



**GRID CODE
CONSULTATION DOCUMENT**

**Timescales for the National Grid Notification of
Operational Metering**

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	C/07
Issue	1
Date of Issue	16 th May 2007
Responses required by	18th June 2007
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 timescales associated with the notification by National Grid to a User of a requirement for Operational Metering at a Licence Exempt Embedded Medium Power. These timescales are currently set out in CC.6.4.4. The changes implemented in the CUSC following the Authority approval of CAP097 have resulted in the timescales for the installation of Operational Metering in the CUSC and the Grid Code being out of line and this amendment is raised in order to correct this problem.
3. The proposed changes to the Grid Code were discussed with the Grid Code Review Panel (GCRP) on 15th February 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 **18th June 2007** as detailed in section D. 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 OPERATIONAL METERING SYSTEM

- 8.1 Operational Metering for Power Stations directly connected to the GB Transmission System and for Large Embedded Power Stations is the real time measurement of voltage, frequency, active power, reactive power, Tap Position Indication together with indications of plant status and alarms and, where required, an additional energy input signal (e.g. wind speed). For Licence Exempt Embedded Medium Power Stations this requirement for operational metering is limited to real time measurements of power output and where required, an additional energy input signal (e.g. wind speed).
- 8.2 Operational Metering equipment is defined as meters, instrument transformers (both voltage and current transformers), transducers, metering equipment and alarms together with their associated outstations as may be necessary for the purpose of the CUSC, Grid Code and the corresponding provisions of the relevant Distribution Code
- 8.3 The information provided by Operational Metering enables the System Operator to account for each generator's output in the strategy for securing the system from real time. For wind powered generation Operational Metering is also a key input into the near real time forecasting of the wind farm's output. The forecast output would be derived from the current output and the predicted wind-speed profile over the relevant time period.
- 8.4 National Grid's and User's obligations in respect of Operational Metering are set out in Grid Code CC.6.5.6, CUSC section 6 (paragraphs 6.7, 6.8 and Appendix 2 to Section 6) and also in the User's Bilateral Agreement (Appendix F5, Schedule 2). In the event of any difference between the codes and the contents of this consultation paper then the code provisions take precedence.
- 8.5 The following paragraphs describe how Operational Metering is normally installed for each category of generation:

Transmission Connected Generators

- 8.6 The equipment used to collect and transmit to National Grid the appropriate Operational Metering data comprises several elements. In general these elements are:
- Primary Plant (Current and/or Voltage transformers)
 - Settlement Meters
 - Impulse Interface unit
 - Operational Metering Summator (Front End and Processor End)
 - Substation Control System

The Operational Data is then routed to the Electricity National Control Centre through the Operational Telecommunications Network.

- 8.7 The Impulse Interface Units, Operational Metering Summator and Substation Control System (the "Operational Metering Equipment") are provided by the Transmission Owner¹ and are located in the Transmission substation adjacent to the Power Station. The Power Station is then responsible for providing the appropriate signals from the Power Station Settlement Meters to the

¹ In England and Wales the TO is National Grid, in Scotland the TO will be either SP Transmission Ltd or Scottish Hydro Electric Transmission Ltd

Operational Metering Equipment. On occasions signals may be provided via transducers feeding directly into the Operational Metering Equipment.

Distribution Connected (“Embedded”) Generators

- 8.8 In England and Wales the arrangements for installing Operational Metering at Embedded Generators is as follows. Where a Power Station is comprised of BMUs then National Grid will generally install Operational Metering equipment in the same way as at a Transmission Connected Generator. That is to say National Grid would provide Operational Metering Equipment adjacent to the Power Station with the Power Station being responsible for providing suitable signals to this equipment.
- 8.9 If however an Embedded Power Station is a Licence Exempt Embedded Medium Power Station (a LEEMPS) then differing arrangements apply. Here National Grid is currently investigating with Users the feasibility of a system that would see metering signals being provided over the internet.
- 8.10 In Scotland the process for installing Operational Metering is set out in clauses within STCP 04-3 and STCP 18-1. STCP 18-1 requires the TO to use reasonable endeavours to agree terms with the relevant DNO to facilitate the collection and transmission of Operational Metering data to National Grid.

C. DESCRIPTION OF THE PROPOSED AMENDMENTS AND THEIR EFFECTS

9. Background

- 9.1 On 14th June 2006 the Authority approved CUSC Amendment Proposal CAP097 – Revision to the Contractual Requirements for Small and Medium Embedded Power Stations under 6.5. This proposal was implemented within the CUSC on 14th July 2006. CAP097 introduced a separate means of identifying through a “Request for a Statement of Works” whether the energisation of a Licence Exempt Embedded Medium Power Station might be conditional on transmission reinforcements or other “site-specific requirements”.
- 9.2 Alongside this CUSC process, the Grid Code (CC.6.4.4) currently sets out the provisions through which National Grid is able to request, via the “host” Network Operator, an Operational Metering service from an Embedded Medium Power Station. This clause is also applicable to Licence Exempt Embedded Medium Power Stations (LEEMPS) through the Grid Code clause, CC.3.4. It is issues with this clause that this amendment seeks to address.
- 9.3 The existing CC.6.4.4 requires the “host” Network Operator to ensure that the Operational Metering equipment listed in CC.6.5.6 is installed at the Embedded Medium Power Station. In order to do this it states that National Grid would notify the Network Operator of the requirement for Operational Metering within 3 months of National Grid receiving an application to connect under the CUSC.
- 9.4 For a LEEMPS however the timescales over which such a requirement for Operational Metering may be identified are different. Under CAP097 the process may take as long as eight months before a formal notification in the form of a modification offer is submitted to the host DNO. e.g. in the case of a

LEEMPS that triggers transmission reinforcements, after 1 month National Grid would notify the DNO of this fact, the DNO then has 90 Business Days (approx 4 months) to discuss this with the generator, then should the generator wish to proceed National Grid then has three months to produce the Modification Offer to the DNO. It would be through the Modification Offer where the requirement to have Operational Metering installed would be notified.

- 9.5 Clearly there is a mismatch between the potential timescales in the Grid Code and the CUSC where LEEMPS are involved and as a result this consultation proposes a minor change to CC.6.4.4 to clarify the application of this clause to LEEMPS.

10. Proposed Grid Code Changes

- 10.1 It is proposed to amend CC.6.4.4 to align the timescales with the CUSC following the implementation of CAP097.
- 10.2 The proposed changes will remove any confusion caused by the differing timescales.
- 10.3 The proposed changes to the CC.6.4.4 can be found in Appendix A to this consultation.

D. RESPONSES

- 11. This section will contain a summary of responses received during the Consultation and will be completed as part of the Report to the Authority.
- 12. Your formal responses may be:-

Posted to: Lilian Macleod
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 Regulatory Frameworks
 National Grid Electricity Transmission plc
 National Grid House
 Warwick Technology Park
 Gallows Hill
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Appendix A: Proposed Grid Code Changes

Operational Metering

- CC.6.4.4 Where **NGET** can reasonably demonstrate that an **Embedded Medium Power Station** or **Embedded DC Converter Station** has a significant effect on the **GB Transmission System**, it may require the **Network Operator** within whose **System** the **Embedded Medium Power Station** or **Embedded DC Converter Station** is situated to ensure that the operational metering equipment described in CC.6.5.6 is installed such that **NGET** can receive the data referred to in CC.6.5.6. **In the case of an Embedded Medium Power Station subject to, or proposed to be subject to a Bilateral Agreement** **NGET** shall notify such **Network Operator** of the details of such installation in writing within 3 months of being notified of the application to connect under **CUSC** and **in the case of an Embedded Medium Power Station not subject to, or not proposed to be subject to a Bilateral Agreement** in writing in accordance with the provisions of **CUSC 6.5**. **In either case** the **Network Operator** shall ensure that the data referred to in CC.6.5.6 is provided to **NGET**.