

Transmission licensees,
generators, suppliers, consumer
groups and any other interested
party

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Dear Colleague,

Strategic Wider Works: update on our Needs Case assessment of a proposed transmission reinforcement between Caithness and Moray in northern Scotland

In late March 2013, Scottish Hydro Electric Transmission plc (SHE Transmission) submitted a proposal for a large reinforcement of the transmission system in the far north of Scotland. SHE Transmission submitted Needs Case¹ to be assessed under our Strategic Wider Works (SWW) arrangements. The SWW arrangements² were introduced as part of the RIIO-T1 Electricity Transmission Price Control which began in April 2013.

SHE Transmission has stated that the proposed reinforcement would provide additional transmission capacity to export power from the expected increase in onshore renewable generation in the Caithness area as well as new generation located on the Shetland and Orkney islands. The estimated costs of the main reinforcement options considered by SHE Transmission range between £1bn – £1.4bn.

The purpose of this letter is to provide an overview on the progress made in our Needs Case assessment of SHE Transmission's proposal since its submission. Specifically:

- We agree with SHE Transmission on the potential consumer benefit of a major reinforcement of the transmission network in the Caithness area in the future. This view is supported by our consultant's review of the analysis provided by SHE Transmission on the existing network capacity and the potential level of generation that might connect in the far north of Scotland over the next 15 years.
- However, given the scale, complexity and cost of the proposed reinforcement, there are several issues that need to be examined further before we can give an initial view on the appropriateness of the technical scope and timing of the proposal, and whether it is in the interests of existing and future consumers. Key areas that need to be examined in more detail are the risks (ie technical, commercial and environmental) and the possible costs associated with each of the reinforcement options. This is needed to allow a like for like comparison of the options. We

¹ Our assessment of the Needs Case focuses on the strategic aspects of the proposal such as whether there are robust investment drivers and whether the technical scope and timing are appropriate in order to assess whether the proposed reinforcement is likely to be in the interests of existing and future consumers.

² The SWW arrangements are set out in Special Condition 6I of Electricity Transmission Licences of SHE Transmission, SP Transmission Ltd, and National Grid Electricity Transmission Ltd. Their purpose is to allow the transmission owners the flexibility to propose major transmission infrastructure projects that are needed during the RIIO-T1 price control period (1 April 2013 to 31 March 2021) to strengthen and extend the transmission network so that it has the capacity to export power from generation to where demand is located and to comply with the security standards

consider this is important given that one of the proposed options will use a technology which has not been used previously on the Main Integrated Transmission System (MITS) in the UK.

- As part of our ongoing assessment, we also want to look in more detail at the technical and economic feasibility of an alternative reinforcement option involving onshore works and a shorter subsea cable route across the Moray Firth using Alternating Current (AC) technology. In addition to the above issues, our consultant's review noted that there are other areas in the Needs Case that need to be considered in greater detail. We will be seeking more information from SHE Transmission on this basis.
- We will continue our assessment to resolve the outstanding issues with a view to consulting on the Needs Case later this year, subject to timely receipt of relevant information from SHE Transmission.
- We recognise that the further consideration of the Needs Case assessment could affect SHE Transmission's proposed timescales for delivering the reinforcement and we have taken this into account in our decision to extend the timeline for the assessment and consider it to be in the best interests of consumers.

The remainder of this letter sets out:

- an overview on the SWW arrangements;
- the two main reinforcement options in SHE Transmission's proposal; and
- the next steps in our assessment.

Overview of the SWW arrangements

There is uncertainty around both the need for and the cost of a number of major transmission system reinforcements. To help manage this uncertainty, as part of RIIO-T1, we introduced a mechanism for the transmission owners (TOs) to ask us to assess large network developments (known as Strategic Wider Works or SWW) during the price control period. The benefit of this flexibility is that decisions can be taken when more information is available. This helps to ensure that the proposals are in the interests of existing and future consumers.

Our assessment of a proposal under the SWW arrangements includes both an assessment of the Needs Case, and a Project Assessment. Our Needs Case assessment focuses on the strategic aspects of the reinforcement and considers whether:

- there is a demonstrable need and robust case for investment given a credible range of uncertainties, including the potential development of the future generation capacity;
- the technical scope of the proposal is appropriate and represents an economical response to the need relative to the alternative options and the status quo;
- the timing of the investment is appropriate given that there is a satisfactory case for need and that scope of investment is appropriate; and
- that the proposed reinforcement is in the interests of existing and future consumers.

In contrast to the Needs Case Assessment, the Project Assessment focuses on the preferred option in greater detail. Our Project Assessment will consider whether:

- the detailed technical design of the proposed reinforcement is fit for purpose;
- the TO has developed a sufficiently robust development plan and risk sharing arrangements to deliver the proposed output efficiently; and

- the costs are efficient.

Subject to concluding positively on the issues covered by our overall assessment for SWW proposals, we will determine a new SWW output³ and an expenditure adjustment for delivering the output that the TO can recover from consumers.

SHE Transmission's proposal and reinforcement options

SHE Transmission has proposed a large scale reinforcement of the transmission system in the Caithness area to support the expected significant growth of renewable generation capacity. There is around 641MW of generation capacity currently connected or under construction in the area north of Beaulieu. In addition to this, there is approximately 1400MW of generation projects with contracted connection dates in the period leading up to 2021 (less than 15% of the contracted generation currently has planning consent).

In its analysis of the options, SHE Transmission evaluated eight technical alternatives to provide the additional transmission capacity. It ranked each of the options against key criteria, including: capital cost, planning and consenting risks, environmental impacts, facilitating marine energy development and the expected technical benefits to the transmission system. SHE Transmission took forward the two highest ranking options for more detailed cost benefit analysis. These are:

1. Full 275kV re-build of the existing 132kV AC circuits from Caithness to Beaulieu (around 190km), and a new 400kV AC circuit from Beaulieu to Blackhillock in Moray.
2. A subsea High Voltage Direct Current circuit using VSC technology from the north Caithness coast to Blackhillock on the Moray coast (around 160km) and associated onshore works in the Caithness area. **This is SHE Transmission's preferred option.**

Next steps

We will liaise with SHE Transmission regarding the detailed information we require to inform this further work and to integrate these aspects into the analysis underpinning the Needs Case assessment. We expect to consult on our Needs Case assessment later this year, subject to timely receipt of relevant information from SHE Transmission.

We consider that adopting a slightly longer process for our Needs Case assessment is not a barrier to SHE Transmission working to a timely delivery programme that will enable the benefits of the proposed reinforcement to be realised for existing and future consumers.

Any questions on this letter should be directed, in the first instance, to Anna Kulhavy (phone: 0207 9017390) or to Adam Lacey (phone: 0203 2632701) (e-mail: SWW@ofgem.gov.uk)

Yours sincerely,

Kersti Berge
Partner – Electricity Transmission

³ SWW outputs are defined as increases in boundary capability or equivalent additional capacity where there is no boundary