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Dear Industry Participants,

Re: GSR020: The Modification of Clause 7.8.1.1 to Allow Single Transformer Offshore Substations of Capacity Greater than 90MW.

Introduction:

In April 2015, the NETS SQSS Review Panel initiated a Workgroup to consider Clause 7.8.1.1 and the definition of Offshore Grid Entry Point Capacity (OffGEP) within the NETS SQSS (Modification GSR020). This was intended to clarify the use of single transformer offshore platforms for generation connections to offshore transmission systems.

NETS SQSS Panel View:

The findings of the GSR020 Workgroup are that offshore transmission systems using single transformer offshore platforms are an economic solution to export power from offshore installations and that these should be allowed under the NETS SQSS without the need for a design variation. (Variations to Connection Designs are described in Clauses 7.21 through to 7.24. of the NETS SQSS.) Having reviewed these findings, the NETS SQSS Review Panel has concluded that no modification of the NETS SQSS is required.

In line with the Workgroup view, the NETS SQSS Review Panel considers that the existing NETS SQSS already allows for the use of multiple single transformer platforms. The second part of the current OffGEP definition '*the cumulative registered capacity of all offshore power stations connected to all the offshore grid entry points of an offshore transmission system*' allows for the capacity considered in Clause 7.8.1.1 to be aggregated across a number of platforms in the same offshore transmission system. Designs based on this definition of OffGEP should be acceptable to Transmission Licensees without the need for a design variation if the design meets the other requirements of the NETS SQSS.

Through the publication of this open letter and the GDR020 Workgroup report, the NETS SQSS Review Panel confirms that Transmission Licensees do not require a design variation to be submitted in these circumstances. This should also provide the necessary assurance for developers to progress designs utilising single transformer offshore platforms.

This interpretation does not preclude the use existing of future offshore designs; it merely increases the options available to developers which comply with SQSS. Further information to support the NETS SQSS Panel view is provided in the summary paragraphs below and in the Workgroup report.

Background:

Advances in technology in the offshore industry have made it viable for an offshore substation platform to be mounted on the same standard foundation as a wind turbine. Previously, larger offshore platforms were provided to support the offshore substation. Where the capacity of the offshore installation was 90MW or more, more than one transformer would be installed on these larger platforms to satisfy the requirements of Clause 7.8.1.1.

Mounting the substation platform on a same foundation as a wind turbine potentially enables significant capital cost savings, for example by eliminating the requirement for special heavy lifting vessels chartered specifically for a larger platform. The space and weight restrictions on these new platforms are however limited to the extent that only a single transformer is mounted on such a platform. Thus, instead of a single larger platform, at least two platforms are used for the necessary transformers and associated equipment. In cases where such a design has been proposed before now, it has been interpreted as not meeting the requirements of Clause 7.8.1.1. Each platform has been considered to be a separate Offshore Grid Entry Point and a design variation has been required for the design to be taken forward.

Workgroup Assessment:

The GSR020 Workgroup assessed whether a single transformer platform design, rather than the traditional single platform with multiple transformers could result in an overall benefit by comparing the benefit of reduced capital costs against the costs of any reduction of energy delivered by the project design over its expected lifetime. The Workgroup set out to investigate through cost benefit analysis (CBA) if such schemes provide a net benefit to the end consumer, as well as being in the developers' interest and to decide if the NETS SQSS should be revised or clarified as necessary.

The cost benefit analysis showed that for various offshore power station configurations and sizes, there was an overall saving to the end consumer through using the single transformer offshore platform option. A range of sensitivities was applied and the assumptions underlying the CBA were investigated.

The Workgroup consider that the NETS SQSS already allows for such designs (subject to the ratings of the transformers) and therefore no change to the NETS SQSS is required.