Grid Code Review Panel

Grid Code Requirement for Electricity Supply Emergency Code (ESEC)

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National Grid Electricity Transmission

Summary
This paper proposes to introduce additional wording in OC6 to add further clarity to the role that NGET would take should the Government decide to invoke ESEC to deal with a prolonged electricity supply emergency. As the changes proposed will not impact Users in a material way but rather provide additional clarity around a process, it is proposed that the issue is progressed to Industry Consultation.

Users Impacted
High None identified ***Medium*** None identified ***Low*** ~~Transmission Owners,~~ System Operator, Distribution Network Operators

Description & Background
During the week commencing 26th March 2012, DECC ran a government-industry exercise (Exercise Faraday) to validate newly developed ESEC arrangements. DECC, National Grid and all the Distribution Network Operators participated in the exercise. As a result of this exercise, it was noted that a change to the Grid Code was required which would allow National Grid to act as a central coordinator/disseminator of 'activation schedules' for rota disconnections. The Electricity Supply Emergency Code (ESEC) describes the steps which Government might take to deal with an electricity supply emergency of the kind envisaged under section 96(7) of the Electricity Act 1989 or section 3(1) (b) of the Energy Act 1976, such as long-term damage to the system or prolonged shortfalls in generation. It also sets out the actions that are required to be taken by companies in the electricity industry to deal with such an emergency. The Code was originally developed to manage a long term shortage of fuel for electricity generation. It enables a fair and equal distribution of available electricity to the consumers via orderly Rota Disconnections and ensures that protected customers maintain supplies whenever possible. ESEC aims to ensure, in the event of an emergency, an equal distribution of supply to consumers in as far as it is technically possible to do so. It is the role of the DECC Joint Response Team (JRT) to decide whether Rota Disconnections need to be introduced. In this occurrence, the Secretary of State will seek to obtain emergency powers via an 'Order in Council' under the Energy Act 1976,

for the purpose of issuing a direction to the NETSO to instruct all Network Operators affected to implement a schedule of Rota Disconnections across their licence area(s) throughout the period of emergency. Under this direction and with provisions of the Grid Code, the NETSO will instruct all affected Network Operators to restrict the supply of electricity to consumers, other than those in protected categories, by Rota Disconnections to achieve a specified level of disconnection.

The Variable Rota Disconnection Plan (VRDP) is the core plan that provides the information for a set of more detailed 18 Rota Plans. The VRDP defines the 8 periods of the day across Monday to Sunday and the order of disconnections for 18 load groups labelled A to U. The VRDP divides non-protected customers into 18 groups of near equal demand and the VRDP is intended to ensure that the avaiable supplies of electricity are shared equitably as possible amongst all non-protected consumers. During an emergency, as avaiable supplies diminish, higher levels of disconnection will mean that an increasing number of load blocks are disconnected in any one period.

The period of time that the overall process of Rota Disconnections continues together with the level(s) of disconnection will be decided by the Secretary of State in the light of advice from the DECC JRT.

OC6.1.5 of the Grid Code explains that the Electricity Supply Emergency Code (ESEC) provides a degree of 'protection' to consumers when Rota Disconnections are implemented. However, the current wording of this paragraph does not explain the role NGET will take if ESEC is invoked and it is proposed to amend the wording in OC6.1.5 to add transparency and clarity to the process surrounding the invoking of the ESEC.

Proposed Solution

It is proposed to amend OC6.1.5 to provide additional clarity and transparency around the role that NGET will undertake following the issue of an 'Order in Council' from the Secretary of State.

The proposed changes to OC6.1.5 explain that when the DECC JRT determines that Rota Disconnections must be introduced, the Secretary of State will seek to obtain emergency powers under the Energy Act 1976 for the purpose of issuing a direction to the NGET to instruct them to disseminate a 'Notification of Direction from Government' to all those Network Operators affected and act as a central coordinator/disseminator to implement a schedule of Rota Disconnections across their licence area(s) throughout the period of the emergency.

The severity and duration of Rota Disconnection will be determined by the Secretary of State in the light of advice from the DECC JRT.

The proposed legal text to address the issues described above is available in Appendix A.

Assessment against Grid Code Objectives

(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;

The proposed changes permit the operation of an efficient transmission system by removing any confusion within the Grid Code requirements in facilitating the operation of activation schedules for rota disconnections so as to cause the minimum loss to the

transmission system.

(ii) to facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);

The proposed changes are neutral to this objective.

(iii) subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole; and

The proposed changes permit the operation of an efficient transmission system by removing any confusion within the Grid Code requirements in facilitating the operation of activation schedules for Rota Disconnections so as to cause the minimum loss to the transmission system. This additional clarity will help promote system security by ensuring parties are aware of the process surrounding the invoking of ESEC.

(iv) to efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency.

The proposed changes are neutral to this objective.

Impact & Assessment
Impact on the National Electricity Transmission System (NETS) The proposed changes will not have an adverse impact on the Transmission System. ***Impact on Greenhouse Gas Emissions*** The proposed changes will not have a material impact on Greenhouse Gas Emissions. ***Impact on core industry documents*** None identified at this time. ***Impact on other industry documents*** None identified at this time.

Supporting Documentation	
Have you attached any supporting documentation	YES
If Yes, please provide the title of the attachment:	Appendix A

Recommendation
The Grid Code Review Panel is invited to: Progress this issue to Industry Consultation

Appendix A - Proposed Grid Code Changes

OPERATING CODE NO.6

DEMAND CONTROL

OC6.1 INTRODUCTION

OC6.1.1 **Operating Code No.6** ("**OC6**") is concerned with the provisions to be made by **Network Operators**, and in relation to **Non-Embedded Customers** by **NGET,** to permit the reduction of **Demand** in the event of insufficient **Active Power** generation being available to meet **Demand**, or in the event of breakdown or operating problems (such as in respect of **System Frequency**, **System** voltage levels or **System** thermal overloads) on any part of the **National Electricity Transmission System.**

OC6.1.2 **OC6** deals with the following:

(a) **Customer** voltage reduction initiated by **Network Operators** (other than following the instruction of **NGET**);

(b) **Customer Demand** reduction by **Disconnection** initiated by **Network Operators** (other than following the instruction of **NGET**);

(c) **Demand** reduction instructed by **NGET**;

(d) automatic low frequency **Demand Disconnection**; and

(e) emergency manual **Demand Disconnection**.

The term "**Demand Control**" is used to describe any or all of these methods of achieving a **Demand** reduction.

OC6.1.3 The procedure set out in **OC6** includes a system of warnings to give advance notice of **Demand Control** that may be required by **NGET** under this **OC6**.

OC6.1.4 Data relating to **Demand Control** should include details relating to MW

OC6.1.5 The Electricity Supply Emergency Code as approved from time to time by the government department for energy emergencies ~~issued by the Department of Trade and Industry, Energy Utilities Directorate, on 30 November 1999~~ provides that in certain circumstances consumers are given a certain degree of "protection" when rota disconnections are implemented pursuant to a direction under the Energy Act 1976. No such protection can be given in relation to **Demand Control** under the **Grid Code**.

To invoke the Electricity Supply Emergency Code the Secretary of State will obtain emergency powers via an 'Order in Council' under the Energy Act 1976, for the purpose of issuing a direction to **NGET** instructing them to send a 'Notification of Direction from Government' to all **Network Operators** affected by the **Demand Control**. **NGET** will then act as a central coordinator/disseminator to implement a schedule of rota disconnections across all affected **Network Operators'** licence area(s) throughout the period of the emergency.

The period of time that the overall process of Rota Disconnections continues together with the level(s) of disconnection will be determined by the Secretary of State.

OC6.1.6 Connections between **Large Power Stations** and the **National Electricity Transmission System** and between such **Power Stations** and a **User System** will not, as far as possible, be disconnected by **NGET** pursuant to the provisions of **OC6** insofar as that would interrupt supplies

(a) for the purposes of operation of the **Power Station** (including **Start-Up** and shutting down);

(b) for the purposes of keeping the **Power Station** in a state such that it could be Started-up when it is off-**Load** for ordinary operational reasons; or

(c) for the purposes of compliance with the requirements of a Nuclear Site Licence.

Demand Control pursuant to this **OC6** therefore applies subject to this exception.