

Decision

Shetland Enduring Solution Final Determination

Publication date: 9 December 2024

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On 13 September 2024 we published for consultation our Draft Determination on Scottish Hydro Electric Power Distribution's (SHEPD)¹ proposed Shetland Standby Project under the Shetland Enduring Solution Re-opener.

We invited responses from people and organisations with an interest in electricity and gas transmission or distribution, and from other stakeholders and the public. The consultation closed on 13 October 2024 with seven responses received. We have now reviewed and considered the responses received and factored these considerations into our Final Determination.

This document outlines our Final Determinations on the proposed Shetland Standby Project. We have also published alongside it a Direction giving effect to our Final Determinations.

¹ SHEPD is one of the licensees under the Scottish and Southern Energy Networks (SSEN) group of network companies

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1. Introduction

Context

- 1.1 Network companies are natural monopolies. Effective regulation of privatised for-profit monopolies is essential to ensure they cannot unfairly exercise their monopoly power to the detriment of their customers. This is particularly important in the case of essential utilities, such as energy, where consumers cannot avoid using the product and have no choice on whether or not to pay what they are charged. It is therefore crucial that an effective regulator protects energy consumers by controlling how much network companies can charge their customers. Ofgem does this through periodic price controls that are designed to ensure network companies are properly incentivised to deliver the best possible outcomes for current and future energy consumers. This includes ensuring that consumers only pay for investments that are needed and do not overpay for those investments.
- 1.2 The current price control model is known as RIIO (Revenue = Incentives + Innovation + Outputs). RIIO-2 is the second price control under the RIIO model for electricity transmission, gas transmission and gas distribution, and runs from 1 April 2021 until 31 March 2026. It includes a range of Uncertainty Mechanisms (UMs) that allow us to assess applications for further funding during RIIO-2 as the need, cost or timing of proposed projects becomes clearer. This ensures that consumers fund projects only when there is clear evidence of benefit, and we have clarity on likely costs and cost efficiency. These mechanisms also ensure that the RIIO-2 price control has flexibility to adapt as the pathways to Net Zero become clearer.
- 1.3 Where possible, we have set automatic UMs, such as the Generation and Demand Connection Volume Drivers, which provide some network companies with immediate funding when they are required to undertake new customer connection works. In other areas, where the degree of uncertainty is too great to allow for an automatic mechanism, we set 're-openers' which will allow us to assess proposals robustly once information with sufficient accuracy is made available.

What did we consult on?

- 1.4 On 13 September 2024 we² published our Draft Determinations for consultation proposals to adjust SHEPD’s outputs and allowances under Special Condition 3.2 of SHEP’s Electricity Distribution licence, the Shetland Enduring Solution Re-opener (“the Re-opener”).³ The consultation closed on 13 October 2024.
- 1.5 In accordance with Special Condition 3.2 of its Electricity Distribution licence, SHEPD applied to Ofgem to add additional allowances for its proposed project into its RIIO-2 price control framework.
- 1.6 The Re-opener may be used where:
- there has been a change in the costs the licensee has incurred or expects to incur related to the Shetland Enduring Solution, relative to any previous allowances for such costs, that exceed the Materiality Threshold; or
 - the licensee has incurred or expects to incur costs related to the Shetland Enduring Solution that are greater than 10% over or under the allowances set in response to an application under Special Condition 3.2.112(a).

General points to note when reading this document

- 1.7 All monetary figures quoted are in 2020/21 prices to align with the original RIIO-ED2 price base.

Purpose of this document

- 1.8 This document summarises the consultation responses we received from our stakeholders and sets out our Final Determinations following our appropriate consideration of those responses.
- 1.9 All non-confidential responses received have been published alongside this document.

Related publications

- 1.10 This document is intended to be read alongside:
- [SHEPD’s Shetland Enduring Solution Re-opener application published on SSEN’s website](#)

² The terms “we”, “us”, “our”, “Ofgem” and “the Authority” are used interchangeably in this document and refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

³ [Draft determination on Shetland enduring solution re-opener application | Ofgem](#)

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- [Draft determination on Shetland enduring solution re-opener application, 13 September 2024](#)
- [RIIO-ED2 Draft Determinations, 29 June 2022](#)
- [RIIO-2 Final Determinations, 30 November 2022](#)
- [Special Condition 3.2 of SHEPD's Electricity Distribution Licence](#)
- [RIIO-2 Re-opener Guidance and Application Requirements Document, Version 3, 3 April 2023](#)

2. Summary of our Final Determinations

2.1 Our Final Determinations are unchanged from our Draft Determinations, which are:

- to approve SHEPD’s Shetland Enduring Solution proposals for a Battery Energy Solution (BESS) with fault ride-through blackout avoidance and Lerwick Power Station (LPS) to be used as standby generation;
- to award total project allowances of £92.55m up to the end of the ten year contract period. SHEPD will receive £27.13m additional allowances in RIIO-ED2, with the remaining £65.42m allowances to be awarded in subsequent price control periods; and
- to reject SHEPD’s proposal for energy consumers to guarantee that in the event of a termination of the contract, SHEPD will recover all costs, losses, claims and liabilities arising on termination of the contract, including the debt and equity costs payable to the Service Provider of the BESS.

2.2 The Direction giving effect to these Final Determinations has been published alongside this document. The Direction takes effect immediately.

2.3 **Table 1** below summarises our Final Determinations, including the final allowances awarded to SHEPD under the Re-Opener.

Table 1: Summary of our Final Determinations (£m, 2020/21 prices)

Price Control Period	SHEPD Requested Allowances	Ofgem Determined Draft Allowances	Adjustments (Draft to Final)	Ofgem Determined Final Allowances
RIIO-ED2	27.13	27.13	-	27.13
RIIO-ED3	43.61	43.61	-	65.42
RIIO-ED4*	21.81	21.81	-	21.81
Total	92.55	92.55	-	92.55

* assumed to be the price control to follow RIIO-ED3

3. Shetland Enduring Solution: Final Determinations

Summary of our Draft Determination

- 3.1 SHEPD is proposing the installation of a BESS on the island of Mainland, Shetland. SHEPD proposed that the BESS will be provided by a third party supplier on a ten year contract, with a total cost of £92.55m over the ten year contract (£27.13m of which falls within the RIIO-ED2 period).
- 3.2 The BESS is proposed in order to appropriately mitigate the risk of blackout on the Shetland Islands in the event of an unplanned outage on the new HVDC (High Voltage Direct Current) transmission link that connects the islands to the UK mainland.
- 3.3 Our Draft Determinations proposed:

Needs case, optioneering, and costs

1. To award funding for SHEPD's preferred solution, based on our assessment that SHEPD has:
 - demonstrated that the risk of blackout on Shetland is sufficient to justify investment to mitigate the risk,
 - appropriately considered all currently viable options,
 - selected the most economic and efficient option given all relevant considerations, including the timeline for the commissioning of the HVDC transmission link, the likely future replacement needs for LPS, and the potential emissions from the continued operation of LPS.
2. To award £27.13m in RIIO-ED2 allowances, based on our assessment that the solution is the winning bid from a competitive tender process, with the total project cost of £92.55m considered to be economic and efficient.

Project finance risk

3. To reject SHEPDs request that consumers take on the risk of the solution failing and any subsequent debt and equity payments to terminate the contract with the third party provider (which we refer to as 'project finance risk'), as well as the cost of finding a new solution. In our view, SHEPD is well placed to manage this risk and agreeing to place these risks on consumers would set a precedent whereby network companies are less

incentivised to mitigate project risks or to find alternative, less risky solutions.

Consultation responses

3.4 We received seven consultation responses. SHEPD⁴ were the only network company to respond. We also received responses from three commercial organisations (EnQuest PLC – the operator of the Sullom Voe Terminal on Shetland, Shetland Aerogenerators Ltd, Statkraft UK Ltd), from two not-for-profit organisations (Save Shetland, Sustainable Shetland), and from one private individual (Rosemary Macklin). Six of the seven responses are non-confidential and have been published in full on our website. The remaining response contained a small element considered to be commercially confidential and has been published in redacted form.

Needs case, optioneering, and costs

- 3.5 SHEPD and three other respondents both broadly agreed with our assessment of the needs case and optioneering. Three of these four respondents agreed with the cost assessment with one suggesting that BESS capital costs have decreased since the tender was run and questioning whether there were any intention to re-run the tender as a consequence.
- 3.6 Three other respondents disagreed with our assessment, all three suggesting that the Sullom Voe Terminal is the main beneficiary of the BESS and therefore that the owners of the Sullom Voe Terminal should pay for its installation and operation, and one questioning whether at a cost of around £100m the BESS is good value for money.
- 3.7 One respondent felt that the re-opener application is too narrow in scope, that it should include the proposed North Shetland Reinforcement Project, and that the BESS should have been included from the outset as part of the “complete package” relating to the wider energy solution for Shetland so that the total cost could be evaluated.

Project finance risk

- 3.8 SHEPD disagreed with Draft Determination to reject its proposal for consumers to bear the risk of the solution failing. All other respondents who expressed an opinion were in agreement with our Draft Determinations position.

⁴ The response was from SSEN Distribution the trading name of Scottish Hydro Electrical Power Distribution plc (SHEPD) and Southern Electric Power Distribution plc (SEPD). The response was submitted on behalf of SHEPD and SEPD.

- 3.9 One respondent expressed concern with the statement in our Draft Determinations that the solution “is an innovative, first-of-a-kind configuration” and that there is a possible technical risk that the proposed solution fails to work correctly”.

Our Final Determinations

Needs case, optioneering, and costs

- 3.10 Our Final Determinations position confirms our Draft Determinations to approve allowances for SHEPD to deliver its preferred solution of a BESS with D-FRT blackout avoidance and LPS to be used as standby generation. The total allowances awarded are £92.55m with £27.13m of the total to be awarded in RIIO-ED2.
- 3.11 In regard to some respondents’ suggestion that the owners of Sullom Voe Terminal should pay for the installation and operation of the BESS and the lack of value for money of the proposed solution: while we agree that there will be benefits to Sullom Voe Terminal, the bulk of the benefits are wider system ones, including improved system resilience and the facilitation of future increases in generation and demand. Given the wider benefits and the fact that Shetland distribution network charges are partly socialised across all GB energy consumers, and not at regional level as is usually the case, we maintain that it is appropriate for energy consumers to pay for the installation and operation of the BESS. Additionally, while the total cost is estimated at around £100m, this does not account for potential revenue from trading/benefit stacking, which is likely to reduce the overall cost to consumers.
- 3.12 In regard to the scope of the re-opener application, we are satisfied that proposals fit in with the overall longer-term energy strategy for Shetland and for GB as a whole, and that they are appropriate given ongoing challenges and uncertainties in the energy landscape. In our assessment the proposals are underpinned by appropriate modelling and cost benefit analyses (please see Appendix 2 to our Draft Determinations for summary of the final cost benefit analysis conducted by SHEPD in support of its application), which give us confidence that it is the best current option available from a consumer perspective.
- 3.13 We also confirm that there is currently no intention to re-run the tender process. Although capital costs may have decreased in some areas, re-running the tender would lead to significant delays and ultimately higher costs. We do, however,

expect SHEPD to drive efficiencies where there is scope to do so and will closely monitor SHEPD’s performance in this respect.

Project finance risk

- 3.14 Our Final Determination confirms our Draft Determination to reject SHEPD’s proposal for consumers to bear the project finance risk. This means that in the event of a termination of the contract to supply the BESS that SHEPD will not be permitted to recover from consumers the costs, losses, claims and liabilities it incurs, including debt and equity costs payable to the Service Provider.
- 3.15 SHEPD’s response did not provide sufficient additional evidence or arguments to convince us that it would be appropriate for consumers to bear the project finance risk, and other respondents who expressed opinion were also of the view that it would not be appropriate.
- 3.16 SHEPD has provided assurances that the likelihood of the solution failing is very small. If any weight is to be placed on the assurances that SHEPD has provided, and given that SHEPD is much better placed than consumers to manage the risk, then it is appropriate for SHEPD to bear the risk.

Other comments and questions from respondents

- 3.17 Two of the respondents suggested that the planning process was flawed as it did not sufficiently consider the fire risk of the lithium ion batteries.

Ofgem response

The planning process is a matter for the relevant planning authority. A Section 36 planning application for the proposed BESS was submitted to the Scottish Government Energy Consent Unit on 28 July 2023, with consultation published in September 2023. Consent was granted on 21 February 2024. The application, consultation documents, consultation response, and decision have been published on the Scottish Government’s website (Ref: ECU00004881): [Scottish Government - Energy Consents Unit - Application Details](#).

- 3.18 Two respondents asked whether, in the event of a failure of the HVDC, LPS will be sufficient to provide power to Sullom Voe Terminal and to other users.

Ofgem response

The proposals have been underpinned by significant load flow analyses, which give us confidence that the proposed solution is capable of meeting Shetland’s expected electricity demand.

- 3.19 One respondent suggested that there should be an obligation, in the event of longer-term HVDC outages, to enable local distributed renewable energy generation to augment generation from LPS; and that the ability to flex to a low carbon solution or second network link should be built into the solution from the outset.

Ofgem response

SHEPD has confirmed that, in the event of any outages, the system operation will revert to SHEPD via LPS, and that in those cases the island network will operate in the same way as it does today, via an Active Network Management (ANM) system. The ANM system maximises the contribution of DG and minimises the power required from LPS.

SHEPD has also stated that a Shetland Power System group with representation including SSEN Distribution and Transmission, Shetland Islands Council, and organisations with energy development plans in Shetland (including existing DG customers) has been set up. One of the terms of reference for the group is to “support local energy production projects to connect with the distribution and transmission networks with cost-effective contractual obligations”

We do not think there is a need to place additional specific obligations on SHEPD in these regards, as they are already covered by SHEPD’s existing obligations under Standard Licence Condition 7A, Part A that requires SHEPD to “...seek to identify actions and processes that advance the efficient and economical operation of the Total System...[to] consider actions proposed by Distribution System Users which seek to advance the efficient and economical operation of its network...[and to] use all reasonable endeavours to implement actions or processes identified...”.

- 3.20 One respondent expressed concern with the statement that this solution “is an innovative, first-of-a-kind configuration” and “there is a possible technical risk that the proposed solution fails to work correctly”, and asked would approval for the project have been granted if these admissions had been made at an earlier date?

Ofgem response

With any technological solution, even tried and tested ones, there is a risk that that it will fail following commissioning on an active network. The risk can be slightly elevated when it is a first-of-a-kind solution, even when the solution has undergone extensive testing and modelling in non-active

settings, such as is the case with the Shetland BESS proposal. SHEPD has provided assurances that the likelihood of the solution failing is very small. It is partly in recognition of these assurances that we rejected SHEPD's proposal for consumers to bear the risk (see paragraphs 3.14 to 3.16 above).

4.Next steps

- 4.1 The Direction published alongside this decision gives immediate effect to these Final Determinations.
- 4.2 Any stakeholders with queries relating to the Final Determinations should send them by email to: ReopenerConsultations@ofgem.gov.uk.