



**GRID CODE  
CONSULTATION DOCUMENT**

**Emergency Instruction to Emergency De-Energise**

**The purpose of this document is to consult on the above Grid Code Modification Proposal with authorised electricity operators liable to be materially affected by the proposed changes and forms the basis of the subsequent Report to the Authority**

Consultation Ref	A/08
Issue	1.0
Date of Issue	28 <sup>th</sup> February 2008
<b>Responses required by</b>	<b>28<sup>th</sup> March 2008</b>
Prepared by	National Grid

## DOCUMENT LOCATION

National Grid website:

<http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/consultationpapers/>

## DISTRIBUTION

Name	Organisation
AEO's	Various
GCRP Members/Alternates	Various
Interested Parties	Various
National Grid Website	

---

**A. INTRODUCTION**

1. Paragraph 2 of Condition C14 of the Transmission Licence granted to the National Grid Electricity Transmission plc ("National Grid") provides that National Grid shall, in consultation with Authorised Electricity Operators liable to be materially affected thereby, periodically review the Grid Code and its implementation. That paragraph also requires National Grid, following such review, to send to the Authority:-
  - (a) a report on the outcome of such review;
  - (b) any proposed revisions to the Grid Code as National Grid (having regard to the outcome of such review) reasonably thinks fit for the achievement of the objectives set out in sub-paragraph (b) of Condition C14 of the Transmission Licence; and
  - (c) any written representations or objections from authorised electricity operators (including any proposals by such operators for revisions to the Grid Code not accepted by National Grid in the course of the review) arising during the consultation process and subsequently sustained.
2. This review examines changes to the Grid Code that were identified as necessary during the CUSC Panel's consideration of CAP144 – Emergency Instruction to Emergency De-Energise. The CAP144 Amendment Report was issued to the Authority on 17<sup>th</sup> September 2007 for determination. The Authority issued a 'Minded To' letter on 19th October 2007 which provided a provisional indication of the preferred solution for CAP144 i.e. Working Group Alternative Amendment 1. Prior to making the final decision, the Authority has indicated its preference to consider both the CUSC and the Grid Code Amendments Proposals together. The Grid Code changes required to enact the CAP144 provisions are the same irrespective of which CUSC amendment proposal is accepted by the Authority.
3. The proposed changes to the Grid Code were discussed with the Grid Code Review Panel (GCRP) on 20<sup>th</sup> September 2007. Panel Members agreed that National Grid should issue a Consultation Paper regarding the proposed changes.
4. Comments upon the proposed changes within this consultation should be sent to National Grid by **28<sup>th</sup> March 2008** as detailed in section C. The comments will be reviewed and responded to.
5. Following this consultation, National Grid will prepare a Report to the Authority detailing National Grid's recommended changes to the Grid Code and all comments/responses received from authorised electricity operators through this consultation. Once sent to the Authority this report will be made available on National Grid's website.
6. Where authorised Electricity Operators' Responses have been marked as confidential they will not be published within the version of the Report to the Authority placed on the National Grid website.
7. 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 you will be notified by National Grid, in accordance with the Authority's approval.

## **B. DESCRIPTION OF THE PROPOSED AMENDMENTS AND THEIR EFFECTS**

8. 'Emergency Instruction to Emergency Deenergise'
- 8.1 The CAP144 (Emergency Instruction to Emergency Deenergise) Amendment Proposal<sup>1</sup> seeks to extend the compensation provisions introduced by CAP048 (Firm Access and Temporary Physical Disconnection) to include the specific circumstances when a Generator is exporting but is required to deenergise or disconnect from the GB Transmission System in an emergency via an Emergency Instruction.
- 8.2 The 'Emergency Deenergisation Instruction' would only be applicable where there is a "local" fault or incident which may adversely affect the integrity of the GB Transmission System or a synchronously connected external system or poses a threat of injury or material damage that requires an "Affected User" (specifically a BM Unit) to be deenergised/disconnected from the system and would only be used under the following rare circumstances:
- a) There is reasonable cause to suspect that a piece of transmission equipment is distressed or in an unsafe condition;
  - b) Circumstances mean that the equipment is likely to cause damage or injury, and where it should be immediately disconnected from the transmission system;
  - c) If it were not disconnected in a controlled manner then an automatic trip would be highly likely, and;
  - d) Were the piece of transmission equipment to be automatically disconnected, it would have been the sole cause of disconnecting the BMU in question and which would be compensated by an Interruption Payment.
- 8.3 This will enable National Grid to disconnect a Generator in a controlled manner in specific limited emergency situations and would remove any potential perverse incentive on National Grid to allow a generator to trip in these circumstances.
- 8.4 It was been identified that CAP144 will necessitate consequential changes to the Grid Code such that it is reflective of an 'Emergency Deenergisation Instruction'.
- 8.5 The original CAP144 proposal has been joined by four alternative proposals following the Working Group and Consultation phases in the CUSC procedures. However, these alternative proposals do not alter the circumstances for the initiation of the compensation payment, but focus on the compensation payment itself. Therefore, all CAP144 alternatives have the same Grid Code change requirements regardless of which one is accepted by Ofgem.
- 8.6 Ofgem published a 'Minded to Decision Letter'<sup>2</sup> on 19<sup>th</sup> October 2007 with respect to CAP144 (Emergency Instruction to Emergency Deenergise). In their letter the authority indicated that they were inclined to approve Working Group Alternative Amendment 1, a condition of which was the submission/approval of the consequential Grid Code changes which would be

<sup>1</sup> CAP144 Amendment Report is available on National Grid's Industry Information Website: <https://www.nationalgrid.com/NR/rdonlyres/2D134DF9-A424-4CB4-A04F-03C2C4C992A4/20012/CAP144AmendmentReportv10.pdf>

<sup>2</sup> CAP144 Minded To Decision Letter is available on National Grid's Industry Information Website: <https://www.nationalgrid.com/NR/rdonlyres/38C6688D-A95E-42CE-88BE-FFED3B788113/20904/CAP144mindedto.pdf>

---

required to enact the new CUSC provisions.

## 9. Proposed Grid Code Changes

- 9.1 It is proposed to introduce a new term, 'Emergency Deenergisation Instruction', into the Glossary and Definition. The new term will describe what constitutes an 'Emergency Deenergisation Instruction' and will direct Users to the relevant CUSC provisions which specify the circumstances when the Users would be considered eligible for CAP144 compensation.
- 9.2 It is proposed to amend the relevant provisions BC2.9 such that it refers, where appropriate to the newly defined Emergency Deenergisation Instruction. An 'Emergency Deenergisation Instruction' would be issued in emergency situations in accordance with the existing BC2.9 provisions.
- 9.3 It would be operationally restrictive to specify in the Grid Code the exact specific instructions which would follow a declared 'Emergency Deenergisation Instruction', in accordance with the existing emergency instruction protocol. However the instruction would only be issued under specific, limited, circumstance which may result in damage or injury to any person or the GB Transmission System.
- 9.4 The proposed amendments to the relevant clauses of Balancing Code 2 (Post Gate Closure Process) and Glossary and Definitions are shown in Appendix A.
- 9.5 The proposed changes to BC2.9.2.2 are interactive with Grid Code Consultation Document G/07 (Black Start) and the legal text, as outlined in Appendix A, is reflective of this interaction.

## 10. Impact on GB Transmission System

- 10.1 An 'Emergency Deenergisation Instruction' would be issued by National Grid in an emergency situation to mitigate against any possible adverse impact on the GB Transmission System.
- 10.2 An 'Emergency Deenergisation Instruction' is a specific category of an Emergency Instruction, which it is proposed, will be specifically mentioned in the Grid Code such that Users are eligible to apply for CAP144 compensation.
- 10.3 The provisions outlined in Grid Code Consultation A/08 will not have any adverse impact in the way in which National Grid, acting as GB System Operator, operators and manages the GB Transmission System in accordance with our licence conditions.

## 11. Impact on Grid Code Users

- 11.1 The proposed amendments will not have any impact on the Distribution Network. It may affect Embedded Generation within the Distribution Network, who, depending on the circumstances, may be eligible for CAP144 compensation payment.
- 11.2 The proposals will lead to an efficient reduction in the overall costs of balancing the system by mitigating the circumstances in which high priced sleeper bids would be applicable.

12. Assessment Against Grid Code Objectives

12.1 The proposed changes outlined in Grid Code Consultation A/08 would better facilitate Grid Code Objectives:

iii) to promote the security and efficiency of the electricity generation, transmission and distribution system in Great Britain

by ensuring that the Grid Code make reference to the circumstances which would constitute an 'Emergency Deengagement Instruction' and is informative of the type of instruction which a User would be expected to fulfil.

13. Impact on Industry Documents

13.1 *Impact on Core Industry Documents*

13.1.1 The proposal is a consequential Grid Code change which has been necessitated by CAP144 amendment. The Grid Code proposal is required such that the CUSC and the Grid Code continue to refer to the categorisations of Emergency Instructions.

13.1.2 In developing the Grid Code changes there has been significant amount of discussion amongst the GCRP membership regarding the scope and content of the proposed amendments. Concerns were raised that the Grid Code should be descriptive of the new provisions such that a User could understand what was meant by an Emergency Deengagement Instruction and whether a technical concept should be formally defined in the CUSC or the Grid Code (given the interaction between the Codes).

13.1.3 Therefore should the Grid Code and associated CUSC changes be approved it may necessitate a further consequential review to the CUSC such that the provisions (and in particularly the definitions) dovetail more closely with each other.

13.2 *Impact on other Industry Documents*

13.2.1 Grid Code Consultation A/08 has no impact upon other Industry Documents.

---

**C. RESPONSES**

14. This section will contain a summary of responses received during the Consultation and will be completed as part of the Report to the Authority.
15. Views are invited upon the proposals outlined in this report. Especially views on the following areas would be welcomed:
- Respondents are asked to consider whether they believe that the proposals provide sufficient transparency regarding the scope, content and circumstances of an Emergency Deenergisation Instruction.
  - Respondents are asked to consider the impact of the proposals on their Power Station or User System.
  - Any improvements or changes to the proposals that in a respondent's view would better facilitate the objectives of the Grid Code.
16. Your formal responses may be:-

Posted to: Lilian Macleod  
Electricity Codes  
Regulatory Frameworks  
National Grid Electricity Transmission plc  
National Grid House  
Warwick Technology Park  
Gallows Hill  
Warwick  
CV34 6DA

Emailed to: [lilian.macleod@uk.ngrid.com](mailto:lilian.macleod@uk.ngrid.com)

## Appendix A: Proposed Grid Code Changes

The proposed legal text is reflective of the current Grid Code baseline as specified in Issue 3 Revision 25.

### Proposed Glossary and Definition Changes

Insert new definition in Glossary & Definitions

**Emergency Deenergisation Instruction** an **Emergency Instruction** issued by **NGET** to **De-Synchronise** a **Generating Unit, Power Park Module** or **DC Converter** in circumstances specified in the **CUSC**

### Proposed BC2 Changes

BC2.9.1.2 Examples of circumstances that may require the issue of **Emergency Instructions** include:-

- (a) **Events** on the **GB Transmission System** or the **System** of another **User**; or
- (b) the need to maintain adequate **System** and **Localised NRAPM** in accordance with BC2.9.4 below; or
- (c) the need to maintain adequate frequency sensitive **Gensets** in accordance with BC2.9.5 below; or
- (d) the need to implement **Demand Control** in accordance with OC6; or
- (e) (i) the need to invoke the **Black Start** process or the **Re-Synchronisation of De-Synchronised Island** process in accordance with OC9; or
  - (ii) the need to request provision of a **Maximum Generation Service**; or
  - (iii) the need to issue an **Emergency Deenergisation Instruction** in circumstances where the condition or manner of operation of any **Transmission Plant** and/or **Apparatus** is such that it may cause damage or injury to any person or to the **GB Transmission System**.

BC2.9.2.5 In the case of BC2.9.1.2 (e) (iii) where **NGET** issues an **Emergency Deenergisation Instruction** payment will be dealt with in accordance with the **CUSC**, Section 5.

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 **Emergency Deenergisation Instruction**, where the **Emergency Deenergisation Instruction** will be pre-fixed with the words 'This is an **Emergency Deenergisation Instruction**'.

In event of Grid Code Consultation G/07 (Black Start) being approved by the Authority prior to a determination on Grid Code Consultation A/08 (Emergency Instruction to Emergency Deenergise), the proposed changes to BC2.9.2.2 are as follows:

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) during a **Black Start** any instruction given by **NGET** 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**"; and
- (iii) An **Emergency Deenergisation Instruction**, where the **Emergency Deenergisation Instruction** will be pre-fixed with the words 'This is an **Emergency Deenergisation Instruction**'.