



**Scottish & Southern**  
Electricity Networks



North of Scotland

**0800 300 999**



Central Southern England

**0800 072 7282**

James Norman  
Office of Gas and Electricity Markets  
10 South Colonnade  
Canary Wharf  
London E14 4P

4<sup>th</sup> October 2021

Dear James

### **Shetland Project Assessment Minded to Consultation**

We are pleased to enclose a response from SSEN Transmission<sup>1</sup> (SSENT) to Ofgem's minded to consultation on the Shetland HVDC Project Assessment. We welcome Ofgem's recognition of the clear consumer benefit of the Shetland project and we would also like to thank Ofgem for its constructive engagement so far on the Project Assessment.

The Shetland High Voltage Direct Current (HVDC) Link project is the most cost-effective solution to meet the need to export a large volume of new renewable generation planned for connection on Shetland from 2024 through construction of a single circuit 600MW link between Upper Kergord on Shetland and Noss Head near Wick on the Scottish mainland. Transmission of electricity from this point onwards on the mainland will be via the existing Caithness-Moray HVDC link.

The project design has had to accommodate extreme weather conditions and stringent planning constraints, unique to Shetland and Caithness, and will deploy for the first time globally outside of China, multi-terminal HVDC switching technology, which is also a first for our HVDC delivery partner Hitachi-ABB Power Grids (HAPG). In support of the drive towards legislated net zero targets, further innovation will be deployed with the installation of Siemens' Clean Air switch gear technology, removing reliance on environmentally harmful SF<sub>6</sub> insulation in the AC substation site.

The Shetland HVDC Link must meet the challenge of construction in some of the most remote parts of GB. Poor ground conditions and severe weather combined restrict onshore cable and civils works, whilst offshore cable installation will see the first interconnector-type project to be installed in northern European waters, where annual average wave heights are in excess of

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<sup>1</sup> References to SSENT encompass the licenced entity Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461.

2m. These conditions are over and above those experienced by any previous interconnector-type project in the UK.

Our delivery strategy considered different options to drive efficiency and demonstrate value for money. We selected a multi-contract procurement approach which has delivered the most competitive prices that the current international market has to offer, producing efficiencies of c.£76m against an Engineer, Procure and Construct (EPC) strategy. The multi-contract procurement approach has selected and appointed sector leading companies with expertise and a strong track record of successful delivery within their respective disciplines. This strategy places programme and integration risk with SSENT, and consequently, we have implemented a balanced risk management strategy to safeguard consumers.

Given this background, we remain concerned at the significant delta between Ofgem's minded to position and the minimum level of funding required to successfully deliver this project. Unless there is significant movement in the current delta we remain deeply concerned as to the financial viability of this project and indeed the prospect of taking action ahead of final confirmed costs from the regulator on future Large Onshore Transmission Investment (LOTI) projects, despite the urgency of meeting legislated net zero targets.

Ofgem's minded to position falls significantly short of its stated aim to enable transmission owners (TOs) to deliver net zero at the lowest costs to consumers while maintaining world class levels of system reliability. Our Shetland Project Assessment submission set out over 1000 pages of detailed evidence-based proposals to meet this aim, instead the proposed settlement in Ofgem's minded to decision will:

- Deter companies from entering into contracts with supply chain and/or building at risk until they have absolute certainty that sufficient funding will be provided by Ofgem to meet the needs of the project. This will undoubtedly **introduce a barrier to GB and Scotland reaching legislated net zero targets** through the timely connection of renewable generation and low carbon technologies.
- **Discourage TOs from applying the most cost-effective contracting approach for each project**, through Ofgem's refusal to share in the costs of interface risk resulting from a multi-contract approach which we have proven has saved c£76m for consumers over an EPC approach on this particular project.
- **Make an error in its assessment** by not funding key activities such as the project specific convertor station civils and provision of sufficient variable cost allowances clearly required to deliver the Shetland project. These activities and allowances are proven to be fundamental to the project, and which we are confident are being delivered for the most economic and efficient cost that could be achieved through our rigorous competitive procurement process.

The table below summarises the areas of most significant concern.

Area	Issue and Counter Proposal	Value
Convertor Station Civils	<p>Ofgem is proposing to refuse funding for the necessary site-specific environmental mitigation, temporary platform, compound and site enabling access works.</p> <p>These activities, which we have proven are fundamental to the successful delivery of the civils package, are not funded elsewhere in the project and are not part of a typical convertor station. These activities have not been accounted for in Ofgem normalisations and have been shown through a rigorous competitive tender exercise to be the most economic and efficient price that could have been achieved, a fact which is supported by an independent consultants' report.</p> <p>We therefore fail to see any rational justification for removing these site-specific works.</p>	£12.4m
Risk Allowance (Excluding Brexit & Covid)	<p>We maintain from both a top-down and a bottom-up approach, our residual risk/variable cost allowance is a realistic, economic and efficient assessment of potential variable costs within the Shetland project.</p> <p>Notwithstanding our concerns with the failings in Ofgem's approach to the assessment of risk management, we are keen to ensure that this project is adequately funded to safely deliver the agreed upon outputs. To that end we propose a Use It or Lose It (UoLI) pot be made available for the funding of any of the constituent elements of the final <i>ex-ante</i> disallowed risk that actualise during the lifetime of the project.</p> <p>This will provide confidence that consumers will only fund costs that materialise and only up to the value of the <i>ex-ante</i> total pot. Any funding drawn from the pot would include detailed evidence that all reasonable steps had been taken by SSENT to minimise their impact.</p>	£14.9m <sup>2</sup>
Cost and Output Adjusting Event (COAE) Threshold	<p>We disagree with Ofgem's proposal to impose a 10% threshold on High Impact Low Probability (HILP) risks. Given that COAE events are by their very nature unforeseeable events which the TO can't control, we agree that it is right and proper that they do not form part of the risk contingency allowance, and that we only recover costs in the low probability scenario should they materialise. However, given that they</p>	10%

<sup>2</sup> Ofgem has disallowed £17.9m. We accept c£3m of this as risk has been successfully mitigated or not materialised, however, we do not accept the remaining £14.9m should be disallowed as we have justified this through both a top-down and bottom-up line by line basis.

	<p>are outside of our control we do not see the justification for any threshold, let alone, 10%.</p> <p>Notwithstanding our objections in principle to the setting of a threshold, we are mindful of the significant similarities in scope and challenge between this project and Caithness Moray where a 5% cumulative threshold was set. We therefore propose the same threshold be applied to Shetland.</p>	
<p>Large Project Delay (LPD) Mechanism/Project Delay Charge</p>	<p>Our position on a Project Delay Charge is clear. Ofgem has failed to consult properly on the Project Delay Charge. SSENT has neither received notice of, nor been consulted on, any such modifications. Furthermore, the terms of Ofgem’s consultation are flawed in respect of the Project Delay Charge as the inclusion of an <i>ex-post</i> option is contrary to the LOTI Guidance.</p> <p>In addition, we believe that a Project Delay Charge cannot apply retrospectively to Shetland. We completed our contracts negotiations in July 2020 before this policy was in place and the prevailing policy at the time did not include a late delivery charge.</p> <p>Finally, the calculations to set the charge erroneously assumes that all 63 Liquidated Damages (LDs) could be recovered, fails to take into account the c35% of additional monies due to other contractors that SSENT would be liable for and fails to account for the costs that would be incurred internally by SSENT to maintain the programme which, as things stand, with no interface provision we have no means of funding.</p>	

We remain confident Ofgem will continue to work constructively with us to bridge this significant gap and we present below in Appendix 1 the evidence that we believe will provide Ofgem with the confidence to do so.

Yours sincerely

Sharron Gordon

SSEN Transmission Regulation

## Appendix 1 – Responses to Ofgem Questions on Shetland Project Assessment

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

Answer: No.

#### Convertor Station Civils Costs

Ofgem is currently minded to disallow £12.4m of our competitively tendered civils costs associated with the convertor station. The convertor station comprises two elements – the technology element and civils element. The former was a single source contract but accepted in full by Ofgem (justified due to the approach we took to contracting). The latter, despite being competitively tendered with three bidders and multiple best and final offers (BAFOs), is proposed to be cut by £12.4m. This £12.4m comprises four specific elements:

- significant environmental mitigation;
- exceptional need to build a temporary platform;
- the need for a unique temporary site compound; and
- abnormal site access and enabling works.

Ofgem reject these costs on the basis that it does “*not consider sufficient evidence has been provided to justify, even taking into account a separate benchmarking report provided by SSENT*”. Ofgem purports that it has provided sufficient normalisations for a convertor station “*of this type*”.

SSENT strongly reject this view for three simple yet compelling reasons, namely:

- 1) The Ofgem minded to position implies that sufficient normalisations for convertor stations “*of this type*” have been made. We reject the assertion that there is a “*type*” that the Shetland project falls into given its uniqueness. Indeed, no major transmission infrastructure projects have been completed on any of the Scottish Islands since industry privatisation hence it is not possible for the costs of these unique activities to have been accounted for in a “*typical*” project. They are also not accounted for elsewhere in Ofgem’s normalisations.
- 2) The site-specific works are absolutely required. Following on from point 1, if Ofgem continue to disallow the costs despite being competitively tendered it can only be inferred that it believes the works for Shetland are unnecessary. Ofgem has given no evidence from its engineers that these site-specific works are not required. We

also note that Ofgem approved overall need at both the Initial Needs Case (INC) and Final Needs Case (FNC) stage; and

- 3) As noted above, the civils costs for the converter station were competitively tendered and have therefore clearly been market tested, giving Ofgem the highest confidence possible that no better price could have been achieved, a fact which is supported by an independent consultant report from Arcadis.

We are of the view that Ofgem could only justifiably remove the aforementioned site-specific civils costs, in full or in part, in the following circumstances: 1. they are not needed/necessary for the project; 2. they are needed/necessary but are demonstrably accounted for elsewhere in the cost provisions; or 3. they are needed/necessary but could be achieved at a lower market price.

**We have provided further justification to Ofgem in a detailed paper during the consultation period covering these points and we summarise the points made therein below. We believe that this should give Ofgem the confidence to reinstate the £12.4m in full.**

*Are these works critical to the successful completion of the project? The answer is yes. Have the costs of these works been accounted for elsewhere? The answer is no.*

#### **Significant environmental mitigation**

The environmental mitigation work is necessary to meet the planning conditions and regulatory requirements (SEPA Controlled Activities Regulation Licence) required for the site and the sensitivities specific to it as a direct result of the site location, geology and topography. Combined, these require specific environmental management unique to the site at Kergord on Shetland.

Kergord is located in one of the most remote locations in Great Britain with a unique island ecosystem and key environmental and ecological constraints that must be sensitively managed throughout the project. This is not only because it is the right thing to do but if these works are not completed as agreed through planning and with the environmental regulator (SEPA), SSENT would not comply with the planning conditions. It is clear that these additional environmental works are essential. By disallowing the full costs, Ofgem is either incorrectly determining they are not required, or that they are covered in typical site costs or that they are covered by other normalisations.

To give a flavour of the types of works that are necessary that go beyond a typical scheme, these include:

- constructing, in phases, both temporary and permanent watercourses through varying ground conditions including rock, peat and bog on challenging topography and accounting for sensitive habitats has meant providing a unique approach to

management of water across the site and is significantly beyond the typical water management of a standard site;

- specialist surface water management to protect directly adjacent watercourses from silt laden run off which required specialist equipment and extensive settlement areas, comprising a network of ponds and swales, with challenging physical constraints due to the specific nature of the site; and
- ponds and storage treatment able to take large volumes due to the climate and the rainfall in Shetland and the natural catchment and topography of the Kergord site which sits at the base of a slope adjacent to the Weisdale Burn.

All of these activities and costs are in addition to a category of costs known as “environmental/archaeology” normalisations that Ofgem is minded to allow which dealt specifically, and only with, the planning consent requirements for significant Environmental Clerk of Works and Archaeology watching briefs required by the Shetland Islands Council.

None of the costs for delivering these additional and legally obligated environmental requirements are accounted for elsewhere in the Project Assessment.

#### **Exceptional temporary platform**

The temporary platform is required to provide sufficient space to house the welfare provisions and storage areas for materials for the multiple contracts of a project of this scale. This is all to facilitate the construction of the permanent works. The works, along with the phased approach to construction, is again a direct result of the location, geology, and topography of the Kergord site. If this was not constructed, SSENT would have had to develop a similarly sized area a significant distance from the permanent works which would have resulted in additional planning and landowner risk, additional costs, logistical challenges and inefficiencies in travel and staff time.

All these site-specific works are essential. By disallowing the full costs, Ofgem is determining the specification of the Shetland platform is typical.

We make three key points: “typical” projects do not build a temporary platform of this scale requiring up to 100,000m<sup>3</sup> of material to depths of 10m, few build two using a phased approach, and none build in the location, geology, and topography of the Kergord site. Therefore, we believe, given the evidence provided to Ofgem, it should be confident in making the necessary normalisations for building the temporary platforms for this Project. Examples of the unique aspects of the project is outlined below:

- sheer scale of the project. The temporary platform is larger than the typical temporary platform requirement driven by the extensive areas required to store equipment delivered to Shetland as just in time delivery is not achievable on Shetland;

- the need to provide a temporary platform and not only a permanent platform due to the limited available space within the permanent boundary of the site;
- the need to build temporary platforms in phased approach – one smaller initially then a larger one;
- the site is on a hillside requiring extensive, atypical excavation and fill (c100,000m<sup>3</sup> of material processed and placed to a depth of c10m);
- the on-site materials were limited requiring them to be imported from a local quarry;
- the site incurred landowner costs not part of main site costs; and
- the site will need to be removed and put back to original environment (c100,000m<sup>3</sup> of material to be removed and then re-landscaped).

We have also submitted evidence to Ofgem that these costs are all in addition to the other normalisations to its typical baseline convertor station costs which Ofgem is minded to allow. The closest normalisation category is Ground Conditions, but this deals exclusively with the abnormal ground conditions applicable to the permanent works i.e., the 54,000m<sup>2</sup> of the permanent platform and excludes the c20,000m<sup>2</sup> of temporary platform. All costs for the temporary site platform are not accounted for elsewhere in the Project Assessment.

### **Temporary Site Compound**

A temporary site compound is required to provide offices, cabins, and welfare facilities. It is evident and as per the temporary platform above, due to the location, geology and topography of the site, the costs on this project are more expensive than on other sites. There is also no normalisation that adequately accounts for these costs. For a number of reasons, the temporary site compound is more expensive in Shetland than a “typical” project:

- the temporary site compound took c8 months to construct in a four-stage approach. Due to the landscape and topography along with ground conditions there was no other logical way to construct the compound in its final position other than move it at various stages over c8 months. This added to the cost of setup costs and logistical planning costs - moving 20+ containers is costly;
- due to the constrained boundary of the site as defined by the approved planning conditions, the compounds final position was in an area which required blasting activities to be undertaken in advance, which required evacuation of personnel to ensure clearance zones were abided to;
- transporting of site welfare units from mainland to Shetland was required as they are not available on Shetland;
- due to the location of the site and the unique climate of Shetland, the operation of the welfare units will be subject to higher running costs including the need to



transport water to and from site (as no permanent water connection exists) and diesel generators for energy supply (as no permanent energy supply exists);

- due to site access constraints and higher risk of adverse weather in Shetland there is a risk that the operation of the site will be reduced during the winter period which will result in increased contractor costs; and
- site security costs are higher in such a remote site.

These unique factors, plus more set out in a paper to Ofgem, are all in addition to the other normalisations which Ofgem is minded to allow. The site-specific costs for temporary site compounds are not accounted for elsewhere in the Project Assessment.

#### **Abnormal site access and enabling works**

Both a significant temporary site access road and a permanent site access road were required to be extended from the Viking Energy Wind Farm access road into the HVDC compound. The overall site access on this project was substantial, requiring a phased approach and is not something that is seen on a typical site; therefore, we are strongly of the view that these costs are not part of Ofgem's typical project costs. There is also no normalisation that adequately accounts for these costs. To give a flavour of the extent of the works all driven by the location, geology, and topography of the site:

- a staged approach was required with a temporary access road prior to establishment of the permanent site access road;
- the temporary access road is atypical due to the steep grade, crossing of several watercourses and requirement for substantial engineering design and earthworks to construct;
- the permanent site access also required substantial engineering, earthworks and significant blasting operations to construct. The site works could not have progressed without these site accesses being constructed;
- both access roads follow topography of the existing ground with steep gradients and confined corridor over challenging terrain requiring extended horizontal alignment, which has been required to cater for the steep vertical alignment constraints; and
- both access roads require extensive reinstatement/maintenance works due to the heavy usage by construction traffic on steep grades.

As noted, these project specific factors have not been accounted for in any other normalisations which Ofgem is minded to allow and therefore the additional site-specific costs for the temporary and permanent site access roads are not accounted for elsewhere in the Project Assessment.

*Can Ofgem be satisfied that the most economic and efficient price has been achieved? Again, the answer is Yes.*

Ofgem itself has previously set the expectation of the best result for ‘high-confidence’ costs and cost efficiency coming from competitively tendered results<sup>3</sup>. This is also explicit in its own LOTI Guidance<sup>4</sup> which places significant weight on tenders and tender processes and expressly sets the tone on the approach that licensees should take and, importantly, what they will be judged on as part of the Project Assessment.

The LOTI guidance states that the TO can evidence efficiency through the use of benchmarking or competitive tendering<sup>5</sup>, but weight is most definitely placed on competitive tendering. Common sense dictates that a genuine market-based result is always preferable to a historical benchmark, especially when the need for the work has already been approved. The latter is based on a real-world scenario and is removed from the uncertainty that is introduced when historical benchmarks are transplanted onto unique project scenarios. While we recognise the usefulness of benchmarks as a broad indicator, we fundamentally disagree with the assertion that they should take primacy over a market tendered approach, in particular where no issues have been raised with the tender process that has been followed.

We are absolutely confident that our procurement team exhausted every possible avenue to achieve the lowest possible cost. The project went through multiple intensive tender iterations and subsequent BAFOs. This demonstrates that our efforts continued even after several tender rounds and that we remained committed to finding the best value for consumers. Beyond the flawed application of its benchmarks, it has not been suggested by Ofgem that it has any concerns with our procurement process, nor has it suggested any action that could have been taken to achieve a more competitive civils package.

Given that we have been given no indication of perceived flaws in our procurement process and an independent expert confirmed our civils costs were efficient we fail to see any rational justification for their removal.

We are concerned with the possibility that Ofgem proceed with a view to reject tendered costs in favour of benchmark costs, and this is exacerbated when Ofgem chooses to favour market tenders over benchmarks when the tender is lower than the benchmark. This is the case for our cable costs, where our combined land and sea cables were 5% lower than Ofgem’s benchmark. Such cherry picking cannot be deemed an acceptable cost assessment approach, especially when an independent assessment shows that the contracted costs for the project overall (land and subsea cable, convertor station, sub-station, and civils) offers excellent value

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<sup>3</sup> RIIO-2 Sector Specific Methodology Decision – Core document: Chapter 11

<sup>4</sup> [Large Onshore Transmission Investments \(LOTI\) Re-opener Guidance | Ofgem](#) Chapter 6

<sup>5</sup> [Large Onshore Transmission Investments \(LOTI\) Re-opener Guidance | Ofgem](#) Para 6.9

for money at 15% lower than Acradis benchmarks once normalisations have been accounted for.

### Residual Risk/Variable Costs

Ofgem is currently minded to disallow £17.9m of our variable costs set out in our Quantitative Risk Assessment (QRA), falling into four categories:

- 1) risks relating to interfaces between SSENT's contractors;
- 2) risks which Ofgem consider have sufficient coverage within minded-to allow costs;
- 3) risks that Ofgem believe should be borne by parties other than the consumer, such as contractors; and
- 4) risks that no longer apply, such as those relating to an event which has passed.

We have accepted the fourth point, but we would note that SSENT has not sought the costs for the additional risks that have materialised and now apply during the 11 months that have passed during the Project Assessment stage.

We disagree with points 1 to 3. The first on principle as discussed below, and regarding points 2 and 3, it is our position that Ofgem is making an error in its assessment by stating certain items are covered elsewhere in the settlement or that risk is borne by another party and not SSENT. We have responded in detail, on a line-by-line basis to Ofgem on each of these.

No infrastructure project is without risk and no project no matter how well it is planned will conclude without some deviation from the programme, which is why it is vital that budget provision is made for this eventuality. This is exactly the purpose of a variable cost/risk budget and while it is impossible to say with certainty what costs will materialise, prudent risk management will build an allowance based on potential risk items as well as past experience and industry benchmarks that the scale of the provision is proportionate to the challenge and complexity of the project. This is exactly what our QRA and associated allowance does.

The key questions that we have to ask is:

*Can Ofgem be satisfied that SSENT has taken a proportionate and fair approach to setting ex-ante allowance to account for SSENT variable project costs? The answer is yes.*

We answer yes for the following reasons:

- 1) The level of SSENT residual risk/variable costs that we are exposed to will be impacted by the contracting approach we choose to adopt. In the case of Shetland, we adopted a multi-

contract approach<sup>6</sup> over an EPC (Engineer, Procure and Construct) approach. In doing so, this will naturally incur more residual interface risk costs for SSENT but overall saved c£76m<sup>7</sup> in technology and civils costs. This is clearly in the best interests of consumers.

- 2) Ofgem is proposing to allow SSENT a residual risk allowance of 5.7% for Shetland. This compares to 8.2% allowed for baseline T2 projects, mistakenly suggesting that Shetland is significantly less risky than the T2 portfolio. We propose, 8.4% for Shetland, commensurate to the T2 portfolio, thus offering outstanding value for money when considering the unique challenges of building a complex project in such a remote location and the complications of taking a multi-contracting procurement approach. We note Ofgem believe the 8.2% allowed for T2 baseline includes both TO residual risk and contractor held risk. We explained to Ofgem why this is inaccurate and repeat in this section below.
- 3) Two independent benchmarking reports support our QRA and resulting costs with no equivalent expert challenge from Ofgem to suggest anything contrary. Arcadis recommended a provision of 9.2% of total costs for SSENT residual risk and Mott McDonald advised that based on current industry practice a diligent provision of up to 10% would be reasonable for a project of equivalent complexity and development stage. For the avoidance of doubt, all of these figures were in addition to contractor held risk and compares to Ofgem's 5.7%.
- 4) We have taken an open book approach to variable costs/risk costs as we have gone through the Project Assessment phase, removing those that did not materialise and yet not adding any new risks to the ledger that have materialised.
- 5) Overall, our QRA is based on a "P50" assessment; with SSENT risk exposure between £30m (P5) and £80m (P95) based on a probabilistic analysis of the identified risks. The P50 allowance is towards the midpoint of that range, which represents a 50% level of confidence in the outcome. A project of this complexity, would normally be set at "P80" whereby the probability of the risk occurring would be set at 80% and not 50%, resulting in a higher overall cost. The P50 approach combined with the sharing factor (whereby SSENT retain 36% of any overall underspend, with 64% going back to consumers) should give sufficient comfort that consumers are protected for any suggestion of windfall gains.

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<sup>6</sup> For Shetland, there is an element – the HVDC technology – that can only be delivered by one supplier. As such, if we adopted an EPC wrap approach, we would have had to contract with that one supplier for the entire project. We did not believe that would have given the most competitive price for consumers.

<sup>7</sup> Project Assessment Submission of £659.5m (when multi-contract approach taken) versus £735.0m at the Final Needs Case Submission (when EPC assumed).

Despite the above, Ofgem's current position is to disallow £17.9m of our variable costs/risk costs; we believe £14.9m is entirely unjustified. Nonetheless, as a pragmatic way forward, we suggest a Use It or Lose It Pot (UIoLI) whereby we can recover the costs up to the amount of the £14.9m of unjustified disallowed risk costs should any of the disallowed variable costs materialise<sup>8</sup>.

We expand on some of these points below.

### **Top-Down Assessment**

During our engagement with Ofgem we started from the principle that from a top-down perspective our residual risk/variable cost allowance for the Shetland project was commensurate with the levels that had been deemed efficient for the entire T2 price control and could therefore be relied upon by Ofgem and consumers to provide good value for money. Utilising a wide pool of data of over £2bn of outturn RIIO-T1 projects resulted in an average uplift across the entire price control of 8.2%. Our allowance request for the Shetland project is commensurate, offering excellent value for money, and considers the unique challenges of building in such a remote location and the complications of taking a multi-contracting procurement approach.

Ofgem hypothesise that the 8.2% is entirely project risk, and not only SSENT residual risk. This is incorrect. The data used to calculate the 8.2% was actual delivered project cost (at Gate 5 in our Large Capital Project process) versus the approved cost excluding the risk pot (at earlier Gate 3). The difference between the two is the risk that ultimately materialised to SSENT only. Whatever level of risk materialised for any contractor was not included due to the simple fact we do not have access to such information. Therefore, it follows that the 8.2% is not total project risk (TO residual + contractor) but only SSENT residual risk.

Across all engineering industries, it is common practice for contractors to assess and account for a certain level of risk when bidding for work, with this risk price being included within tendered contract costs. This is because the nature of the New Engineering Contract (NEC3) sets the contract costs at the agreed lump sum fixed price and the risk costs included will cover the risks that are highly probable, such as bad weather, material availability and reworking defects.

However, through contract risk apportionment, SSENT are responsible for risks that sit out with the control of the contractors including but not limited to: delays related to design, construction and programme interfaces, ground conditions, network conditions, consent and planning, legislative changes etc. This residual risk is accounted for within the 8.2% deemed

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<sup>8</sup> We note Ofgem is still considering some of our line-by-line variable cost items it did not have time to consider prior to publishing its minded-to consultation. Therefore, the final disallowed *ex-ante* figure for the UIoLI pot may be less than the £14.9m.

efficient in the RII0-T2 Price Control and we therefore fail to understand why a similar conclusion has not been reached for the 8.4% required to deliver the Shetland Project.

We are confident that from a top-down perspective the risk provision submitted for the Shetland project was fair and proportionate and should be fully funded.

### **Bottom-up Assessment**

Ofgem has insisted on taking a bottom-up, line-by-line approach to assessing variable costs. When identifying what comprises our QRA, we set out as best we can the variable costs on a project at the outset. Some will materialise, some won't, and equally others will materialise that had not been identified. Therefore, a line-by-line assessment does not account for the third category of unknown risks, yet diligent risk management must consider that all potential variable costs can't be foreseen at the point of submission and Ofgem's assessment. Ofgem is seeking certainty on costs that can't be fully provided. However, what can be provided is assurance that the level of contingency is proportionate and in line with the level of risk incurred with other projects, with risk expert independent reports all outlined above. While we believe a line-by-line assessment is a rudimentary approach to assessing risk, we have engaged in-depth and constructively with Ofgem on this.

Upon submission of our Project Assessment in November 2020 we provided Ofgem with full access to our in house risk management system which allowed it to review all 164 individual risk items on a line-by-line basis. We also provided an update to the risk register in February 2021 so that any risks in the early stages of construction that had not materialised could be removed as they no longer required funding and accepted that any risks that have not materialised to date can be removed. We have justified every risk on a line-by-line basis and answered many questions from Ofgem on each of them.

Despite clear justification for each we remain extremely disappointed that Ofgem fails to allow the line items set out in the QRA. Of note, Ofgem has simply taken a "red pen" to any Interface Risk irrespective of any justification that we provided. As noted above, this interface risk is a direct consequence of taking a multi-contract approach. Yet, the ability of the project to deliver c£76m savings over an EPC contract is predicated on having adequate interface risk provision to manage the residual interface risk between executed contracts for us as the TO, inherent in a multi-contract approach. Through the negotiation of contractual key dates, sectional completion dates, liquidated damages and incentivisation, we have minimised the residual interface risk to £7.7m. If rejected, SSENT will have no funding alternative given the LOTI mechanism is the only facility providing the project revenue stream. We fail to understand why the residual value of a £7.7m interface risk provision achieved through the multi contract approach, and which has saved c£76m of cost is not recognised and welcomed by Ofgem.

Ofgem has also represented the approach to the assessment of interface risk as a policy-based decision. This has been given without a clear and direct reference to an existing policy

document or notice of such an approach being expected. We would welcome reference to this precedent being established and how it is accounted for in Ofgem's available range of guidance and/or policy publications.

This would provide reassurance that the current view is not an unexpected or unwarranted approach nor is it an ad hoc approach that does not fully consider interface as a valid risk allowance. It would also deepen the understanding of future reviews as well and allow for a more targeted submission of risk entries.

A blanket policy that TOs will not be funded for the management of interface risk will send a signal to the industry that all future submissions should be procured on an EPC approach to ensure that there is no unfunded risk exposure to TOs. Yet in the specific case of Shetland, we have demonstrated EPC would have come at additional cost to the consumer. We don't expect this is the outcome Ofgem desires and urge it to reconsider its position in cognisance of the wider impacts to the GB consumer.

### **Our Proposal**

We maintain from both a top-down and a line-by-line bottom-up approach our risk allowance is a realistic, economic, and efficient assessment of potential variable costs within the Shetland project. But we also recognise the importance, not only for Shetland, but for future projects critical to meeting legislated net zero targets, that TOs can be confident they have sufficient allowances to undertake the work.

To that end, we propose a mechanism for funding the disallowed variable cost items which Ofgem do not wish to set an *ex-ante* allowance for, but which ultimately actualise during the project.

Notwithstanding the fact that we take a proposed P50 approach to all variable costs thus sharing the risk with consumers, to provide Ofgem with additional confidence that consumers will not be funding any proportion of variable costs that do not materialise, we propose that this funding would only be drawn down from a predefined pot in the event that a specific event identified during Project Assessment actualised. This pot will be set at the total value of the disallowed variable/risk costs and be on a use it or lose it basis – by that, any unspent elements of the pot will be fully returned to consumers (as it will not be drawn down) and not subject to the sharing factor.

To provide Ofgem with comfort that we will not use the pot simply because it is available, we propose:

- It will only be used for the specific line items identified in the Project Assessment and not any other variable costs that might materialise during the project.

- To justify utilising the pot, we would provide Ofgem with evidence that all reasonable steps had been taken by SSENT to mitigate its occurrence and minimise its impact (through project reporting).
- At the end of the project, any funds that were not required would be handed back in full to consumers with no application of sharing factor; and
- Any overspend on these specific line items that exceeded the total value of the disallowed costs would be absorbed fully by us and not subject to the sharing factor.

For the avoidance of doubt, under this proposal if a variable cost line item materialises, we would intend to recover the full costs under the pot and not only the P50 calculated element but noting that the pot is capped. This acknowledges both the “consumer guarantee” that allowances will only be drawn down if the risk actually materialises and reflects the risk that we take by the fact that the pot is capped and not subject to the sharing factor.

### Other Costs Areas

There are two other cost areas totalling £1.5m that we ask Ofgem to reconsider – hot meals and the marine cable long term service agreement (LTSA).

#### Hot Meals

SSENT has provided exhaustive detail of the contract arrangements for hot meals provision. While Ofgem has disallowed a proportion of the costs to reflect its benchmark figure, we do not consider this properly represents the costs of this provision in Shetland which has its own characteristics that inform the set-up costs, running costs and the supply chain for such a remote region.

Again, we expect this should be another area where market tested costs have primacy over the use of benchmarks that, while using historical data, do not account for the unique locational challenges of this project.

As well as considering the purely financial aspect of this assessment, Ofgem should also consider these costs in terms of the welfare of the on-site workforce and that these provisions properly support them. In this instance purely the lowest cost does not equate to the best value in terms of resulting impacts. This is an essential service to ensure the workforce are provided with a “reasonable” standard of food provision on site and avoids workers travelling away during site hours to purchase food from other local providers which can be unproductive and inefficient. This also assists with our health and well-being across the project.



### **Marine Cable Long Term Service Agreement (LTSA)**

Ofgem is minded to disallow costs related to the marine cable LTSA costs as it believes there is a double count. SSENT accept a formula error was made in the estimate spreadsheet only and that this is a simple remedy to reinstate the costs.

SSENT has an obligation to ensure the marine cable infrastructure is regularly inspected to ensure that it remains adequately protected and does not pose a heightened risk to other legitimate users of the sea. In order to facilitate this, a periodic inspection regime has been agreed and is being priced by the contractor, NKT. These surveys will be responsive to changes observed in the seabed with more attention given where the focus is required. We maintain that this work is needed not just for the security and reliability of the cable, but also to reduce risk to other legitimate users of the sea.

SSENT has provided Ofgem with a revised Cost Item Detail Sheet (CIDS) to support this cost requirement and also the contractual exclusions which will be negotiated in the final contract. The allowance covers key committed cost items which NKT has excluded from its initial LTSA tender price.

**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?**

**Answer: We agree with the proposal to deal with Covid risks. We disagree with the proposal on HILP events.**

We welcome Ofgem's proposal to provide a zero-threshold re-opener for any additional costs incurred as a direct result of Covid and propose that this reopener should take the form of a single annual submission to Ofgem for assessment.

However, we disagree with its proposal to impose a 10% threshold on other High Impact Low Probability (HILP) events. Given that COAE events are by their very nature unforeseeable events which the TO can't control, we agree that it is right and proper that they do not form part of the risk contingency settlement and we only recover costs in the low probability scenario that they materialise. However, given that they are outside our control we do not see the justification for any threshold, let alone, 10%. The Shetland project is an example of the step change that SSENT has adopted to implement new innovative technologies and delivery strategies, which ultimately benefit consumers. To reiterate the innovative approach, the Shetland HVDC Link is:

- the first of its kind to apply innovative multi-terminal HVDC technology outside of China;

- the first interconnector to negotiate annual average wave heights over 2m in northern European waters;
- the first example of use of Clean Air (SF<sub>6</sub>-free) GIS AC substation technology by Siemens and SSENT; and
- the first multi-contract project of this scale to be delivered by SSENT.

We disagree with Ofgem's minded to position to default to such a high threshold even after we have adopted an innovative and efficient approach that puts consumers first by minimising their risk exposure and costs on this very challenging and innovative project. Severe COAE thresholds may discourage much needed innovative approaches in the future from network operators which would then consequentially be to the detriment of customers too.

Ofgem must consider its decisions in setting any COAE materiality threshold carefully. This may set a dangerous precedent, and places enormous risks and expectations on TOs to withstand. Ofgem has not set out any analysis, such as an impact assessment on gearing and financeability, that justifies why a high materiality threshold would be appropriate.

It is also reasonable for Ofgem to consider circumstances in which a number of individual COAE events may fail to meet the common COAE materiality threshold, but cumulatively may have a very material impact.

The financial status of a network company can be severely impacted without reasonable parameters in place to limit the risk and costs it assumes. The risk of such circumstances occurring should not be taken lightly, given the uncertainty of changing network and policy environments during T2.

Our objections in principle to the setting of a threshold notwithstanding, we are mindful of the significant similarities in scope and challenge between this project and Caithness Moray which was awarded a 5% cumulative threshold. We therefore propose that all other HILP risks be applicable for funding once the cumulative impact has breached 5% of the original submission value.

We would also note that Ofgem tend to overstate the value of the cumulative threshold and use it as justification to set the threshold at 10%. The very nature that these events are low probability, means that it is highly unlikely that one will occur, let alone two. Therefore, it is much more sensible and reasonable to set them on the basis that the probability is that only one will occur, and not rely on cumulative value to justify a higher threshold.

Our proposal for the treatment of HILP risk is summarised in the table below.

Risk	Definition	Ofgem Proposal	SSENT Proposal
Covid	Additional project costs incurred that are directly attributable to the ongoing Covid pandemic and not covered by any insurances or contractual arrangements.	Ringfenced no-threshold assessment of incurred costs	Accept subject to confirmation, submission will be on annual basis
Physical damage to Flotta oil pipeline	Contractor damage to pipeline occurs during construction. Delays to programme schedule, environmental impact and damage to 3 <sup>rd</sup> party asset.	10% COAE Threshold	5% cumulative COAE threshold
Multi-terminal HVDC deployment	Additional project costs incurred that are directly attributable to the deploying multi-terminal HVDC technology and not covered by any insurances or contractual arrangements.	10% COAE Threshold	
Extreme weather	Additional costs directly attributable to extent of extreme weather above 1-in-10-year value.	10% COAE Threshold	

**Question 3: Do you agree with our proposed output and delivery date for this project?**

**Answer: Yes.**

We agree that the project will deliver:

- A new 132kV AC Gas Insulated (GIS) substation at Upper Kergord, Shetland;
- A new convertor station at Upper Kergord, Shetland;
- A 261km +/-320kV 600MW HVDC single circuit cable between Upper Kergord, Shetland and Noss Head, Caithness; and
- A new HVDC switching station at Noss Head, Caithness.

We also agree that we will demonstrate the delivery of the link by the completion of low power transfer tests in export and import mode.

Question 4: Do you agree with our view on the implementation of the Large Project Delivery (LPD) mechanism on this project?

Answer: No, specifically Ofgem’s proposed application of a Project Delay Charge

A Project Delay Charge<sup>9</sup> should not apply to Shetland for the following reasons:

**(a) Ofgem has failed to consult on the proposed licence condition which would implement the Project Delay Charge for Shetland.**

Paragraph 7.25 of the LOTI Guidance states, “*In order to implement the Project Delay Charge, we would expect to introduce provisions into the licence requiring network companies to return sums determined by the Project Delay Charge to consumers.*”

Paragraph 4.1 of the Shetland Consultation states. “*We are proposing to make all of the modifications required to give effect to the project as statutory modifications under section 11A of the Act. Notice of and the full text of the proposed modifications are provided in Appendix 2 of this document.*” The text of proposed modifications to implement the Project Delay Charge was not included in Appendix 2.

Section 11A of the Electricity Act 1989 requires that before making any modifications under section 11A, the Authority must give notice setting out the proposed modifications and their effect and giving a period for representations to be made which shall not be less than 28 days. SSENT has neither received notice of, nor been consulted on, any such modifications.

**(b) The terms of Ofgem’s consultation are flawed in respect of the Project Delay Charge.**

(i) The inclusion of an *ex-post* option for the Project Delay Charge is contrary to the LOTI Guidance which states that the Project Delay Charge “*will be set on an ex-ante basis*”. Paragraph 4.61 of the RIIO-2 Final Determinations – Core Document (“Final Determinations”) also refers to network companies paying a “*pre agreed day rate charge*”. Inclusion of an *ex-post* mechanism is contrary to LOTI Guidance and the Final Determinations. To be clear, SSENT is not advocating application of an *ex-ante* Project Delay Charge for the Shetland Project in its response. SSENT is strongly of the view that the SWW process for managing project delay should apply to Shetland as this was the policy in place at the time we entered contracts. The

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<sup>9</sup> Project Delay Charge is the term in the LOTI Guidance, although we note the consultation question refers to Late Project Delivery (LPD), which is wider than only the Project Delay Charge.

SWW process was as set out at the Mid Period Review (MPR)<sup>10</sup>, the only guidance available at the time we entered into contracts for the Shetland project (July 2020).

This established that: a) companies would be subject to reprofiling of allowances if late; and b) enforcement action and/or delay penalties could be incurred once a delay was known but the difficulties in setting *ex-ante* penalties to reflect consumer detriment upfront were clearly acknowledged.

SSENT believes it is unreasonable, unfair, and lacking in transparency to consult on the quantum of a daily rate in the absence of other significant and fundamental information that would enable SSENT and other parties, to make an informed response. LOTI Guidance states that the structure of the Project Delay Charge will be similar to delay clauses set out in standard form contracts such as the NEC/JTC/FIDIC suites. These standard form contracts make provision for circumstances in which a contractor will not be liable for liquidated damages (Force Majeure being just one example) and the detail around this drafting is critical to the operation of the liquidated damages mechanism. Questions such as whether the TO would be liable for the Project Delay Charge in the event delay was wholly attributable to the insolvency of a contractor during project delivery are critical to SSENT forming a view on quantum and potential financial impacts. In the absence of detailed licence drafting, we are unable to ascertain when Ofgem intends that the Project Delay Charge would apply and when it would not.

LOTI Guidance also states that the charge would only be implemented after reasonable notice has been given. This would follow an approach that allows for reasonable changes to the project schedule if that would facilitate returning the project to its original delivery dates or otherwise minimise delay. The Guidance also states it would be subject to a pre-set cap (not normally exceeding 15% of the total cost of the project). Again, the specific drafting around both elements is key to SSENT having an opportunity to make informed representations on quantum. In particular, we note that Ofgem has neither confirmed nor sought to consult on the level of any proposed cap.

(ii) SSENT believes that Ofgem's erroneous and misleading reference to the fact that in excess of £900k per day could be recouped by SSENT through the various liquidated damages clauses in our contracts could be prejudicial to the outcome of the consultation. We set out clearly below the reasons why this statement is erroneous. We are concerned that this error could mislead respondents and potentially result in an assumption that a daily rate of Project Delay Charge at the upper end of the scale proposed by Ofgem is appropriate having regard to the amount respondents believe SSENT may receive from its contractors. We are also concerned that Ofgem has consulted on a range for the daily rate which was based on erroneous

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<sup>10</sup> <https://www.ofgem.gov.uk/publications/consultation-mid-period-review-parallel-work> (consultation) and <https://www.ofgem.gov.uk/publications/mpr-parallel-work-decision> (decision).

assumptions regarding SSENT's entitlement to liquidated damages. SSENT drew this to Ofgem's attention when it provided feedback to the embargoed consultation, prior to publication.

(iii) SSENT believes applying a Project Delay Charge to Shetland fails to meet its intended purpose of avoiding consumer detriment as no such detriment exists. Ofgem stated in the Final Determinations that a Project Delay Charge was *"to compensate consumers for late delivery"*. This rationale is re-affirmed in the LOTI Guidance which states that the charge will be set *"taking into account an ex-ante estimate of consumer detriment and relevant delay clause benchmarks"*. In this consultation Ofgem has confirmed that *"any delay to the Shetland Link would not be likely to lead to material detriment to consumers, unless the period of delay was substantial and resulted in a delay to the connection of the VEVF project and/or resulted in an extension to the life of Lerwick Power Station."* The outputs that SSENT is responsible for delivering are set out above in response to Question 3 and we remain confident that will be achieved by 31 December 2024. Any delay to VEVF and/or extension to LPS that occurs when we have delivered our output is not attributable to this project.

Furthermore, and for the avoidance of doubt, it is our understanding that there are no constraints costs as a result of the Shetland cable being late and VEVF consequently being late to connect, therefore there is no consumer detriment as measured by constraints. VEVF has a non-firm connection which means it does not receive constraint costs as a result of the cable/the asset being late (or indeed a fault with the subsea cable). It is worth being clear that due to wider system constraints (different to being constrained due to asset issues), VEVF being late caused by SSENT may actually benefit consumers as the ESO would not have to pay VEVF the wider system constraints. All of this will depend on the ESO operation of the system at that time.

It is difficult to provide a considered response in the absence of any detailed proposal. However, it would seem an undesirable outcome if the Project Delay Charge mechanism required the TOs to compensate consumers in circumstances where no material detriment had been suffered whilst the TO was incurring costs and losses associated with the delay but was unable to utilise any LDs because these were being offset against the Project Delay Charge.

(iv) SSENT believes that the proposed implementation of the Project Delay Charge has lacked the detail and consistency in communications to provide a transparent process and fair outcome. In SSENT's response to the LOTI Guidance consultation we requested further information in order to understand the proposed mechanism, but no further information was provided. As highlighted above, in our response, we have not had sight of proposed licence drafting and what Ofgem proposes departs from what was stated in the Final Determinations and in the LOTI Guidance.

### **Methodology Errors**

Our objections in principle to the imposition of any Project Delay Charge on Shetland notwithstanding, we have significant concerns with the methodology Ofgem has used to calculate the range of penalty to impose.

First, the consultation states that in excess of £900k per day could be recouped by SSENT through the various LD clauses in our contracts. This is an erroneous statement as it would require that liquidated damages were accruing on all 63 LD clauses across four separate contract packages simultaneously. This is a scenario which would simply never occur. SSENT's contracts, as is standard practice in projects such as this, have provision for LDs to apply not just in relation to completion itself, but also to certain milestones and key deliverables throughout the construction period. This mechanism decreases the risk of delay to completion as it will incentivise timely delivery throughout construction. Once those milestones and key deliverables are met on their due date, SSENT will have no further entitlement to any LDs associated with them. Ofgem has included within the £900k figure amounts that SSENT no longer has any entitlement to and others that SSENT will cease to be entitled to once the associated milestones and key deliverables are met. SSENT believes that Ofgem has erred in its calculation of SSENT entitlement to LDs by aggregating all daily rates and has grossly oversimplified what is a relatively complex contractual position.

Second, this calculation also assumes that LDs would be payable by all contractors simultaneously in the event of late delivery. This assumption is fundamentally flawed and takes no account of the multi contract approach and commercial realities. In the event of a delay to completion by one contractor (for which they are liable in LDs), SSENT will only have recourse to that contractor. In the absence of any default by the other contractors, those contractors will not become liable in LDs as a consequence of the defaulting contractor's acts and omissions. In fact, if the other contractors are impacted by the delay, the more likely scenario is that the other contractors will seek time and costs from SSENT by way of a "compensation event". SSENT's exposure to costs associated with compensation events, triggered by a contractor's delay, was a significant component of calculation of daily rates for LDs. We have provided evidence to Ofgem that demonstrates that the vast majority of any LDs received from a contractor would be utilised in meeting costs associated with compensation events from other contractors. Further, in a large number of cases the monies that are recoverable by SSENT through LDs are insufficient to meet the compensation event claims from other contractors meaning that these costs would be borne by SSENT (as noted above, with no risk provision for interface issues being provided in our allowances). We estimate that, on average, across all 63 LDs, SSENT would be contractually obliged to pay other contractors c35% additional costs over and above the value of the recoverable LDs.

In addition to the failure to take account of any entitlement to costs pursuant to an associated compensation event, Ofgem also failed to take into account the project management costs that

would be incurred by SSENT to maintain programme, which with no interface provision (see our points in response to Question (2)) we have no means of funding. SSENT provided to Ofgem for each individual LD entitlement what would be available to meet SSENT's additional costs once both these elements were funded. In many line by line instances, we are left at a deficit.

Finally, we caution Ofgem against this approach of aggregating all LDs across the project as this could disincentivise TOs from using the tried and tested mechanism of attaching LDs to key dates throughout the life cycle of projects. This would not be in the interests of consumers. Tying to key dates promotes timely delivery of the programme and reduces the risk of delay to completion at the end of the project. However, if Ofgem aggregates all LDs associated with key dates with late completion LDs to fix the daily rate of penalty for late delivery, TOs would need to factor this risk in when considering the merits of having key dates, the number of key dates and the level of LDs that it attaches to them. This, alongside Ofgem's approach to disallowing interface risk (thus driving TOs to an EPC approach in circumstances where multi contract is in the best interests of consumer) would disincentivise certain contractual strategies to the detriment of consumers.

SSENT's response to this consultation question relating to Project Delay Charge on the Shetland HVDC Project is without prejudice to SSENT's position in relation to other LOTI projects, whether future, in progress and/or planned.

#### Question 5: Do you agree with our proposed modifications to Special Condition 1.1 of SHE-T's licence?

**Answer: Yes.**

The proposed introduction of the Shetland HVDC Link definition and then its inclusion in the Transmission Area definition are as we expected and previously discussed with Ofgem.

#### Question 6: Do you agree with our proposed modifications to Special Condition 3.31 of SHE-T's licence?

**Answer: No.**

We do not agree for the reasons outlined in our response to question two and urge Ofgem to consider our proposed amendments.