

GSR 008

GB SQSS REVIEW REQUEST

DATE: 11 November 2008

1. Title of review request
GB SQSS Fundamental Review
2. Name of Proposer (include name of contact person)
The Secretary of the GB SQSS Review Group on behalf of the 3 transmission licensees.
3. Proposer Contact Details¹
National Grid House, Warwick Technology Park, Warwick, CV 34 6DA Tel: 01926 656322, Fax: 01926 656521, Email: GBsqss.review@uk.ngrid.com
4. Description of issue(s)/Defect(s) to be addressed by the request
<p>The Energy industry is actively seeking solutions to integrate new generation technologies such as wind and other renewable generation into the electricity networks. A wide range of initiatives are currently under consideration, ranging from a review of transmission access and commercial frameworks to a number of current reviews to the GB SQSS. Each of these initiatives and reviews has the potential to impact on the GB SQSS.</p> <p>It is important that the GB SQSS continually evolves to keep pace with changing requirements arising from developments within the electricity supply industry and from technological advances.</p>
5. Description of the review request, its nature and purpose
<p>Given the pivotal role played by the GB SQSS in facilitating demand and generation and efficient market operation, the proposal is to carry out a holistic and co-ordinated review of the GB SQSS to ensure it remains a robust standard and is able to support the integration of new generation technologies into the GB transmission system. This proposed fundamental review will also ensure that there is a transparent basis for transmission investment in the GB electricity market and that this is co-ordinated with other changes to the commercial frameworks.</p> <p>The proposed fundamental review would also build upon the GB SQSS review work already in progress, amalgamate appropriate individual GB SQSS reviews and consider dependencies with other reviews. Where individual GB SQSS reviews are currently at an advanced stage, the fundamental review will seek to tap into the findings within the context of the wider fundamental review objectives. Such GB SQSS reviews which are at an advanced stage include:</p> <ul style="list-style-type: none">• GSR001 Review of need for intermittent generation specific parameters in the GB SQSS.• GSR002 Housekeeping• GSR003 Review of 'Design of Generation Connections'• GSR007 Review of Infeed Loss Limits

The proposed fundamental review would include the following broad work areas:

1. International Benchmarking
Conduct an international comparison of planning and operational criteria and methodologies. Of particular relevance is the treatment of high volumes of onshore and offshore renewable generation.
2. Transmission Entry and Exit Principles
Review the onshore generation connection and onshore demand connection planning criteria of the GB SQSS and develop change proposals as appropriate taking due account of the impact of the findings of the Transmission Access Review. This review will take due account of the impact of the conclusions of the 'Review of Design of Generation Connections' (GSR003). Offshore generation and demand connection criteria fall within the scope of the Offshore Transmission Systems work area (item 5 below).
3. Main Interconnected Transmission System (MITS) Principles
Review the criteria and methodologies for planning and operating the MITS (onshore) and develop change proposals as appropriate taking due account of the impact of the findings of the Transmission Access Review. This will include areas relating to onshore demand security and onshore generation access to the MITS and will take due account of the impact of the conclusions of the 'Review of Need for Intermittent Generation Parameters in the GB SQSS' (GSR001).
4. Planning and Operational Contingency Criteria
Review the onshore contingency criteria used throughout the onshore sections of the GB SQSS (onshore generation connection, onshore demand connection and MITS) and develop change proposals as appropriate. This will include consideration of criteria relating to N – n, voltage, stability and switch faults taking due account of the impact of the conclusions of the 'Review of Infeed Loss Limits' (GSR007).
5. Offshore Transmission Systems
Review the GB SQSS change proposals for offshore transmission systems which were submitted to Ofgem on 29 April 2008. The current change proposals are based, inter alia, on cost benefit analyses appropriate to Round 1 and Round 2 offshore developments. Ofgem has explained that the offshore generation connection criteria require further development to analyse and define the basis for an offshore security standard that can cater for generation projects of the size and location of Round 3 projects. Ofgem has also explained that the offshore generation connection criteria require further development to analyse and define the basis for an offshore security standard that can cater for the connection of External Interconnections (from External Systems) to offshore transmission systems.

A deliverable of the fundamental review will be a single consolidated, co-ordinated set of change proposals to the GB SQSS taking account of the findings in all work areas. The starting point for the change proposals arising out of the fundamental review will recognise that the development of the GB SQSS to include offshore transmission systems is now at an advanced stage. National Grid has submitted their final change proposals to Ofgem in the form of a redrafted GB SQSS (dated 29 April 2008). Those change proposals currently form part of Ofgem's consultation process on offshore electricity transmission. In view of this advanced stage of development, the draft **GB SQSS, dated 29 April 2008**¹, rather than the existing GB SQSS dated 2004, will be used as a basis for the change proposals arising out of the Fundamental Review. This will avoid confusion and duplication of work.

¹ A PDF copy of the 29 April 2008 draft GB SQSS can be accessed from the Ofgem website at the following link: [draft GB SQSS, dated 29 April 2008](#)

6. Impact on the GB SQSSⁱⁱ

6 (a) Parts of the GB SQSS that require amendment to give effect to the request

The conclusions of the fundamental review may result in proposed amendments across the draft GB SQSS dated 29 April and, accordingly, may affect some or all of the following:

- Section 1: Introduction
- Section 2: Generation Connection Criteria Applicable to the Onshore Transmission System
- Section 3: Demand Connection Criteria Applicable to the Onshore Transmission System
- Section 4: Design of the Main Interconnected Transmission System
- Section 5: Operation of the Onshore Transmission System
- Section 6: Voltage Limits on the Onshore Transmission System
- Section 7: Generation Connection Criteria Applicable to an Offshore Transmission System
- Section 8: Demand Connection Criteria Applicable to an Offshore Transmission System
- Section 9: Operation of an Offshore Transmission System
- Section 6: Voltage Limits on an Offshore Transmission System
- Section 11: Terms and Definitions
- Appendix A: recommended Substation Configuration and Switching Arrangements (Parts 1 and 2)
- Appendix B: Circuit Complexity on the Onshore Transmission System
- Appendix C: Modelling of the Planned Transfer
- Appendix D: Application of the Interconnection Allowance
- Appendix E: Guidance on Economic Justification

6 (b) Parts of the GB SQSS that would otherwise be affected by the request

6 (c) Nature and contents of amendments or effects

The details provided in sections 4 and 5 above cover the broad nature of the amendments. Their actual content has yet to be determined.

7. Justification of the request, giving the background thereofⁱⁱⁱ

It is important that the GB SQSS continually evolves to keep pace with changing requirements arising from developments within the electricity supply industry and from technological advances.

8. Potential impact of the request on other Core Industry Documents^{iv}

It is not anticipated that proposed changes arising out of the fundamental review will impact on other Core Industry Documents.

9. Potential impact of request on relevant computer systems^v

None

Guidance notes

- (i) Please include address, contact telephone/fax number and optionally, a contact email address.
- (ii) Impact on the GB SQSS - Where possible, give an indication of those parts of the GB SQSS which, in the opinion of the Proposer, would be likely to require amendment in order to give effect to (or would otherwise be affected by) the request and an indication of the nature and contents of those amendments or effects (including, where relevant, any need for the establishment of new, or removal of existing GB SQSS criteria and methodologies).
- (iii) Justification - Please give reasons why you believe that the request would better facilitate achievement of the GB SQSS objectives as compared with the then current version of the GB SQSS, together with background information in support thereof. If more space is needed you can use additional sheets of paper which should be attached to this form.
- (iv) Core Industry Documents include but not limited to The Grid Code, System Operator – Transmission Owner Code and the Connection and Use of System Code
- (v) Where possible, please give an indication of the potential impact of the request on relevant computer systems and processes used by the Transmission Licensees.
- (vi) Incomplete forms will not be processed. The Proposer may be asked to clarify any information that is not clear. The Proposer's attention is drawn to clause 4.2.1.5 of the GB SQSS governance document.