

## Offshore connections – loss of infeed risks

### NETS SQSS working group

#### Terms of reference

##### Background

The NETS SQSS criteria for the connection of offshore generation allow for generation capacities up to the defined Infrequent Infeed Loss Limit<sup>1</sup> by a single radial cable. Consideration is currently being given to extending the offshore criteria so that they are applicable to an offshore interconnected network, with the standard allowing for losses up to the Infrequent Infeed Loss Limit for the loss of any offshore cable. The combined probability of losing a large onshore generator, and the probability of losing offshore generation due to a cable fault, may increase the frequency of losses up to the Infrequent Limit such that they become “normal” events.

Whilst offshore cable faults are relatively rare, there is a possibility of several cables suffering faults at similar times, for example due to an anchor being dragged across parallel cables. Such an event may cause a loss of generation above the Infrequent Infeed Loss Limit, leading to widespread defensive load shedding.

##### Scope

The aim of this working group is to determine, and make recommendations on:

- Are future losses of generation between the Normal and Infrequent Loss Limits likely to be sufficiently frequent to be “normal”?
- If so, what are the implications of this, and how should these implications be managed?
- What is the likelihood of a multi-cable loss, and what are the impacts of this?
- Should mitigation measures against multi-cable losses be required, and if so what are they?

The group should consider:

- HVDC converter fault rates from around the world
- Offshore cable fault rates from around the world
- Current views on what is “normal”, and what is “infrequent”
- The impacts on security and costs of a higher number of infrequent losses
- The impacts on security and costs of losses greater than the infrequent limit

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<sup>1</sup> The Infrequent Infeed Loss Limit will increase from 1320MW to 1800MW from April 1<sup>st</sup> 2014; Normal Infeed Loss limit will increase from 1000MW to 1320MW from April 1<sup>st</sup> 2014; this review will only consider the increased limits.

- Cable fault mitigation measures – their costs and benefits
- HVDC converter fault mitigation measures – their costs and benefits

#### Group constitution

Invitations for group membership will be made to all TOs and OFTOs, the SO, the Crown Estates, major manufactures, Ofgem, offshore generation developers

#### Timescales

The group will make recommendations to the NETS SQSS Review Group by end July 2012