

VERSION FOR INDUSTRY
CONSULTATION

Responses should be sent to
Thomas.Derry@uk.ngrid.com
on or before
2nd February 2011

PROPOSED AMENDMENT REPORT

STC Proposed Amendment CA042
Offshore Transmission System
Compliance & Testing

The purpose of this report is to assist the Authority in their decision of whether to implement Amendment Proposal CA042

Amendment Ref	CA042
Issue	1.1
Date of Issue	5 th January 2011
Prepared by	STC Committee

I DOCUMENT CONTROL**a STC Document Control**

Version	Date	Author	Change Reference
0.1	12/10/10	STC Committee	Draft for STC Committee
1.0	27/10/10	STC Committee	Draft Proposed Amendment Report for STC Committee comment (prior to industry consultation)
1.1	05/01/11	STC Committee	Proposed Amendment Report for Industry Consultation

b Document Location

Nation Grid Website:

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

c Distribution

Name	Organisation
The Gas and Electricity Markets Authority	Ofgem
STC Parties	Various
Interested Parties	Various
Core Industry Document Owners	Various
National Grid Industry Information Website	

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1.0 SUMMARY AND RECOMMENDATION

- 1.1 STC Amendment Proposal CA042 proposes to amend the STC such that the Offshore Transmission owner (OFTO) must demonstrate to National Grid Electricity Transmission (NGET), compliance of the technical design and operation of the OFTO's transmission system in accordance with Section K of the STC.
- 1.2 STC Amendment Proposal CA042 was proposed by NGET and submitted for consideration to the STC Committee meeting on 28th September 2010.
- 1.3 The STC Committee has discussed the Proposed Amendment CA042 and has recommended that it proceeds directly to the Assessment and Report Phase.

STC Committee Recommendation

- 1.4 The STC Committee provisionally recommends that STC Amendment Proposal CA042 be approved for implementation.
- 1.5 Should the Authority approve STC Amendment Proposal CA042, it is provisionally recommended that the STC be modified 5 days after the Authority decision.

2.0 PURPOSE AND SCOPE OF THE REPORT

- 2.1 This Proposed Amendment Report has been prepared and issued by the STC Committee under the rules and procedures specified in the System Operator – Transmission Owner Code.
- 2.2 The introduction of the new regulatory arrangements for the Offshore Electricity Transmission (Go-Active: 24th June 2009) extended the (GB) electricity transmission system to cover offshore waters (now defined as the National Electricity Transmission System).
- 2.3 As a result of the offshore regime, the STC has been amended to include a new Section K: Technical, Design and Operational Criteria and Performance Requirements for Offshore Transmission Systems, which describes certain requirements placed upon the OFTO.
- 2.4 Section K sets out the minimum technical, design and operational criteria and performance criteria that OFTOs must ensure their Transmission System can satisfy in a number of areas. These include requirements such as reactive power and voltage control requirements currently contained in the Grid Code for Generators that will be transferred to the OFTO by the offshore regime.
- 2.5 This proposal seeks to put in place provisions which will allow NGET to undertake an assessment of the capability of the Offshore Transmission System to satisfy certain criteria of Section K, in particular the reactive power and voltage control requirements. Since privatisation of the industry in 1990, the system operator has assessed the compliance of delivery of these Grid Code capabilities so this proposal ensures continued consistent treatment of the obligations once transferred to the STC. It also puts an obligation onto the OFTO to provide NGET with necessary information to allow NGET to undertake such compliance assessment.

- 2.6 Further to the submission of Amendment Proposal CA042 (see Annex 1) this document is addressed and furnished to persons who have a relevant interest in the Proposed Amendment and invites views upon the Amendment Proposal CA042.
- 2.7 This document outlines the nature of the STC changes that are proposed. It incorporates the STC parties' provisional recommendations to the Authority concerning the Amendment.
- 2.8 This Proposed Amendment Report has been prepared in accordance with the terms of the STC. An electronic copy can be found on the National Grid website, at <http://www.nationalgrid.com/uk/Electricity/Codes/sotocode/>.

3.0 THE PROPOSED AMENDMENT

- 3.1 Section C, Part Three of the STC currently defines the requirements of each Party needing to test its own Transmission System and proving the results to NGET if requested to do so. These tests do not include commissioning or re-commissioning tests.
- 3.2 Section K of the STC was incorporated into the STC when the offshore regime went active in June 2009. Section K sets out the minimum technical, design and operational criteria and performance criteria that OFTOs must ensure their Transmission System can satisfy in a number of areas.
- 3.3 As Section K is written at present, it states that the OFTO 'must ensure their Transmission System can satisfy' certain criteria but has no obligation on the OFTO to demonstrate that they have satisfied the criteria.
- 3.4 The Proposed Amendment seeks to amend Section K of the STC to provide for the parties co-operating in relation to the assessment of compliance of Section K including the provision of data to enable NGET to undertake an assessment of the capability of the Offshore Transmission System, in essence requesting information from the OFTO by NGET and NGET to undertake its own assessment as to whether the OFTO satisfies the criteria in Section K.
- 3.5 The Proposed Amendment also seeks to amend Schedule 3 of the STC to allow for technical information for the modelling of control systems included in an offshore transmission system to be disclosed to a Transmission Owner. This technical information would be a subset of 'Transmission Information' that can be disclosed to a Transmission Owner. 'Transmission Information' is an STC defined term and does not include 'User Data' which is submitted to NGET via Data Schedules in the Grid Code. It is defined in the Grid Code what parts of User Data can be disclosed to a Transmission Owner and Schedule 3, paragraph 2.4 of the STC refers to such a data exchange.
- 3.6 This Amendment Proposal does not attempt to address the detail of the process that would need to be in place to facilitate the high level requirements set out in the proposed text to amend Section K. A new STCP (currently draft STCP19-5) is being developed in parallel with this Amendment Proposal which will refer to when compliance will need to be undertaken e.g. at an initial stage, any time it became apparent that changes may have been made to assets etc.

- 3.7 The first draft of STCP19-5 describes the process for the OFTO to provide the data, simulations and testing deemed necessary by NGET to demonstrate compliance in the following manner:
- STCP19-5 allows for variations to the process to be agreed by NGET and the OFTO;
 - STCP19-5 stipulates the format of the data to be provided to NGET by the OFTO;
 - STCP19-5 describes what the simulations studies need to demonstrate;
 - STCP19-5 describes the test procedures for Compliance Testing;
 - STCP19-5 says that NGET will forward appropriate technical data to the Onshore Host TO and Onshore Affected TO(s);
 - STCP19-5 says that NGET shall notify the OFTO that final Compliance has been demonstrated in respect of the Offshore Transmission System following the OFTO having demonstrated its completion of relevant testing and compliance
 - STCP19-5 provides for lifetime compliance of Section K if NGET or the Onshore Host TO, acting reasonably, believes that an OFTO is no in compliance with Section K (e.g. if it becomes apparent that changes had been made to plant and apparatus or that deficiencies against the Site Capability Specification had been observed during operation), in addition to initial compliance testing;
- 3.8 The first draft of STCP19-5 is available to view as one of the papers for the February 2010 STC Committee on National Grid's Website on the following link: [National Grid: February 2010 STC meeting documents](#).

4.0 ALTERNATIVE AMENDMENTS

- 4.1 No Alternative Amendments to CA042 were submitted.

5.0 EVALUATION PHASE

- 5.1 Amendment Proposal CA035 – Offshore Transmission System Compliance and Testing was submitted to the April 2010 STC Committee. Due to a possible interaction with some Grid Code work, it was withdrawn in August 2010 and replaced with CA042 of the same name at the September 2010 STC Committee meeting.
- 5.2 As discussions has already been had between STC Committee parties on CA035, and consideration had already been given to evaluation against relevant STC Objectives and legal text agreed, the STC Committee considered CA042 when it was submitted and agreed that it should be referred directly to the Assessment and Report Phase and that the Evaluation Phase was not necessary.

6.0 STC PARTIES' ASSESSMENTS

- 6.1 This section contains a summary of the views and representations made by STC Parties during the Assessment Phase in respect of the Proposed Amendment, in accordance with Section B, Paragraph 7.2.5.2 of the STC.

National Grid View

- 6.2 National Grid is supportive of Amendment Proposal CA042, and has carried out an Assessment of the Proposed Amendment.
- 6.3 The implementation of CA042 would not have any physical impact on National Grid's Transmission System or require changes to the IS Systems. No additional works or monies would be required to implement the proposed change.

Scottish Hydro-Electric Transmission Limited (SHETL) View

- 6.3 SHETL is supportive of Amendment Proposal CA042, and have completed an Assessment on the Proposed Amendment.
- 6.4 The implementation of CA042 would not have any physical impact on SHETL System(s) or require changes to IS systems.

SP Transmission Limited (SPT) View

- 6.5 SPT is supportive of Amendment Proposal CA042, and have completed an Assessment on the Proposed Amendment.
- 6.6 The implementation of CA042 would not have any physical impact on SPT System(s) or require changes to IS systems. No additional works or monies would be required to implement the proposed change.

7.0 IMPACT ON THE STC/STCPs

- 7.1 The Proposed Amendment will require the amendment of Section K paragraph 1 and a new paragraph 8.
- 7.2 The Proposed Amendment will also require an amendment to Schedule 3.
- 7.3 The text required to give effect to the Proposed Amendment is attached in Annex 2 to this Proposed Amendment Report.
- 7.4 In parallel to this Amendment Proposal, a new STCP (currently draft STCP19-5) is being developed by the STC Committee to provide a detailed process by which the parties can co-operated in the undertaking of Offshore Transmission System Compliance and Testing. The STCP although not approved at this stage, is intended to have lifetime compliance requirements.

8.0 IMPACT ON CORE INDUSTRY DOCUMENTS

- 8.1 The Proposed Amendment would have no impact on Core Industry Documents or Industry documentation or require any changes to computer systems established under Core Industry Documents.
- 8.2 In addition to this Amendment Proposal, a new STCP (STCP19-5) is being developed to provide a detailed process by which the parties can co-operated in the undertaking of Offshore Transmission System Compliance and Testing. The STCP although not approved at this stage, is intended to address both initial compliance assessment and lifetime compliance requirements.

- 8.3 In parallel to this Proposed Amendment, an amendment to the Grid Code (D/10 – Frequency and Voltage Operating Range) is being progressed. Even if approved by the Authority, D10 will not have an impact on this STC Proposed Amendment, but it will have an impact on other provisions in Section K of the STC and Section K will therefore need amending further at a later date. (The consultation paper for D/10 can be found on the National Grid website on the link below:

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

- 8.4 It should also be noted that a further proposed Grid Code amendment (A/10 – Compliance) is being progressed, but if approved by the Authority, will have no consequential impact on the STC. If A/10 is approved, then certain terms and definitions in the STC could possibly be amended to be in line with those then used in the Grid Code (and in the CUSC). These definition amendments would impact STCP19-3 and STCP19-4.

9.0 STC COMMITTEE VIEWS & RECOMMENDATION

- 9.1 The STC Committee believes that amendment of the STC on the basis of CA042 would better facilitate achievement of the following applicable STC objectives as detailed below:

- (a) CA042 better facilitates the efficient discharge of the obligations imposed upon transmission licensees by transmission licences and the Act in so far as NGET's obligations are for the reasons described in (b) and (d) below.
- (b) development, maintenance and operation of an efficient, economical coordinated system of electricity transmission by ensuring that the offshore transmission assets are designed to meet specific requirements that NGET as the National Electricity Transmission System Operator require to operate the transmission system and that those assets operate correctly to deliver those requirements;
- (d) protection of the security and quality of supply and safe operation of the National Electricity Transmission System insofar as it relates to interactions between transmission licensees in so far as NGET can test and monitor the offshore transmission assets to ensure they are fit for purpose in being part of the National Electricity Transmission System.

- 9.2 The STC Committee believe that CA042 has a cost neutral environmental impact as it is purely an administrative process that is being proposed.

- 9.3 The STC Committee therefore provisionally recommends that the Authority should approve Amendment Proposal CA042 for implementation.

10.0 IMPLEMENTATION AND TIMESCALES

- 10.1 Should the Authority approve Amendment Proposals CA042 it is recommended that the STC be modified 5 business days after the Authority's decision.

11.0 VIEWS AND REPRESENTATIONS

- 11.1 Views are invited from Industry parties upon the Proposed Amendment contained within this Proposed Amendment Report.
- 11.2 Any representations received will be summarised in Section 11 of the Amendment Report submitted to the Authority (version 2.0 of this document), and will be reproduced in Annex 3.

Annex 1 - Amendment Proposal Form**STC Amendment Proposal Form**
CA042

<p>1. <u>Title of Amendment Proposal</u></p> <p>Offshore Transmission System Compliance & Testing</p>
<p>2. <u>Description of the Proposed Amendment</u></p> <p>This amendment proposes to amend the STC such that the Offshore Transmission Owner (OFTO) must cooperate and demonstrate to National Grid, compliance of the technical design and operation of its transmission system in accordance with Section K of the STC.</p>
<p>3. <u>Description of Issue or Defect that Proposed Amendment seeks to Address</u></p> <p>A new regulatory regime for offshore transmission networks has been developed by Ofgem in partnership with the Department of Energy and Climate Change (DECC), and previously the Department for Business Enterprise and Regulatory Reform (BERR).</p> <p>As a result of the offshore regime, the STC has been amended such that a new Section K has been added setting out the minimum technical, design and operational criteria and performance criteria that Offshore Transmission Owners (OFTO) must ensure their Transmission system can satisfy in certain areas.</p> <p>Currently there are no obligations on the OFTO to demonstrate compliance with this new Section K.</p>
<p>4. <u>Impact on the STC</u></p> <ul style="list-style-type: none"> ▪ Amendments to Section K ▪ Amendments to Schedule 3
<p>5. <u>Impact on other frameworks e.g. CUSC, BSC</u></p> <p>a. Consequential amendments to STC Procedures will also be required and will such amendments will be raised in due course.</p>
<p>6. <u>Impact on Core Industry Documentation</u></p> <p>a. None</p>
<p>7. <u>Impact on Computer Systems and Processes used by STC Parties</u></p> <p>a. None</p>
<p>8. <u>Details of any Related Modifications to Other Industry Codes</u></p> <p>a. None</p>
<p>9. <u>Justification for Proposed Amendment with Reference to Applicable STC Objectives</u> <i>(mandatory field)</i></p> <p>Amending the STC in this manner would mean that the following objectives are better facilitated:</p> <ul style="list-style-type: none"> (a) efficient discharge of the obligations imposed upon transmission licencees by transmission licences and the Act; (b) development, maintenance and operation of an efficient, economical coordinated system of electricity transmission; and (d) protection of the security and quality of supply in safe operation of the national electricity transmission system insofar as it relates to interactions between transmission licensees

Details of Proposer Organisation's Name	National Grid Electricity Transmission plc
Capacity in which the Amendment is being proposed (i.e. STC Party or other Party as designated by the Authority pursuant to STC section B7.2.2.1 (b))	STC Party
Details of Proposer's Representative Name Organisation Telephone Number Email Address	Bec Thornton National Grid Electricity Transmission plc 01926 656386 Bec.thornton@uk.ngrid.com
Details of Representative's Alternate Name Organisation Telephone Number Email Address	Amanda May National Grid Electricity Transmission plc 01926 655334 Amanda.May@uk.ngrid.com
Attachments (Yes/No): Yes	
Appendix 1 – Proposed text changes to Section J	
Appendix 2 – Proposed text changes to Schedule 3	

Notes:

- Those wishing to propose an Amendment to the STC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 7.2 of the STC.
- The Committee Secretary will check that the form has been completed, in accordance with the requirements of the STC, prior to submitting it to the Committee. If the Committee Secretary accepts the Amendment Proposal form as complete, then she/he will write back to the Proposer informing them of the reference number for the Amendment Proposal and the date on which the Committee will consider the Proposal. If, in the opinion of the Committee Secretary, the form fails to provide the information required in the STC, then he/she may reject the Proposal. The Committee Secretary will inform the Proposer of the rejection and report the matter to the Committee at their next meeting. The Committee can reverse the Committee Secretary's decision and if this happens the Committee Secretary will inform the Proposer.

The completed form should be returned to:

STC Committee Secretary
Regulatory Frameworks
National Grid Company plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick, CV34 6DA

Or via e-mail to: STCTeam@uk.ngrid.com

Annex 2 – Proposed Text to modify STC

PROPOSED CHANGES ARE DONOTED IN RED TEXT

APPENDIX 1 – PROPOSED TEXT CHANGES TO SECTION K

Proposed text below denoted in red type and relate to a new paragraph 1.2 and paragraph 8.

SECTION K: TECHNICAL, DESIGN AND OPERATIONAL CRITERIA AND PERFORMANCE REQUIREMENTS FOR OFFSHORE TRANSMISSION SYSTEMS

1. INTRODUCTION

1.1 This Section K sets out the minimum technical, design and operational criteria and performance criteria that Offshore Transmission Owners must ensure their Transmission System can satisfy in the following specific areas:

1.1.1 the reactive power capability deliverable at the Interface Point;

1.1.2 the performance requirements of voltage control systems;

1.1.3 Fault Ride Through Capability;

1.1.4 additional damping facilities for any Transmission DC Converters;

1.1.5 the provision of a **Frequency** signal to Users where necessary because of the use of Transmission DC Converters in an Offshore Transmission System;

1.1.6 operation under a range of System Frequencies; ~~and~~

1.1.7 earthing arrangements for transformers; 1.1.8 the power quality requirements applicable at the Interface Point; ~~and~~

1.2 This Section K also provides for the Offshore Transmission Owner and NGET to co-operate in relation to the assessment of compliance of Section K of this STC.

8. COMPLIANCE ASSESSMENT

8.1 Each Offshore Transmission Owner shall provide to NGET such information and assistance in relation to that Offshore Transmission Owner's Transmission System as required by NGET to enable NGET to undertake an assessment of the capability of the Offshore Transmission System to satisfy certain criteria as specified in this Section K. The Offshore Transmission Owner is responsible for carrying out any testing when requested by NGET and retains the responsibility for the safety of personnel and plant during test.

APPENDIX 2 – PROPOSED TEXT CHANGES TO SCHEDULE 3**2.2 General Transmission Information**

2.2.1 A Party may Disclose the following Transmission Information to a Transmission Owner:

- (a) specifications of any current or future IT or communications system(s) of the Disclosing Party and the operation and maintenance of such system(s);
- (b) information incidental to the development of the form of any Services Capability Specification;
- (c) information incidental to Party Entry Processes or Decommissioning Actions;
- (d) any information in, or related to the development of, a Local Joint Restoration Plan or De-synchronised Island(s) procedure for the Receiving Transmission Owner's Transmission System;
- (e) information forming part of or related to the conduct of a Joint Investigation;
- (f) numbering or nomenclature information;
- (g) information for the purpose of safety co-ordination including, without limitation, Safety Rules, Site Responsibility Schedules and Local Safety Instructions;
- (h) information related to the development or conduct of tests, but not including the results of such tests (except and to the extent that such results are otherwise permitted to be Disclosed under this Schedule Three);
- (i) information related to the subject matter of any Dispute referred to arbitration under Section D, paragraph 5 or an Independent Engineer under a Construction Agreement;
- (j) information in relation to any direction or notice issued or proposed by NGET in respect of Nuclear Installations under Section G, paragraph 3;
- (k) technical or other information under Section G, paragraph 6, following the disposal or the whole or any part of the Disclosing Party's business or undertaking; **and**
- (l) information forming part of any notice of Force Majeure; **and**
- (m) **technical information for the modelling of control systems included in an Offshore Transmission System to provide dynamic control of**

reactive capability and voltage in accordance with Section K of this
STC.

Annex 3 – Copies of Comments received on the Proposed Amendment Report

[To be completed when comments are received]

This Annex includes copies of any representations received following circulation of the Proposed Amendment Report (circulated on 5th January 2011, requesting comments by close of business on 2nd February 2011).

Representations were received from the following parties:

No.	Company	File Number
1		CA042-AR-01