

NETS SQSS Review – Offshore and HVDC Terms of Reference

Objective To review and determine the most appropriate treatment of Offshore Transmission within the NETS SQSS. Also to determine appropriate treatments of transmission HVDC circuits.

Detailed Objectives:

1. The 2008–2009 offshore review determined treatment of offshore transmission, for limits of up to 1500MW of offshore park modules, and up to 100km of connection distance. This review should extend these limits, to accommodate the sizes of offshore Round 3, namely up to 13GW of generation and up to 250km connection distance.
2. Determine the case, if any, for any redundancy in an offshore transmission network, both in subsea cables and within offshore platforms, which connects to the onshore transmission network at a single site.
3. Determine the case, if any, for any redundancy in an offshore transmission network, which connects two asynchronous systems within the NETS, or which connects to the synchronous onshore transmission system at two sites, and thus provides additional transmission capacity for an onshore boundary. In particular under this condition, determine the case, if any, for the application of the Chapter 2 requirements for redundancy of generation connections.
4. Consider the status of an HVDC circuit connecting two nodes of the synchronous AC onshore system, either onshore or offshore. Determine if any special treatment is recommended for such a circuit.
5. Deliver results which have been open to consultation and industry workshops, and a report with recommendations and proposed drafting changes.

- Constitution** The team comprises membership from National Grid, Scottish Power (Transmission), Scottish Hydro Electric Transmission, Ofgem, and Industry representatives. The team is chaired by Andrew Hiorns, and deputed by Paul Plumptre, National Grid. Secretariat will be supplied by National Grid.
- Reporting** The team reports to the NETS SQSS Review Group, under SQSS governance. The intended timescale is to report by end 2011, but if this appears unachievable, the group should report thus to the SQSS Review group by mid 2011.
- Scope** The following issues are out of scope:
- The onshore SQSS Chapters 1 to 6 are within scope, to the extent warranted by consideration of offshore or HVDC circuits only.
 - All the offshore Chapters 7 to 10 are within scope.
- Meetings** The team will meet approximately bi-monthly.
- Methods** The team will need to adopt a cost-benefit framework to support a number of its recommendations. The cost-benefit tools may be developed in-house by National Grid, or by SEDG. An early decision needs to be reached on the sourcing of appropriate tools.

(reviewed by SQSS Review Group 5/12/2010)

Glossary The following definitions do not supplant more formal definitions within various Codes.

HVDC: High Voltage Direct Current. Nowadays used to refer to circuits carrying Direct Current (rather than Alternative Current – AC) at voltages of some 250kV and above.

NETS SQSS: the SQSS ('Security and Quality of Supply Standard') has been in place for National Grid within England and Wales since 1990. It was conformed with companion Scottish Standards into the GB SQSS at BETTA Go-Live in April 2005. With the introduction of the Offshore TO regime, the GB SQSS was replaced by the NETS SQSS ('National Electricity Transmission System') in June 2009.

SEDG: the Centre for Sustainable Energy and Distributed Generation, which is led by Prof. Goran Strbac. In the 2008-2009 review of Offshore Standards, much cost-benefit work was performed by SEDG; hence they are natural candidates to continue this work.