance with the agreed programme of testing.

OC7.5.13 The implementation of an **IET** will be notified in accordance with OC7.4.5.

OC7.5.14 Where elements of the programme of testing change during the **IET**, there must be discussion between the appropriate parties to identify whether the **IET** should continue.

OC7.6 PROCEDURE IN RESPECT OF OPERATIONAL SWITCHING

OC7.6.1 This section OC7.6 of the **Grid Code** sets out the procedure to be followed for **Operational Switching**. Its provisions are supplementary to the provisions of the rest of this **OC7**.

It is designed to set down the arrangements for **The Company**, **Users** and the **Relevant Transmission Licensees** in respect of the **Operational Switching** of **Plant** and **Apparatus** at a **Connection Site** and parts of the **National Electricity Transmission System** adjacent to that **Connection Site**.

OC7.6.2 In general:

- (i) **The Company** is responsible for directing the configuration of the **National Electricity Transmission System**
- (ii) Each **Relevant Transmission Licensee** is responsible for the instruction and operation of its **Plant** and **Apparatus** on its **Transmission System**.
- (iii) Each **User** is responsible for the configuration, instruction and operation of its **Plant** and **Apparatus**.

Definitive schedules of these responsibilities for each **Connection Site** are contained in the relevant **Site Responsibility Schedules**.

For the avoidance of doubt, where a **User** operates **Transmission Plant** and **Apparatus** on behalf of a **Relevant Transmission Licensee**, **The Company** cannot instruct the **User** to operate that **Plant** and **Apparatus**.

Planned Operational Switching



- OC7.6.3 Following the notification of an **Operation** under OC7.4.5, **The Company** and the **User** shall discuss the **Operational Switching** required. **The Company** will then discuss and agree the details of the **Operational Switching** with the **Relevant Transmission Licensee**. The **Relevant Transmission Licensee** shall then make contact with the **User** to initiate the **Operational Switching**. For the avoidance of doubt, from the time that the **Relevant Transmission Licensee** makes contact with the **User**, the **Relevant Transmission Licensee** shall then become the primary point of operational contact with the **User** in relation to **OC7** for matters which would or could affect, or would or could be affected by the **Operational Switching**.
- OC7.6.4 The **User** shall be advised by the **Relevant Transmission Licensee** on the completion of the **Operational Switching**, that **The Company** shall again become the primary point of operational contact for the **User** in relation to **OC7**.
- OC7.6.5 During **Operational Switching**, either the **Relevant Transmission Licensee** or the **User** may need to unexpectedly terminate the **Operational Switching**. **The Company** may also need to terminate the **Operational Switching** during the **Operational Switching**. In the event of unexpected termination of the **Operational Switching**, **The Company** shall become the primary point of operational contact for the **User** in relation to **OC7**. Following the termination of the **Operational Switching**, it will not be permitted to restart that **Operational Switching** without the parties again following the process described in OC7.6.3.

#### Emergencies

- OC7.6.6 For **Operations** and/or **Events** that present an immediate hazard to the safety of personnel, **Plant** or **Apparatus**, the **Relevant Transmission Licensee** may:
- (i) as permitted by the **STC**, carry out **Operational Switching** of **Plant** and **Apparatus** on its **Transmission System** without reference to **The Company** and the **User**, and
  - (ii) request a **User** to carry out **Operational Switching** without the **User** first receiving notification from **The Company**.
- In such emergency circumstances, communication between the **Relevant Transmission Licensee** and the **User** shall normally be by telephone and will include an exchange of names. The **User** shall use all reasonable endeavours to carry out **Operational Switching** on its **Plant** and **Apparatus** without delay. Following completion of the requested **Operational Switching**, the **Relevant Transmission Licensee** shall notify **The Company** of the **Operational Switching** which has taken place. In such emergency circumstances, the **User** may only refuse to carry out **Operational Switching** on safety grounds (relating to personnel or plant) and this must be notified to the **Relevant Transmission Licensee** immediately by telephone.
- OC7.6.7 For **Operations** and/or **Events** that present an immediate hazard to the safety of personnel, **Plant** or **Apparatus**, and which require **Operational Switching** of **Plant** or **Apparatus** on a **Transmission System** in order to remove the hazard, the **User** should contact the **Relevant Transmission Licensee** directly to request **Operational Switching** of **Plant** or **Apparatus** on its **Transmission System**.
- In such emergency circumstances, communication between the **Relevant Transmission Licensee** and the **User** shall normally be by telephone and will include an exchange of names. The **Relevant Transmission Licensee** shall use all reasonable endeavours to carry out **Operational Switching** on its **Plant** and **Apparatus** without delay. Following completion of the requested **Operational Switching**, the **User** shall notify **The Company** of the **Operational Switching** which has taken place. In such emergency circumstances, the **Relevant Transmission Licensee** may only refuse to carry out **Operational Switching** on safety grounds (relating to personnel or plant) and this must be notified to the **User** immediately by telephone.
- OC7.6.8 Establishment Of A Local Switching Procedure
- (a) **The Company**, a **User** or a **Relevant Transmission Licensee** may reasonably require a **Local Switching Procedure** to be established.

- (b) Where the need for a **Local Switching Procedure** arises the following provisions shall apply:
- (i) **The Company, User(s)** and the **Relevant Transmission Licensee** will discuss and agree the detail of the **Local Switching Procedure** as soon as the requirement for a **Local Switching Procedure** is identified. **The Company** will notify the **Relevant Transmission Licensee** and the affected **User(s)** and will initiate these discussions.
  - (ii) Each **Local Switching Procedure** shall be in relation to either one or more **Connection Sites** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time, Transmission Interface Sites**) and parts of the **National Electricity Transmission System** adjacent to the **Connection Site(s)** (or in the case of **OTSUA** operational prior to the **OTSUA Transfer Time, Transmission Interface Sites**)
  - (iii) A draft **Local Switching Procedure** shall be prepared by the **Relevant Transmission Licensee** to reflect the agreement reached and shall be sent to **The Company**.
  - (iv) When a **Local Switching Procedure** has been prepared, it shall be sent by **The Company** to the **Relevant Transmission Licensee** and **User(s)** for confirmation of its accuracy.
  - (v) The **Local Switching Procedure** shall then be signed on behalf of **The Company** and on behalf of each **User** and **Relevant Transmission Licensee** by way of written confirmation of its accuracy.
  - (vi) Once agreed under this OC7.6.8, the procedure will become a **Local Switching Procedure** under the **Grid Code**, and (subject to any change pursuant to this **OC7**) will apply between **The Company, Relevant Transmission Licensee** and the relevant **User(s)** as if it were part of the **Grid Code**.
  - (vii) Once signed, **The Company** will send a copy of the **Local Switching Procedure** to the **Relevant Transmission Licensee** and the **User(s)**.
  - (viii) An agreed **Local Switching Procedure** should be referenced by relevant **Site Responsibility Schedules**.
  - (ix) **The Company, the User(s)** and the **Relevant Transmission Licensee** must make the **Local Switching Procedure** readily available to the relevant operational staff.
  - (x) If the **Relevant Transmission Licensee** or the **User(s)** become aware that a change is needed to a **Local Switching Procedure**, they must inform **The Company** immediately. Where **The Company** has been informed of a need for a change, or **The Company** proposes a change, **The Company** shall notify both the affected **User** and the **Relevant Transmission Licensee** and will initiate discussions to agree a change to the **Local Switching Procedure**. The principles applying to the establishment of a new **Local Switching Procedure** shall then apply to the discussion and agreement of any changes.

# APPENDIX 1 - NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNINGS TABLE

WARNING TYPE	GRID CODE	FORMAT	TO: FOR ACTION	TO: FOR INFORMATION	TIMESCALE	WARNING OF/OR CONSEQUENCE	RESPONSE FROM RECIPIENTS
<b>National Electricity Transmission System Warning – System NRAPM</b>	OC7.4.8.8	Issued via data transmission facilities and, in some cases, by telephone.	Network Operators	All Users	All timescales when at the time there is not a high risk of Embedded Generation reduction.	Insufficient margin of Active Power available to allow the largest loss of Load at any time.  Notification that if not improved Embedded Generation Control may be instructed.	Offers of reduced Active Power infeed from Generators or DC Converter Station owners, HVDC System Owners and Interconnector Users.  Generators notify The Company of any reduction in Active Power output that they will initiate.
<b>National Electricity Transmission System Warning – Localised NRAPM</b>	OC7.4.8.9	Issued via data transmission facilities and, in some cases, by telephone.	Network Operators	All Users	All timescales when at the time there is not a high risk of Embedded Generation reduction.	Insufficient Active Power available to allow transfers to and from a System Constraint Group.  Notification that if not improved Embedded Generation Control may be instructed.	Offers of reduced Active Power infeed in impacted System Constraint Group from Generators or DC Converter Station owners, HVDC System Owners and Interconnector Users.  Generators notify The Company of any reduction in Active Power output that they will initiate.
<b>National Electricity Transmission System Warning – High Risk of Embedded Generation Reduction</b>	OC7.4.8.10	Issued via data transmission facilities and, in some cases, by telephone.	Network Operators	All Users	All timescales when at the time there is not a high risk of Embedded Generation reduction.	Insufficient System NRAPM or Localised NRAPM available and/or a high risk of Embedded Generation Control being instructed.	Offers of reduced Active Power infeed from Generators or DC Converter Station owners, HVDC System Owners and Interconnector Users.  Generators notify The Company of any reduction in Active Power output that they will initiate.  Specified Network Operators to prepare for Embedded Generation Control actions as
<b>National Electricity Transmission System Warning – Embedded Generation Control Imminent</b>	OC7.4.8.11	Issued via data transmission facilities and, in some cases, by telephone.	Network Operators	All Users	Within 30 minutes of anticipated instruction.	Possibility of Embedded Generation Control within 30 Minutes	Network Operators specified to prepare to take action as necessary to enable them to comply with any subsequent instruction from The Company for Embedded Generation Control.

WARNING TYPE	GRID CODE	FORMAT	TO: FOR ACTION	TO: FOR INFORMATION	TIMESCALE	WARNING OF/OR CONSEQUENCE	RESPONSE FROM RECIPIENTS
<b>NATIONAL ELECTRICITY TRANSMISSION WARNING – ELECTRICITY MARGIN NOTICE</b>	OC7.4.8.5	Fax or other electronic means	Generators, Suppliers, Externally Interconnected System Operators, DC Converter Station owners and HVDC System Owners	Network Operators, Non-Embedded Customers	All timescales when at the time there is not a high risk of Demand reduction.  Primarily 1200 hours onwards for a future period.	Insufficient generation available to meet forecast Demand plus Operating Margin.  Notification that if not improved Demand reduction may be instructed.  (Normal initial warning of insufficient System Margin)	Offers of increased availability from Generators or DC Converter Station owners, HVDC System Owners and Interconnector Users.  Suppliers notify The Company of any additional Customer Demand Management that they will initiate.
<b>NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – High risk of Demand Reduction</b>	OC7.4.8.6	Fax or other electronic means	Generators, Suppliers, Network Operators, Non-Embedded Customers, Externally Interconnected System Operators, DC Converter Station Owners, HVDC System Owners		All timescales where there is a high risk of Demand Reduction.  Primarily 1200 hours onwards for a future period	Insufficient generation available to meet forecast Demand plus Operating Margin and/or a high risk of Demand Reduction being instructed.  (May be issued locally as demand reduction risk only for circuit overloads)	Offers of increased availability from Generators or DC Converter Station owners or HVDC System Owners and Interconnector Users.  Suppliers notify The Company of any additional Customer Demand Management that they will initiate.  Specified Network Operators and Non-Embedded Customers to prepare their Demand Reduction arrangements and take actions as necessary to enable compliance with The Company instructions that may follow.  (Percentages of Demand Reduction above 20% may not be achieved if The Company has not issued the warning by 16:00 hours the previous day.)
<b>NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – Demand Control Imminent</b>	OC7.4.8.7	Fax/Telep hone or other electronic means	Specified Users only: (to whom an instruction is to be given) Network Operators, Non-Embedded Customers	None	Within 30 minutes of anticipated instruction	Possibility of Demand Reduction within 30 minutes	Network Operators specified to prepare to take action as necessary to enable them to comply with any subsequent The Company instruction for Demand reduction.
<b>NATIONAL ELECTRICITY TRANSMISSION SYSTEM WARNING – Risk of System Disturbance</b>	OC7.4.8.12	Fax/Telep hone or other electronic means	Generators, DC Converter Station owners, HVDC System Owners, Network Operators, Non-Embedded Customers, Externally Interconnected System Operators who may be affected.	Suppliers	Control room time scales	Risk of, widespread system disturbance to whole or part of the National Electricity Transmission System	Recipients take steps to warn operational staff and maintain plant or apparatus such that they are best able to withstand the disturbance.

## **APPENDIX 2 – Other System Alerts and Warnings per OC7.4.8.15**

<b>Alert, Instruction, Notification or Warning Type</b>	<b>Reference</b>	<b>Warning or Consequence</b>
<b>Demand Control by Demand Disconnection instructed by The Company</b>	Grid Code OC6.5	Demand Disconnection applied
<b>Demand Control by voltage reduction instructed by The Company</b>	Grid Code OC6.5	Demand Reduction Applied
<b>Automatic Low Frequency Demand Disconnection</b>	Grid Code OC6.6	Automatic Demand Disconnection Applied
<b>Demand Control (including voltage reduction and demand disconnection) - Network Operator activated</b>	Grid Code OC6.4 and DOC6.6	Network Operator Demand Control Activated
<b>Grid Code Emergency Instruction (to Network Operator)</b>	Grid Code BC2.9.1.4	Emergency Instruction(s) issued.
<b>Grid Code Emergency Instruction (to Generators &amp; Demand – BCA, BEGA, &amp; BELLA)</b>	Grid Code BC2.9.1.3	May require departure from normal Balancing Market Operation in accordance with BC2
<b>Grid Code Emergency Instruction (to Interconnectors)</b>	Grid Code BC2.9.1.4	May require departure from normal Balancing Market Operation in accordance with BC2
<b>System NRAPM</b>	Grid Code BC1.5.5	Inadequate Negative Reserve Active Power Margin (nationally)
<b>Localised NRAPM</b>	Grid Code BC1.5.5	Inadequate Negative Reserve Active Power Margin (locally)
<b>Cancellation of National Electricity System Warning</b>	Grid Code OC7.4.8.9	Noted warning no longer applicable.
<b>STC Emergency Instruction to Transmission Owner<sup>1</sup></b>	STC Section C Part Two (7)	Discontinue Outage within Emergency Return to Service Time
<b>ESEC Implementation</b>	Grid Code OC6.1.5	Commencing rota disconnection across affected Network Operators licence areas.
<b>EMR Capacity Market Notifications</b>	Capacity Market Rules 8.4.6	Demand Reduction Instruction/Emergency Manual Disconnection Instruction issued to Network Operator(s), or Inadequate System Margin anticipated, or Automatic Low Frequency Demand Disconnection occurred per Capacity Market Rules 8.4.6.
<b>Emergency Assistance Requests</b>	Grid Code BC2.9.6	Request to increase Active Energy transferred into the NETS, or reduce Active Energy transferred into its External System

<sup>1</sup>Identification of the specific equipment affected is not required to be included within the published alert.

**< END OF OPERATING CODE NO. 7 >**