
Subject:

Shetland HVDC Link Project Assessment - Hitachi ABB Power Grids Response

From: Samantha Ridsdale <samantha.ridsdale@hitachi-powergrids.com>**Sent:** 04 October 2021 16:41**To:** RIIOElectricityTransmission <RIIOElectricityTransmission@ofgem.gov.uk>**Subject:** Shetland HVDC Link Project Assessment - Hitachi ABB Power Grids Response

Dear James,

Thank you for inviting Hitachi ABB Power Grids to comment on the above consultation document.

Hitachi ABB Power Grids is a global technology leader with a combined heritage of almost 250 years, employing around 36,000 people in 90 countries. Headquartered in Switzerland, the business serves utility, industry and infrastructure customers across the value chain, and emerging areas like sustainable mobility, smart cities, energy storage and data centres. With a proven track record, global footprint and unparalleled installed base, Hitachi ABB Power Grids balances social, environmental and economic values. It is committed to powering good for a sustainable energy future, with pioneering and digital technologies, as the partner of choice for enabling a stronger, smarter and greener grid.

Hitachi ABB Power Grids is the pioneer and market leader in HVDC technology, delivering its first HVDC system in 1954. We have retained this leading position in the HVDC market and have delivered the majority of the complete HVDC systems constructed since. In 2018 we successfully delivered the HVDC converter system for the Caithness to Moray HVDC reinforcement project and in 2020 were contracted by SSEN to deliver a third HVDC converter system on the island of Shetland and switching station equipment to be located at Noss Head in mainland Scotland. Once completed, the Caithness-Moray-Shetland HVDC system will be the first HVDC voltage source converter multi-terminal system in Europe.

In this context we are pleased to provide our response to the Consultation and in particular with respect to Chapter 2 questions 1 and 2 as follows:

General reflections

Throughout the development of the Shetland project Hitachi-ABB Power Grids have worked closely with SSEN to agree the specific requirements for the project and to optimise the HVDC system package in alignment with the overall aims and objectives for the project. This included substantial engineering engagement carried out ahead of the formal contracting process and support for the works of other project stakeholders.

Various project specific factors were taken into account including the multi-terminal functionality, the network application and the location of the sites, as well as the contracting model selected by SSEN.

The delivery model chosen by SSEN is a multi-contractor approach with main packages split across civil design and construction; HVDC cable and the HVDC system. In order to address this, SSEN have put in place a robust management process for delivery of the overall project under this model.

It is our view that SSEN have taken a progressive approach to the delivery of the Shetland project, and have instituted a contracting model and execution framework which:

- Delivers overall project cost optimization whilst reflecting the unique, specific and complex requirements of the project.

- Facilitates collaboration and cooperation between project stakeholders aligned towards timely and safe project delivery, minimizing environmental impact.
- Reflects a focus on contractor and employer core competence
- Embodies a proactive risk management approach against appropriate contractual mechanisms which are reflective of the scope of work requirements.

In the drive to achieve the UK Net Zero targets it is clear that the large-scale deployment of complex HVDC transmission systems will play a fundamental part. In order for such a build-out to be delivered at the necessary pace and scale, efficiency of process and effectiveness in the deployment of specialist resources will be key. We believe that the approach taken by SSEN in the delivery of the Shetland project correctly reflects these imperatives and provides a good example to follow, as the build-out of the future UK transmission network is accelerated in an increasingly congested global market.

On this basis it is our view that the final Ofgem project assessment should appropriately recognise the positive approach taken by SSEN and the areas of cost allowance needed to deliver this challenging project in the most effective manner. Conversely, if the final Ofgem determination is perceived to penalise and/or to not adequately recompense a transmission developer taking a forward-thinking and less traditional approach to project delivery, it is very likely to inhibit future proactivity and innovation in the sector and to detract from the attractiveness of the UK transmission market overall.

Question 1: Do you agree with our proposed cost allowances for the Shetland Link project?

We are unable to comment on the overall or individual cost levels stated but would highlight the following areas of concern:

Paragraph 2.10 – contractor incentives

Utilisation of delivery incentive mechanisms in combination with appropriate contractual remedies in the case of delays are an effective means through which an employer can support the timely delivery of large and complex projects, particularly in a multi-contracting model. Indeed, it is our understanding that such mechanisms have previously been approved by Ofgem as an effective approach. As timely delivery of the overall project is of key importance and value to consumers, it is our view that disallowing this cost aspect in its entirety should be reconsidered.

Paragraph 2.15 – converter station construction cost elements

Whilst we cannot comment on the specific cost levels proposed by SSEN for these aspects, we do not agree with the costs for these being wholly disallowed. In the SSEN development of the project it is our understanding that these works are essential component parts of the overall project delivery, reflecting the site-specific circumstances and the sensitive natural environment in which the project is being constructed. As such the works must be carried out and we can see no rationale for why these specific costs have been disallowed in their entirety and believe that this should be reconsidered.

As a general principle, failure to adequately protect the environment is increasingly recognised as detrimental to consumer value and as having a societal cost that must be fairly balanced against capital expenditure. Additionally, any unnecessary environmental impact of projects introduces the risk of local challenges that may delay the project, thus delaying its benefits to consumers and delaying the energy transition.

Question 2: Do you agree with our proposals on how to treat the following types of risk: high impact, low probability; difficult to quantify; and Covid risks?

We are unable to comment on the overall or individual figures stated but would highlight the following areas of concern:

Paragraphs 2.6 and 2.19 – general project risk

We note that the SSEN allowance for “risks relating to interfaces between SSEN Transmission’s contractors” has been disallowed. When contracting for multi-disciplinary scopes of work combining works by different contractors it is necessary to:

- a) put in place a project management organisation sufficient to provide the necessary visibility of, and coordination between, the different packages of works; and
- b) to make allowance for the risk of unforeseen issues arising within or across the interfaces between the different packages of work.

We believe that it is reasonable for SSEN to have made allowance not only for the necessary project management resource for addressing the multi-contract approach, but also to have taken a prudent approach in assessing the risk of issues occurring in relation to the project interfaces. We do not therefore believe that these costs should be disallowed in their entirety. Had SSEN taken a different contracting approach, any contractor being asked to take on a wider EPC scope of works would also have had to make an additional allowance for interface risk within their overall contract amount. We therefore believe that it is reasonable to have a cost allowance for this aspect and that the disallowing of these costs in their entirety should be reconsidered.

We also note that the SSEN allowance for “risks that should be borne by parties other than the consumer, such as contractors” has been disallowed. The Hitachi-ABB Power Grids construction contract for the HVDC converter system scope of work for the Shetland project was concluded following extensive and robust negotiation with SSEN. We believe that the final contract agreement is based on an appropriate and equitable level of risk for a technology provider to accept and correctly reflects the scope of works being undertaken. It is then reasonable for SSEN to make due allowance for any wider project risk factors that they perceive may arise during project execution. It is unclear to us which specific risks Ofgem believe should have been otherwise addressed by the construction contractors, but it should be noted that any additional risks that could potentially have been borne by the contractors would also have attracted a cost premium that would have had to be added to their contract overall amount. Again, we therefore believe that it is reasonable to have a cost allowance for this aspect and that the disallowing of these costs in their entirety should be reconsidered.

Should you require any further information or wish to discuss any detail, please do not hesitate to contact us.

Kind regards
Sam



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I like to work flexibly, so whilst I may email outside normal working hours, please don't feel obliged to reply outside your own



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