

# Stage 02: Industry Consultation

Grid Code

## GC0044 Grid Code changes resulting from BSC modification P276

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 reflect the changes, approved by Ofgem, resulting from BSC modification P276 'Introduce an additional trigger/threshold for suspending the market in the event of a Partial Shutdown'.

This document is open for Industry Consultation. Any interested party is able to make a response in line with the guidance set out in Section 5 of this document.

**Published on:** 7<sup>th</sup> May 2013  
**Length of Consultation:** 20 Working Days  
**Responses by:** 5<sup>th</sup> June 2013

### ***National Grid recommends:***



Implementation of GC0044 as it better facilitates the applicable objectives (i), (ii) and (iii).

### ***High Impact:***



BSC Trading Parties  
 National Electricity Transmission System Operator  
 Elexon

### ***Medium Impact:***



None identified

### ***Low Impact:***



Notification Agents (ECVNAs and MVRNAs)

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### Any Questions?

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## About this document

This Industry Consultation outlines the information required for interested parties to form an understanding of a defect within the Grid Code and seeks the views of interested parties in relation to the issues raised by this document.

Parties are requested to respond by **17:00** on **5<sup>th</sup> June 2013** to [grid.code@nationalgrid.com](mailto:grid.code@nationalgrid.com)

## Document Control

Version	Date	Author	Change Reference
1.0	7 <sup>th</sup> May 2013	National Grid	Industry Consultation

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GC0044 Industry  
Consultation

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01 May 2013

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Version 0.2

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## 1 Executive Summary

- 1.1 Currently the Balancing and Settlement Code (BSC) suspends the Balancing Mechanism when the System Operator declares a Partial or Total Shutdown. This was considered unnecessary for a small loss of demand resulting from a Partial Shutdown, where continuation of the market would be less disruptive than automatic market suspension.
- 1.2 National Grid proposed BSC Modification P276, *Introduce an additional trigger/threshold for suspending the market in the event of a Partial Shutdown*<sup>1</sup> to address the situation whereby market suspension was declared automatically following a Partial Shutdown. Ofgem approved P276 in July 2012 with an implementation date of no later than 31 March 2014<sup>2</sup>.
- 1.3 As a result of the changes being made to the BSC, consequential text changes are now required within the Grid Code to ensure that operational differences are identified for each of Total and Partial Shutdown scenarios, where the market may or may not be subsequently suspended. GC0044 proposes changes to the Glossary and Definitions, BC2, and OC9.
- 1.4 The draft Industry Consultation was agreed by the GCRP on 19<sup>th</sup> April 2013 and should now proceed to Industry Consultation for a period of 20 business days.
- 1.5 Views are invited upon the proposals outlined in this report, which should be received by 5<sup>th</sup> June 2013. Further information on how to submit a response can be found in Section 5 of this document.

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<sup>1</sup> <http://www.elexon.co.uk/mod-proposal/p276-introduce-an-additional-triggerthreshold-for-suspending-the-market-in-the-event-of-a-partial-shutdown/>

<sup>2</sup> <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=117&refer=Licensing/ElecCodes/BSCCode/BSC>

## 2 Why Change?

### Background

- 2.1 BSC Modification P276 was raised to introduce an additional trigger/threshold for suspending the market in the event of a Partial Shutdown. This is a shutdown affecting only part of the Total System.
- 2.2 The BSC currently provides for the suspension of normal market operations following notification of any Partial Shutdown of the Transmission System under the Grid Code. This involves the suspension of the Balancing Mechanism (BM) and contract/credit positions, central dispatch of all generators by National Grid, and the application of a single imbalance price to all Parties' Metered Volumes.
- 2.3 BSC Modification P276 changes require National Grid to monitor the loss of demand from the point of Partial Shutdown. Should the loss break through a threshold, or if forecast data is no longer available, and in any case no longer than 72 hours after the Partial Shutdown, then National Grid shall inform Elexon and the market will be suspended from a point to be determined by the BSCCo.
- 2.4 BSC Modification P276 was approved by the Authority on 20 July 2012 and given an implementation date no later than 31 March 2014.

### The Changes

- 2.5 BSC Modification P276 has resulted in operational changes surrounding the processes following the declaration of a Partial Shutdown. Currently National Grid, as System Operator, informs Elexon that a Partial Shutdown has occurred and the market is suspended under the BSC.
- 2.6 The changes under BSC Modification P276 require National Grid to monitor the loss of demand from the point of Partial Shutdown. Should the loss break through a threshold, or if forecast data is no longer available, and in any case no longer than 72 hours after the Partial Shutdown, then National Grid shall inform Elexon and the market will be suspended from a point to be determined by the BSCCo.
- 2.7 In order to differentiate between the two positions of Partial and Total Shutdown, resulting from the approval of BSC Modification P276, the Grid Code Glossary & Definitions (GD), Balancing Codes (BC2), and Operating Codes (OC9) will need to separate the two scenarios of Partial Shutdown and Total Shutdown.
- 2.8 Should the Grid Code text in each of the Glossary & Definitions (GD), Balancing Code 2 (BC2), and Operating Code 9 (OC9) not be changed to reflect the approved BSC Modification P276, there will be no operational differentiation between Total and Partial Shutdown, resulting in incorrect operational procedures being undertaken at the time that a Partial Shutdown is declared, and subsequently thereafter.
- 2.9 At the January 2013 GCRP meeting, National Grid presented a draft Issue Paper pp13/05<sup>3</sup> which proposed that as the requirement is for a consequential text change to the Grid Code, the issue could go straight to consultation. The GCRP agreed to this.

<sup>3</sup> <http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/reviewpanelinfo/2013/16th+January/>

## 3 Solution

3.1 To incorporate BSC Modification P276 requirements into the Grid Code, National Grid recommends the following changes:

3.1.1 The Grid Code Glossary & Definitions (GD) be amended to include additional definitions for the introduction of Baseline Forecast and Market Suspension Threshold.

3.1.2 Grid Code BC2 be amended to clarify the issuing of Emergency Instructions under continuation, or suspension, of the market.

3.1.3 Grid Code OC9 be amended to include a separate reference to the situation arising under a Partial Shutdown and the criteria that must be met before a Market Suspension occurs.

### Impact on the Grid Code

- 4.1 GC0044 requires amendments to the following parts of the Grid Code:
- Glossary & Definitions: Insertion of new definitions for 'Baseline Forecast' and 'Market Suspension Threshold'.
  - Balancing Codes BC2: Each scenario of a Black Start situation, with and without a subsequent market suspension, needs to be identified and added to the list of occurrences of when Emergency Instructions need not be prefixed with the term "this is an Emergency Instruction".
  - Operating Codes OC9: Inclusion of text to differentiate between a Total Shutdown and a Partial Shutdown, with or without market suspension, and the processes to be followed as a result of each situation.
- 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 There is no impact identified for the NETS following the proposed changes.

### Impact on Grid Code Users

- 4.4 Consequential changes to the text of the Grid Code will ensure that revisions to operational procedures following a Partial Shutdown will provide greater clarity to Grid Code Users.

### Impact on Greenhouse Gas emissions

- 4.5 There is no impact identified on Greenhouse Gas emissions following the proposed changes.

### Assessment against Grid Code Objectives

- 4.6 National Grid considers that GC0044 would 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;

*Yes - enables the System Operator to operate the Transmission System in the most efficient manner without being constrained by concerns about triggering market suspension.*

*Being aware of the consequences of triggering market suspension following a Partial Shutdown, the System Operator could be reluctant to initially consider the option of issuing Black Start instructions under the Grid Code following small/localised shutdowns, even if this is the quickest way to resolve the situation in hand.*

- (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);

*Yes – by ensuring that BSC Parties not directly involved in the Partial Shutdown are not unnecessarily exposed to uneconomic market disruption.*

- (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

*Yes – by ensuring that avoiding market suspension allows those generators not directly affected by the loss of system to continue to operate and compete with each other.*

- (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 GC0044 should be implemented no later than 31<sup>st</sup> March 2014, in line with changes to be made to the BSC, according to the direction given within the Authority's decision as part of the P276 BSC Modification. Views are invited on this proposed implementation date.

## 5 Consultation Responses

5.1 Views are invited upon the proposals outlined in this consultation, which should be received by **17:00** on **5<sup>th</sup> June 2013**.

Your formal responses may be emailed to:

[grid.code@nationalgrid.com](mailto:grid.code@nationalgrid.com)

5.2 Responses are invited to the following questions:

- (i) Question 1: Do you agree with the proposed changes to the Grid Code?
- (ii) Question 2: Do you believe that GC0044 better facilitates the Applicable Grid Code Objectives as set out in paragraph 4.6?
- (iii) Question 3: Do you support the proposed implementation approach?

5.3 If you wish to submit a confidential response please note the following:

- (i) Information provided in response to this consultation will be published on National Grid's website unless the response is clearly marked "Private & Confidential", we will contact you to establish the extent of the confidentiality. A response marked "Private and Confidential" will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Grid Code Review Panel or the industry and may therefore not influence the debate to the same extent as a non confidential response.
- (ii) Please note an automatic confidentiality disclaimer generated by your IT System will not in itself, mean that your response is treated as if it had been marked "Private and Confidential".



## Annex 1 - Proposed Legal Text

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 03.

Pursuant to Grid Code Amendment GC0044, the following amendments shall be made to Grid Code Sections GD, BC and OC.

*The following definitions shall be added to GD in alphabetical order:*

**“Baseline Forecast”** Has the meaning given to the term ‘baseline forecast’ in Section G of the BSC.

**“Market Suspension Threshold”** Has the meaning given to the term ‘Market Suspension Threshold’ in Section G of the BSC.

*Section BC shall be amended as follows. The changes are shown in red to reflect the changes to Section BC.*

BC2.9.2.2 **Emergency Instructions** will always be prefixed with the words “This is an **Emergency Instruction**” except in the case of:

(i) **Maximum Generation Service** instructed by electronic data communication facilities where the instruction will be issued in accordance with the provisions of the **Maximum Generation Service Agreement**; and

(ii) ~~An~~ **an Emergency Deenergisation Instruction**, where the **Emergency Deenergisation Instruction** will be pre-fixed with the words ‘This is an **Emergency Deenergisation Instruction**’; and

(iii) during a **Black Start situation where the Balancing Mechanism has been suspended**, any instruction given by **NGET** will (unless **NGET** specifies otherwise) be deemed to be an **Emergency Instruction** and need not be pre-fixed with the words ‘This is an **Emergency Instruction**’; ~~and~~.

(iv) during a **Black Start situation where the Balancing Mechanism has not been suspended**, any instruction in relation to **Black Start Stations** and to **Network Operators** which are part of an invoked **Local Joint Restoration Plan** will (unless **NGET** specifies otherwise) be deemed to be an **Emergency Instruction** and need not be prefixed with the words ‘This is an **Emergency Instruction**’.

In Scotland, any instruction in relation to **Gensets** that are not at **Black Start Stations**, but which are part of an invoked **Local Joint**

**Restoration Plan** and are instructed in accordance with the provisions of that **Local Joint Restoration Plan**, will be deemed to be an **Emergency Instruction** and need not be prefixed with the words 'This is an **Emergency Instruction**'.

*Section OC9 shall be amended as follows. The changes are shown in red and strike-out to reflect the changes to Section OC9.*

OC9.2.5 To identify and address as far as possible the events and processes necessary to enable the restoration of the **Total System**, after a **Total Shutdown** or **Partial Shutdown**. This is likely to require the following key processes to be implemented, typically, but not necessarily, in the order given below:

(i) Selectively implement **Local Joint Restoration Plans**

(ii) Expand **Power Islands** to supply **Power Stations**

(iii) Expand and merge **Power Islands** leading to **Total System** energisation

(iv) Selectively reconnect **Demand**

(v) Facilitate and co-ordinate returning the **Total System** back to normal operation

(vi) ~~leading to the resumption~~ Resumption of the **Balancing Mechanism** if suspended in accordance with the provisions of the **BSC**.

OC9.4.6 **Black Start Situation**

In the event of a **Total Shutdown** or **Partial Shutdown**, **NGET** will, as soon as reasonably practical, inform **Users** (or, in the case of a **Partial Shutdown**, **Users** which in **NGET's** opinion need to be informed) and the **BSCCo** that a **Total Shutdown**, or, as the case may be, a **Partial Shutdown**, exists and that **NGET** intends to implement a **Black Start**. **NGET** shall (as soon as is practicable) determine, in its reasonable opinion, the time and date with effect from which the **Total Shutdown** or **Partial Shutdown** commenced and ~~inform~~ notify **BSCCo** of that time and date.

In the event of a **Total Shutdown** and ~~Following~~ following such notification, in accordance with the provisions of the **BSC**, the ~~BSSCo~~ **BSCCo** will determine the **Settlement Period** with effect from which the **Balancing Mechanism** is suspended.

In the event of a **Partial Shutdown** and following such notification, the **Balancing Mechanism** will not be suspended until such time and date that the **Market Suspension Threshold** has been met, or deemed to have been met, in accordance with the provisions of the **BSC**. **NGET** shall carry out the monitoring activities required by paragraph G3.1 of the **BSC**.

Following determination by **NGET** pursuant to its obligations under the **BSC** that the **Market Suspension Threshold** has been met, or deemed to have been met, **NGET** shall (as soon as practicable) inform the **BSCCo** of that time and date at which the **Market Suspension Threshold** was met, or deemed to have been met, and the **BSCCo** will determine the **Settlement Period** in accordance with the provisions of the **BSC** with effect from which the **Balancing Mechanism** will be suspended.

Should **NGET** determine that the **Total System** is capable of returning to normal operation without meeting the **Market Suspension Threshold**, **NGET** will follow the procedure given in OC9.4.7.9.

The **Black Start** will conclude with effect from the time and date determined in accordance with OC9.4.7.10.

In respect of **Scottish Transmission Systems**, in exceptional circumstances, as specified in the **Local Joint Restoration Plan**, **SPT** or **SHETL**, may invoke such **Local Joint Restoration Plan** for its own **Transmission System** and **Scottish Offshore Transmission Systems** connected to it and operate within its provisions.

OC9.4.7.4

(a) **Black Start following a Total Shutdown or where the Balancing Mechanism has been suspended following a Partial Shutdown**

During a **Black Start** situation where the **Balancing Mechanism** has been suspended, all instructions to **Power Stations** and to **Network Operators** ~~in relation to **Black Start Stations** and to **Network Operators**~~ will be deemed to be **Emergency Instructions** ~~in~~ under BC2.9.2.2 (iii). All such **Emergency Instructions** ~~and~~ will recognise any differing **Black Start** operational capabilities (however termed) set out in the relevant **Ancillary Services Agreement** in preference to the declared operational capability as registered pursuant to **BC1** (or as amended from time to time in accordance with the **BC**). For the purposes of these instructions the **Black Start** will be an emergency circumstance under BC2.9.

In Scotland, **Gensets** that are not at **Black Start Stations**, but which are part of an invoked **Local Joint Restoration Plan**, may be instructed in accordance with the provisions of that **Local Joint Restoration Plan**.

~~During a **Black Start** situation, instructions in relation to **Power Stations** and to **Network Operators** which are not part of a **Local Joint Restoration Plan**, will be deemed to be **Emergency Instructions** in accordance with the BC2.9. For the purposes of these instructions the **Black Start** will be an emergency circumstance under BC2.9.~~

(b) **Black Start following a Partial Shutdown where the Balancing Mechanism has not been suspended**

During a **Black Start** situation where the **Balancing Mechanism** has not been suspended, instructions in relation to **Black Start Stations** and to **Network Operators** which are part of an invoked **Local Joint Restoration Plan** will (unless NGET specifies otherwise) be deemed to be **Emergency Instructions under BC2.9.2.2 (iv)** and will recognise any differing **Black Start** operational capabilities (however termed) set out in the relevant **Ancillary Services Agreement** in preference to the declared operational capability as registered pursuant to **BC1** (or as amended from time to time in accordance with the **BC**). For the purposes of these instructions the **Black Start** will be an emergency circumstance under BC2.9.

During a **Black Start** situation where the **Balancing Mechanism** has not been suspended, **NGET** may issue instructions to **Users** other than **Black Start Stations** and **Network Operators** which are part of an invoked **Local Joint Restoration Plan**. Such instructions would be **Emergency Instructions** pursuant to BC2.9.1.2(e)(i) subject to the requirements of BC2.9.2.2 being met.

In Scotland, **Gensets** that are not at **Black Start Stations**, but which are part of an invoked **Local Joint Restoration Plan**, may be instructed in accordance with the provisions of that **Local Joint Restoration Plan**.

~~(b)~~ (c) If during the **Demand** restoration process any **Genset** cannot, because of the **Demand** being experienced, keep within its safe operating parameters, the **Generator** shall, unless a **Local Joint Restoration Plan** is in operation, inform **NGET**. **NGET** will, where possible, either instruct **Demand** to be altered or will re-configure the **National Electricity Transmission System** or will instruct a **User** to re-configure its **System** in order to alleviate the problem being experienced by the **Generator**. If a **Local Joint Restoration Plan** is in operation, then the arrangements set out therein shall apply. However, **NGET** accepts that any decision to keep a **Genset** operating, if outside its safe operating parameters, is one for the **Generator** concerned alone and accepts that the **Generator** may change generation on that **Genset** if it believes it is necessary for safety reasons (whether relating to personnel or **Plant** and/or **Apparatus**). If such a change is made without prior notice, then the **Generator** shall inform **NGET** as soon as

reasonably practical (unless a **Local Joint Restoration Plan** is in operation in which case the arrangements set out therein shall apply).

#### Return the Total System Back to Normal Operation

OC9.4.7.9 **NGET** shall, as soon as reasonably practical, inform **Users** and the **BSCCo** when the **Total System** could return to normal operation. Any such determination by **NGET** does not mean that the provisions of Section G paragraph 3 (Black Start) of the **BSC** shall cease to apply.

In making the determination that the **Total System** could return to normal operation, **NGET**, would consider, amongst other things, the following areas:

- (a) the extent to which the **National Electricity Transmission System** is contiguous and energised;
- (b) the integrity and stability of the **National Electricity Transmission System** and its ability to operate in accordance with the **Licence Standards**;
- (c) the impact that returning to normal may have on transmission constraints and the corresponding ability to maximise the **Demand** connected; and
- (d) the volume of generation or **Demand** not connected to the **National Electricity Transmission System**; and
- (e) the functionality of normal communication systems (i.e. EDT, **Control Telephony**, etc).

In the event that the **Balancing Mechanism** has been suspended, it will not resume until the start of the **Settlement Period** determined by the **BSC Panel** in accordance with paragraph G3.1.2(d)(i) of the **BSC**.

For the avoidance of doubt, until ~~resumption of the **Balancing Mechanism**, the Conclusion of the **Black Start** the **Balancing Mechanism** is unlikely to be operational and~~ **NGET** is likely to continue to issue **Emergency Instructions** in accordance with BC2.9.

**Users** shall use reasonable endeavours to submit **Physical notifications** ten hours prior to the start of the **Settlement Period** determined by the **BSC Panel** in accordance with paragraph G3.1.2(d)(i) of the **BSC** and as notified by **NGET** to **Users**, in preparation for a return to normal operations.

In the event that the **Balancing Mechanism** has not been suspended and **NGET** has determined that the **Total System** has

returned to normal operation, **NGET** shall inform **Users** and the **BSCCo** as soon as possible of the time and date at which (in **NGET's** determination) the **Total System** returned to normal operation.

#### Conclusion of Black Start

OC9.4.7.10 The provisions of this **OC9** shall cease to apply with effect from either:

(a) Where the **Balancing Mechanism** was suspended, the start of the **Settlement Period** that the **Balancing Mechanism** resumed normal operation, as determined by the **BSC Panel** and notified by the **BSCCo** in accordance with the provisions of the BSC; or

(b) Where the **Balancing Mechanism** was not suspended, the end of the **Settlement Period** determined and notified by the **BSCCo** (in accordance with the provisions of the BSC) and corresponding to the time and date that **NGET** determined that the **Total System** had returned to normal operation.

~~With effect from the time when the **BSCCo** has confirmed that the provisions of Section G, paragraph 3 are to cease to apply and that the **Balancing Mechanism** is re-established the **Black Start** will conclude and the **Total System** will be deemed to have returned to normal operation. Following such confirmation operation in accordance with the provisions of this **OC9** shall cease.~~