

Your Ref:  
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8<sup>th</sup> February 2019

Dear James

**Orkney transmission project: Consultation on Final Needs Case and Delivery Model**

We welcome the opportunity to respond to this consultation which is a significant milestone in the delivery of much needed new grid infrastructure for Orkney.

Westray South is a tidal project which has been part of the contracted background and posting securities since February 2012 against a contracted TEC of 150MW. Some £3m has been spent on the development to date, with off-shore activities including geophysical data acquisition, and 24 months of bird and marine mammal survey already completed. An application for consent is expected to be lodged during 2020. Westray South is a project of national significance in the tidal power sector which is now demonstrating real commercial progress.

We have been working closely with other developers and interested parties in Orkney and further afield who have a similar desire to see a new transmission connection. We have also been closely engaged with SSEN for a number of years and are broadly aligned and supportive of their position on the Needs Case. Our response therefore focuses on a number of high-level points we wish to make in support of approval of the Needs Case. We would be happy to meet with Ofgem to discuss the Needs Case in more detail and provide further supplementary information on the development of tidal stream energy, including economics/cost of energy.

Yours sincerely

A handwritten signature in blue ink that reads 'J. O. Thouless'.

John Thouless  
DP Energy

Attachment: Consultation question responses

<b>1. Do you agree that the current network on Orkney needs reinforcing in order to connect additional generation?</b>
<b>Response</b>
<p>We would agree, and would highlight a new connection is long overdue. Orkney has demonstrated over the years continued leadership in energy innovation including early developments in the testing of wind turbines and initiatives such as the European Marine Energy Centre. In 2017/18, 120% of electricity demand in Orkney was met by renewable energy<sup>1</sup>. Further evidence of the need for reinforcement is demonstrated by the Active Network Management (ANM) system currently operating on the existing distribution network, leading to the constrained operation of wind turbines in Orkney.</p>
<b>2. What are your views on the generation scenarios developed by SHE-T? We are particularly interested in views on the likelihood of wind generation progressing without subsidy support and the likelihood of tidal generation around Orkney developing to the levels predicted by SHE-T's scenarios.</b>
<b>Response</b>
<p>We believe the generation scenarios developed by SHE-T are comprehensive and realistic, and have benefitted from close engagement with developers. Orkney has some of the best wind resource in the UK, and it may be feasible for some projects to financially close without a CfD from the Low Carbon Contracts Company. This will depend on a number of factors including the specific site wind resource and layout/design, and network use of system charges. Orkney is also blessed with excellent tidal energy resource and, with volume deployment, tidal stream energy is projected to be at least competitive with other established forms of electricity generation<sup>2</sup>. The development of tidal stream technology has made significant advances in recent years, with very promising performance including the ScotRenewables Tidal Power (now Orbital Marine Power) 2MW turbine which generated some 3.25GWh over a 12 month period at EMEC. A new transmission grid connection to Orkney, coupled with some modest revenue support from the UK Government are key to the large-scale commercial deployment of tidal energy in Orkney. Through the work of the Marine Energy Council, a pan UK body, supported by Renewable UK and Scottish Renewables, on revenue support mechanisms for marine, there are clear signs of a favourable political momentum to see the sector become commercial. The Westray South project, located adjacent to EMEC is an ideal early commercial site, with modest water depths, favourable seabed conditions and sheltered, by Orkney Mainland, from the worse of the prevailing (westerly) storms.</p>
<b>3. What are your views on the technical design and costs of the proposed Orkney link?</b>
<b>Response</b>
<p>Whilst we would not profess to be experts in the technical design of transmission networks, we have in the past been involved in looking at the feasibility of private wire solutions to Orkney, so have some understanding on the challenges of developing an optimum solution. We believe the solution put forward by SSEN represents the right balance between the costs/risks to GB consumers and the benefits of realising Orkney's renewable energy potential in the medium term. We understand there is very little difference in the capital costs between a 132kV AC and the 220kV connection proposed by SHE-T, but the latter would carry around 25% more power. Also, being an AC</p>

<sup>1</sup> From Orkney Renewable Energy Forum (OREF)

<sup>2</sup> Offshore Renewable Energy Catapult – Tidal Stream and Wave Energy Cost Reduction and Industrial Benefit (enclosed with this submission)

connection (as opposed to HVDC which has been considered in the past), the link may be considered as the first phase in a ring main development with potential for a second AC connection in future. We also note SHE-T will need to go through a competitive tendering process and then a Project Assessment approval process with Ofgem prior to placing contracts for construction which should help ensure value for money for UK consumers (and the generators on Orkney).

**4. Do you agree with our concerns that a constraints-based CBA may not robustly demonstrate the true consumer cost/benefit of a radial extension to the transmission network?**

**Response**

We understand the limitations of the constraints avoided CBA methodology to radial developments but believe it is still an important part of the optioneering process and that SHE-T has provided further justification for its approach to Ofgem, and this further supports the case for a new transmission link.

**5. What are your views on the 'additional CBA', outlined in this chapter, which has been used to sense check the results of the original constraints-based CBA?**

**Response**

We understand why Ofgem has considered an 'additional CBA' and from this developed a range of breakeven MW levels depending on the CfD assumption used. We also understand that SHE-T have subsequently worked further with Ofgem and undertaken additional analysis, based on exploring the link's impact on Consumer Welfare, and that this supports the original SHE-T CBA findings, with a marginally higher minimum generation threshold, to demonstrate a net benefit to GB consumers of 74MW, compared with the original result of 70MW. We believe that in any assessment it is important that the following is fully considered:

- CO2 reduction arising from fossil fuel generation displaced
- TNUoS charges paid by generators on Orkney
- Avoided network development costs
- Socio economic benefits

- 6. What are your views on our proposed conditions of approval? Specifically:**
- i. Do you agree with our view that the information available does not demonstrate that building a 220MW connection to Orkney would be beneficial for GB consumers if only 70MW of generation came forward to use the link? Do you agree with our proposal to set a minimum-generation threshold of 135MW?
  - ii. Do you agree that the fact of a generator signing up to SHE-T's 'Alternative Approach' does not provide an adequate level of certainty that the generator will progress to full commissioning?
  - iii. Do you agree that the award of a CfD to a generator would provide an adequate level of certainty that the generator will progress to full commissioning?
  - iv. Do you agree that, in the absence of a CfD, a generator securing planning consent and finance to construct a project is a good indicator of a project's likelihood of progressing to commissioning?
  - v. If you answered no to questions (iii) and (iv) above, can you propose any alternative ways to assess, to an adequate level of certainty, whether a generation project will progress to commissioning?

**Response**

- i. No, we are in agreement and supportive of SHE-T's revised minimum generation threshold of 74MW.
- ii. SHE-T consulted with developers on the Alternative Approach and we raised a number of concerns in our response, as there are significant commercial implications for developers, over and above mainland contracted developers, including: scrutiny of delivery plans; queue management based on the delivery plans and ongoing queue management (with the potential risk of losing their place). However, as a result, we believe this should give Ofgem sufficient comfort on the extent of developer commitment.
- iii. We agree that the award of a CfD provides a level of certainty that a generator will progress to full commissioning, as the long term revenue certainty helps make a project financeable. However, it is important to recognise the differing stages of the Orkney project developments, and misalignment of the various timelines involved in bringing forward an overall grid solution, an individual project, and the CfD auction process. This is one of the reasons why SHE-T has developed the Alternative Approach process.
- iv. No, we believe this would present a significant barrier and is a considerably higher threshold than that required for parties contracted on the GB mainland. Whilst we appreciate Ofgem wishes to see tangible demonstration of a developer's commitment, the Alternative Approach provides this. Any alternative conditionality should be reasonably well aligned with the development risk profile of a generation project and recognise the extent of a developer's commitment, for example, once a project is submitted into planning the developer has probably spent over 90% of the funds required to get a project consented but the risk of securing consent post submission is heavily influenced by other stakeholders and largely outside the control of the developer.
- v. We have provided one example in our answer to (iv) above, and would be willing to engage in further discussions with Ofgem, SHE-T and other developers on alternative conditionality criteria if this would be constructive in the approval of the Orkney Needs Case.

Finally, we note Ofgem's proposed conditionality deadline of December 2019 but due to the delay in SHE-T's connection energisation date from October 2022 to April 2023 we propose that the conditionality deadline is delayed until April 2020, with a backstop of December 2020 which we do not believe unreasonable in the current circumstances pertaining to Orkney.