

## Stage 03: Report to the Authority

Grid Code

# GC0061 – Amendments Required to Implement the Electricity Supply Emergency Code (ESEC)

What stage is this document at?

|    |                         |
|----|-------------------------|
| 01 | Workgroup Report        |
| 02 | Industry Consultation   |
| 03 | Report to the Authority |

This proposal seeks to modify the Grid Code to clarify the role that will be taken by Network Operators should the Government invoke ESEC to deal with a prolonged electricity supply emergency.

The purpose of this document is to assist the Authority in its decision of whether to implement the proposed Grid Code Modification.

**Published on:** 22 September 2014



**National Grid recommends:**

GC0061 should be implemented as it better facilitates Applicable Grid Code objectives (i) and (iii)



**High Impact:**

None identified



**Medium Impact:**

None identified



**Low Impact:**

System Operator, Distribution Network Operators

GC0061 Report to the Authority

22 Sept 2014

Version 1.1

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**Any Questions?**

Contact:

**Rob Wilson**



[robert.wilson2@nationalgrid.com](mailto:robert.wilson2@nationalgrid.com)



**01926 653398**

Proposer:

**DECC**

## About this document

This document is the Report to the Authority for GC0061 which contains the responses to the Industry Consultation and the National Grid recommendation. The purpose of this document is to assist the Authority in their decision on whether to implement the GC0061 proposed changes.

The revisions to the Grid Code proposed by National Grid and sent to the Authority require approval by that body and will, if approved, come into force on such date (or dates) of which Authorised Electricity Operators will be notified by National Grid, in accordance with the Authority's approval.

## Document Control

| Version | Date           | Author        | Change Reference   |
|---------|----------------|---------------|--|
| 0.1     | 28 August 2014 | National Grid | Draft Report to Authority                                |
| 0.2     | 1 Sept 2014    | National Grid | Minor changes  |
| 1.0     | 17 Sept 2014   | National Grid | Final report to authority                                |
| 1.1     | 22 Sept 2014   | National Grid | Reference errors removed plus small change to legal text |

GC0061 Report to the Authority

22 Sept 2014

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## 1 Executive Summary

- 1.1 This document describes the GC0061 Modification Proposal which seeks to introduce additional wording to OC6 in the Grid Code to add further clarity to the roles that Network Operators will take should the Government decide to invoke ESEC to deal with a prolonged electricity supply emergency.
- 1.2 An issue proforma for GC0061 was proposed by National Grid and submitted to the Grid Code Review Panel for their consideration on 19 September 2012. The Panel determined that the proposal should be sent out to Industry Consultation following the final publication of ESEC.<sup>1</sup>
- 1.3 A draft of the proposal was discussed at the 16 July 2014 meeting of the Grid Code Review Panel and a number of comments and revisions incorporated. This version was then used in the subsequent industry consultation.
- 1.4 An Industry Consultation was published on 28 July 2014 for 20 business days, so closing on 26 August 2014. 3 responses were received all of which were supportive of the proposals albeit with some suggestions for improvements to the legal text which have now been incorporated.

### National Grid Recommendation

- 1.5 National Grid supports the implementation of GC0061 as it better facilitates the Applicable Grid Code Objectives.

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<sup>1</sup> ESEC has now been finalised and is awaiting final ministerial approval without which this modification will not be implemented. A copy is available in the same location as this consultation.

## 2 Why Change?

- 2.1 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. Further work was planned in 2014 by DECC, via Exercise Hopkinson, to consider those customers protected by the V, F and O lists within ESEC. However Exercise Hopkinson has been cancelled and DECC therefore considers it timely to publish ESEC to reflect the revised and validated process only. The V, F and O provisions will be further considered at a later date.
- 2.2 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.
- 2.3 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.
- 2.4 It is the role of the DECC Emergency Response Team (ERT) 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 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.
- 2.5 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 available supplies of electricity are shared equitably as possible amongst all non-protected consumers. During an emergency, as available supplies diminish, higher levels of disconnection will mean that an increasing number of load blocks are disconnected in any one period.
- 2.6 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 ERT.
- 2.7 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.

### 3 Solution

- 3.1 GC0061 seeks to implement the proposed changes identified in Annex 1.
- 3.2 It is proposed to amend OC6.1.5 to provide additional clarity and transparency around the role that Network Operators will undertake following the issue of an 'Order in Council' from the Secretary of State.
- 3.3 The proposed changes to OC6.1.5 explain that when the DECC ERT 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 all Network Operators affected. NGET will then 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 ERT.

## 4 Impact & Assessment

### Impact on the Grid Code

- 4.1 GC0061 requires amendments to the following parts of the Grid Code:
- Operating Code No 6 – Demand Control
- 4.2 The text required to give effect to the proposal is contained in Annex 1 of this document.

### Impact on National Electricity Transmission System (NETS)

- 4.3 The proposed changes will not have an adverse impact on the Transmission System.

### Impact on Grid Code Users

- 4.4 The proposed changes will not in themselves have an adverse impact on the Grid Code Users but seek to clarify roles and responsibilities of Network Operators in the event of ESEC being invoked.

### Impact on Greenhouse Gas emissions

- 4.5 The proposed changes will not have a material impact on Greenhouse Gas Emissions.

### Assessment against Grid Code Objectives

- 4.6 National Grid considers that GC061 will better facilitate the Grid Code objective:

- (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 proposal has a neutral impact on 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 proposal has a neutral impact on this objective*

#### **Impact on core industry documents**

4.7 The proposed modification does not impact on any core industry documents

#### **Impact on other industry documents**

4.8 The proposed modification does not impact on any other industry documents

#### **Implementation**

4.9 National Grid proposes that GC0061 should be implemented 10 business days after an Authority decision.



## 5 Consultation Responses

- 5.1 An Industry Consultation was held which opened on 28 July 2014 and closed on 26 August 2014. 3 responses were received during the consultation period.
- 5.2 The table below provides an overview of the responses received. Copies of the responses are included in Annex 2 to this report.

| Ref   | Company | Supportive | Comments  |
|-------|---------|------------|---|
| CR-01 | RWE     | Yes        | Minor clerical amendments suggested to legal text |
| CR-02 | ENW     | Yes        | None  |
| CR-03 | SSE     | Yes        | Support subject to suggested minor amendments     |

### National Grid Comments on Responses

- 5.3 National Grid would like to thank all respondents for their comments regarding GC0061.
- 5.4 The suggested amendments to the legal text improve clarity and have been incorporated into the final version.

This section contains the proposed legal text to give effect to the proposals. The proposed new text is in red and is based on Grid Code Issue 5 Revision 11.

### 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 reviewed and published** from time to time by the **appropriate** government department for energy emergencies 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 issue direction(s) to all **Network Operators** affected, exercising emergency powers under the Electricity Act 1989 or by virtue of an Order in Council under the Energy Act 1976. Following the issuance of such direction(s), **NGET** will act to coordinate the implementation of an agreed schedule of rota disconnections across all affected **Network Operators'** licence area(s) and to disseminate any information as necessary throughout the period of the emergency in accordance with the instructions NGET receives from the Secretary of State or those authorised on his behalf for this purpose.

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.

### CR-01 RWE

#### Grid Code Industry Consultation Response Proforma

#### GC0061 – Amendments Required to Implement the Electricity Supply Emergency Code (ESEC)

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **26 August 2014** to [Grid.Code@nationalgrid.com](mailto:Grid.Code@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

These responses will be included in the Report to the Authority which is drafted by National Grid and submitted to the Authority for a decision.

|  |   |
|--|---|
| <b>Respondent:</b>   | John Norbury<br>Network Connections Manager<br>RWE Supply & Trading GmbH<br>Windmill Hill Business Park<br>Whitehill Way<br>Swindon SN5 6PB<br>T +44 (0)1793 89 2667<br>M +44 (0)7795 354 382<br>john.norbury@rwe.com   |
| <b>Company Name:</b>   | RWE Group of GB companies, including RWE Generation UK plc, RWE Innogy UK Limited and RWE Supply & Trading GmbH   |
| <b>Do you support the proposed implementation approach?</b>                                | Yes   |
| <b>Do you believe that GC0061 better facilitates the appropriate Grid Code objectives?</b> | Yes for the reasons given in the Consultation Paper.<br><br><i>For reference the applicable Grid Code objectives are:</i><br><br><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i><br><br><i>(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);</i> |

|  |  |
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|  | <p><i>(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</i></p> <p><i>(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.</i></p> |
| <b>Do you support the proposed changes to OC6.1.5?</b> | Yes  |
| <b>Do you have any additional comments?</b>            | <p>Draft legal text OC6.1.5:<br/> For clarity, in line 2, substitute "lead" with "appropriate" or "responsible".<br/> Last line, delete spurious "NGET".</p>   |

## Grid Code Industry Consultation Response Proforma

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These responses will be included in the Report to the Authority which is drafted by National Grid and submitted to the Authority for a decision.

|  |   |
|--|---|
| <b>Respondent:</b>   | <i>Mike Kay <a href="mailto:mkay@jee.org">mkay@jee.org</a></i>  |
| <b>Company Name:</b>   | <i>Electricity North West</i>   |
| <b>Do you support the proposed implementation approach?</b>                                | <i>Yes</i>  |
| <b>Do you believe that GC0061 better facilitates the appropriate Grid Code objectives?</b> | <p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i><br/> <i>N/A</i></p> <p><i>(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);</i><br/> <i>N/A</i></p> <p><i>(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</i><br/> <i>Yes</i></p> <p><i>(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.</i><br/> <i>N/A</i></p> |
| <b>Do you support the proposed changes to OC6.1.5?</b>                                     | <i>Yes</i>  |

|   |    |
|---|----|
| <b>Do you have any additional comments?</b> | No |
|---|----|



## Grid Code Industry Consultation Response Proforma

### GC0061 – Amendments Required to Implement the Electricity Supply Emergency Code (ESEC)

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **26 August 2014** to [Grid.Code@nationalgrid.com](mailto:Grid.Code@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

These responses will be included in the Report to the Authority which is drafted by National Grid and submitted to the Authority for a decision.

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| <b>Respondent:</b>   | <i>Garth graham (garth.graham@sse.com)</i>   |
| <b>Company Name:</b>   | SSE  |
| <b>Do you support the proposed implementation approach?</b>                                | We accept the ten business day implementation after an Authority Decision (as set out in para 4.9 of the consultation document).   |
| <b>Do you believe that GC0061 better facilitates the appropriate Grid Code objectives?</b> | <p>Only if our proposed changes to the legal text are incorporated would we believe that this GC0061 change better facilitate the applicable Grid Code objectives (i) and (ii).</p> <p>This is because our 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.</p> <p>This additional clarity will help promote system security by ensuring parties are aware of the process surrounding the invoking of ESEC.</p> <p>However, if our proposed changes are not taken forward then we would believe that GC0061 does <u>not</u> better facilitate the applicable Grid Code objectives (i) and (ii).</p> <p>This is because the proposed change would <u>not</u> permit the operation of an efficient transmission system as it would introduce confusion within the Grid Code requirements in terms of the operation of the activation schedules for Rota Disconnections so would not cause the minimum loss to the transmission system.</p> <p>This confusion will not add clarity and will thus</p> |



|   |  |
|---|--|
|   | not help promote system security by ensuring parties are aware of the process surrounding the invoking of ESEC.  |
| <p><b>Do you support the proposed changes to OC6.1.5?</b></p> | <p>No.</p> <p>We note that GC0061 proposes to introduce additional wording to OC6 of the Grid Code to add further clarity to the roles that Network Operators will take should the UK Government decide to invoke ESEC to deal with an electricity supply emergency. This is likely to be utilised as soon as practically possible as it is a far superior method of informing consumers and other stakeholders of when / where their power is likely to be disconnected / restored.</p> <p>However, the proposed GC0061 approach, as set out in the consultation document and the legal text, is fundamentally flawed in a number of respects.</p> <p>1) it assumes that <b>a</b> single Direction will be issued by the Secretary of State, and that this will only be issued to National Grid.</p> <p>This is not our understanding of the situation.</p> <p>ESEC Directions can, and must, be issued to all affected Network Operators in order to appropriately, and legally, invoke the ESEC arrangements.</p> <p>The draft legal text should be amended to reflect this by removing 'a' and including "(s)" after 'direction' to reflect that it maybe plural (rather than singular).</p> <p>2) As noted in ESEC (at para 1.1, 1.6 and 4.2) the invoking of ESEC can be "under section 96(7) of the Electricity Act 1989 or section 3(1)(b) of the Energy Act 1976"</p> <p>The wording "<u>... or the Electricity Act 1989</u>" should be included in the legal text.</p> <p>3) The reference to "Demand Control" in the draft legal text is erroneous and should be deleted.</p> |

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|  | <p>The Grid Code notes, at OC6.1.5, with respect to ESEC that:-</p> <p>"...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 <b>Demand Control</b> under the <b>Grid Code</b>."</p> <p>Including the (Grid Code) 'Demand Control' in the draft legal text directly conflicts with the ESEC Direction in terms of providing protection (to V, F, and O list sites) which the (Grid Code) 'Demand Control' definition rules out such protection.</p> <p>Furthermore, the Grid Code definition of 'Demand Control' is separate to, and unrelated with, the ESEC requirements.</p> <p>The legal text needs to reflect that ESEC <u>AND</u> (Grid Code) 'Demand Control' may (or may not) both be applicable at the same time (one under the vires of ESEC and the other under the vires of the entirely separate Grid Code vires) and that this possibly could happen in the same Network Operator area.</p> <p>The invoking of ESEC rota disconnection is not reliant on (Grid Code) 'Demand Control' being applicable. An ESEC Direction could be issued to Network Operators <u>NOT</u> affected by Demand Control and the legal text must reflect this reality.</p> <p>The words "<u>Demand Control</u>" should therefore be deleted from the draft legal text.</p> <p>4) NGET is not free to act unfettered in ESEC terms. Rather, as set out in ESEC (such as para 4.4 and 4.9) as well as para 2.6 of the GC0061 consultation document itself, it has to take account of the Secretary of State and DECC ERT deliberations and instructions.</p> <p>Therefore wording should be added to the legal text, along the following lines "<u>...in accordance with the instructions NGET receives from the Secretary of State or those</u></p> |
|--|--|

|  |  |
|--|--|
|  | <p><u>authorised on his behalf for this purpose" to reflect this reality.</u></p> <p>5) There is a typo at the end of the draft legal text – "NGET" should be deleted.</p> <p>If these proposed changes to the draft legal text are incorporated into the final legal text then we would support the proposed GC0061 changes.</p>  |
| <p><b>Do you have any additional comments?</b></p> | <p>In light of the above, we propose the following changes in the draft legal text:-</p> <p><u>"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 or the Electricity Act 1989, for the purpose of issuing a direction(s) to all Network Operators affected by the Demand Control. Following the issuance of such direction, NGET will act to coordinate the implementation of an agreed schedule of rota disconnections across all affected Network Operators' licence area(s) and to disseminate any information as necessary throughout the period of the emergency in accordance with the instructions NGET receives from the Secretary of State or those authorised on his behalf for this purpose NGET"</u></p> |