Decision

RIIO-ED2 Final Determinations SSEN Annex

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The next electricity distribution price control (RIIO-ED2) will cover the five-year period to 31 March 2028. In December 2021 the Distribution Network Operators (DNOs) submitted their business plans to Ofgem setting out proposed expenditure for RIIO-ED2. We assessed these plans and published our consultation on Draft Determinations in June 2022.

This document and others published alongside it, set out our Final Determinations for companies under the RIIO-ED2 price control, which will commence on 1 April 2023.

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1. Introduction

Purpose of this document

1.1 This document sets out our Final Determinations for the Electricity Distribution (ED) price control (RIIO-ED2) for the areas that are specific to SSEN.

1.2 The RIIO-ED2 price control will cover the five-year period from 1 April 2023 to 31 March 2028. All figures are in 2020/21 prices except where otherwise stated.

1.3 The purpose of this document is to focus on those elements of our Final Determinations for the price control settlement which specifically affect SSEN's licence areas including Scottish Hydro Electric Power Distribution PLC (SSEH) and Southern Electric Power Distribution PLC (SSES). This includes:

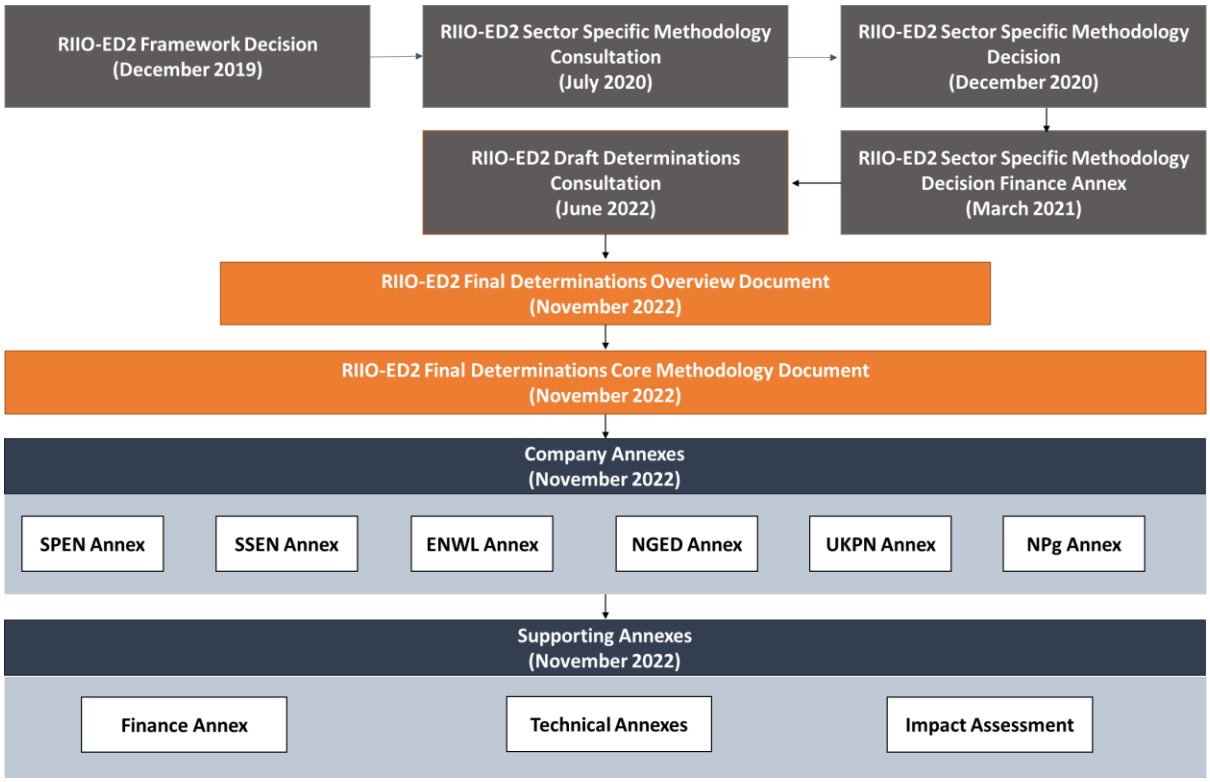
- our assessment of the business plan incentive (BPI), including consumer value propositions (CVPs)
- ex ante cost allowances
- parameters for common outputs
- bespoke Output Delivery Incentives (ODIs)[1]
- bespoke Price Control Deliverables (PCDs)
- bespoke Uncertainty Mechanisms (UMs)
- Network Innovation Allowance (NIA) funding.

1.4 This document is intended to be read alongside the RIIO-ED2 Final Determinations Core Methodology Document and RIIO-ED2 Final Determinations Overview Document.

1.5 Figure 1 sets out where you can find information about other areas of our RIIO-ED2 Final Determinations.

[1] In this document, we refer to 'ODI-F' which is a financial incentive and 'ODI-R' which is a reputational incentive.

Figure 1 Navigating the RIIO-ED2 Final Determinations documents



What are the company specific elements of SSEN's Final Determinations?

1.6 This section provides a high-level summary of the elements of our Final Determinations which are specific to SSEN.

1.7 Table 1 summarises our assessment of SSEN across the four stages of the BPI and where you can find additional information about our decision for each stage.

Table 1 Summary of proposed SSEN BPI performance

BPI Stage	Final Determination	Further Detail
Stage 1 minimum requirements	Pass	Overview Document for approach to assessment and rationale
Stage 2 Consumer Value Propositions	£3.5m reward	Chapter 2 of this document
Stage 3 Penalty	No penalty	Chapter 3 of this document
Stage 4 Reward	No reward	Chapter 3 of this document

1.8 The cost confidence assessment we have undertaken as part of this process results in a Totex Incentive Mechanism (TIM) incentive rate for SSEN of 49.3%. For further details on the TIM, see Chapter 9 in the Overview Document.

1.9 We present a summary of our ex ante Totex allowances for SSEN in Table 2. This reflects our view of efficient costs including ongoing efficiency over RIIO-ED2. For further details, please refer to Chapter 7 of the Core Methodology Document.

Table 2: SSEN RIIO-ED2 submitted Totex versus allowed Totex (£m, 2020/21 prices)[2]

Cost activity	**RIIO-ED2 submitted**	**DD (Net Before NPCA[3])**	**FD (Net Before NPCA)**	**FD incl Access SCR (Net After NPCA)**	**Difference to submitted (on a Net Before NPCA basis)**
Load related capex	490	386	419	492	-14.5%
Non-load related capex	1,336	1,010	1,127	1,127	-15.6%
Non-operating capex	221	173	184	184	-16.8%
Network Operating Costs	716	561	617	617	-13.7%
Closely Associated Indirects	981	768	849	693	-13.5%
Business Support Costs	498	388	428	395	-14.1%
Total	4,241	3,287	3,624	3,507	-14.6%

1.10 The common outputs that we are implementing for all DNOs in RIIO-ED2 are set out in Table 3 with further details provided in the Core Methodology Document. Table 3 also sets out the bespoke outputs that we are applying to SSEN in RIIO-ED2 (further details are contained within Chapter 2).

[2] Note that these costs do not include RPEs or post-modelling adjustments for reversing of ongoing efficiency for Worst Served Customers and Visual Amenity, adding Cyber resilience OT allowances and the Shetland Link RAV transfer, and deducting related party margins, disposals, and other controllable opex.
[3] NPCA stands for Non-Price Control Allocations.

Table 3 Summary of common and bespoke outputs applicable to SSEN

Output name	**Output Type**	**Further detail**
Common Outputs		
Annual Environmental Report	ODI-R	Chapter 3, Core Methodology Document
DSO	ODI-F	Chapter 4, Core Methodology Document
Digitalisation Licence Obligation	LO	Chapter 4, Core Methodology Document
Technology Business Management (TBM) taxonomy for classifying digital/IT spend	ODI-R	Chapter 4, Core Methodology Document
Collaborative project with networks to develop a new regulatory reporting methodology	ODI-R	Chapter 4, Core Methodology Document
Smart Optimisation Output	LO	Chapter 4, Core Methodology Document
Customer Satisfaction Survey	ODI-F	Chapter 5, Core Methodology Document
Complaints Metric	ODI-F	Chapter 5, Core Methodology Document
Time to Connect	ODI-F	Chapter 5, Core Methodology Document
Guaranteed standards of performance - Connections	Statutory instrument	Chapter 5, Core Methodology Document
Major Connections Incentive	ODI-F	Chapter 5, Core Methodology Document
Treating domestic customers fairly	LO	Chapter 5, Core Methodology Document
Consumer Vulnerability Incentive	ODI-F	Chapter 5, Core Methodology Document
Annual Vulnerability Report	ODI-R	Chapter 5, Core Methodology Document
Interruptions Incentive Scheme	ODI-F	Chapter 6, Core Methodology Document
Guaranteed standards of performance - Reliability	Statutory Instrument	Chapter 6, Core Methodology Document

Output name	Output Type	Further detail
Network Asset Risk Metric	PCD, ODI-F	Chapter 6, Core Methodology Document
Cyber Resilience Information Technology	PCD	Chapter 6, Core Methodology Document and Confidential DNO Annexes
Cyber Resilience Operational Technology	PCD	Chapter 6, Core Methodology Document and Confidential DNO Annexes
Bespoke SSEN Outputs		
SEPD (SSES) New Control Room	PCD	Chapter 2, SSEN Company Annex
SHEPD (SSEH) New Control Room	PCD	Chapter 2, SSEN Company Annex

1.11 The common UMs that we have decided to put in place for all DNOs in RIIO-ED2 are set out in Table 4 with further details set out in the Overview Document or in the Core Methodology Document. Bespoke UMs specific to SSEN are also set out in Table 4, with further details in Chapter 4.

Table 4 Summary of common and bespoke UMs applicable to SSEN

UM Name	UM Type	Further detail	Proposed in DDs
Common UMs			
Cost of Debt	Indexation	Finance Annex, Chapter 2	Yes
Cost of Equity	Indexation	Finance Annex, Chapter 3	Yes
Inflation indexation of RAV and allowed return	Indexation	Finance Annex, Chapter 9	Yes
Real Price Effects	Indexation	Annex 2, Chapter 4 of SSMD	Yes
Bad debt/valid bad debt claims by IDNOs	Pass-through	Finance Annex, Chapter 10	No
Business/Prescribed Rates	Pass-through	Annex 2, Chapter 8 of SSMD	Yes

UM Name	UM Type	Further detail	Proposed in DDs
Ofgem Licence Fee	Pass-through	Annex 2, Chapter 8 of SSMD	Yes
Pension Deficit Repair Mechanism	Pass-through	Annex 2, Chapter 8 of SSMD and Finance Annex, Chapter 10	Yes
Ring Fence Costs	Pass-through	Annex 2, Chapter 8 of SSMD	Yes
Severe Weather 1-in-20	Pass-through	Core Methodology Document, Chapter 7	Yes
Smart Meter Communication Costs	Pass-through	Core Methodology Document, Chapter 7	Yes
Smart Meter Information Technology Costs	Pass-through	Core Methodology Document, Chapter 7	Yes
Supplier of Last Resort	Pass-through	Finance Annex, Chapter 10	No
Transmission Connection Point Charges	Pass-through	Annex 2, Chapter 8 of SSMD and Core Methodology Document, Chapter 7	Yes
Cyber Resilience OT	UIOLI	Core Methodology Document, Chapter 6	Yes
Visual Amenity	UIOLI	Core Methodology Document, Chapter 3	Yes
Worst Served Customers	UIOLI	Core Methodology Document, Chapter 6	Yes
LRE - Low Voltage (LV) Services	Volume driver	Core Methodology Document, Chapter 3	Yes
LRE - Secondary Reinforcement	Volume driver	Core Methodology Document, Chapter 3	Yes
Polychlorinated Biphenyls (PCB)	Volume driver	Core Methodology Document, Chapter 3	Yes
Indirect Scaler	Volume Driver	Overview Document, Chapter 6	No
Coordinated Adjustment Mechanism	Re-opener	Overview, Chapter 5 of SSMD	Yes

UM Name	UM Type	Further detail	Proposed in DDs
Cyber Resilience IT	Re-opener	Core Methodology Document, Chapter 6	Yes
Cyber Resilience OT	Re-opener	Core Methodology Document, Chapter 6	Yes
Digitalisation	Re-opener	Core Methodology Document, Chapter 4	Yes
DSO	Re-opener	Core Methodology Document, Chapter 4	Yes
Electricity System Restoration	Re-opener	Core Methodology Document, Chapter 6	Yes
Environmental	Re-opener	Core Methodology Document, Chapter 3	Yes
High Value Projects	Re-opener	Overview Document, Chapter 6	Yes
LRE	Re-opener	Core Methodology Document, Chapter 3	Yes
Net Zero	Re-opener	Core Methodology Document, Chapter 3	Yes
Physical Security	Re-opener	Core Methodology Document, Chapter 6	Yes
Rail Electrification	Re-opener	Core Methodology Document, Chapter 7	Yes
Storm Arwen	Re-opener	Overview Document, Chapter 6	Yes
Streetwork Costs	Re-opener	Core Methodology Document, Chapter 7	Yes
Tax Review	Re-opener	Finance Annex, Chapter 7	Yes
Wayleaves and Diversions	Re-opener	Overview Document, Chapter 6	No
Bespoke UMs for SSEN			
High-Cost Distribution Areas	Pass-through	SSEN Company Annex, Chapter 4	No
Shetland Variable Energy Costs	Pass-through	SSEN Company Annex, Chapter 4	No

UM Name	UM Type	Further detail	Proposed in DDs
Hebrides and Orkney Whole System	Re-opener	SSEN Company Annex, Chapter 4	Yes
Shetland Enduring Solution	Re-opener	SSEN Company Annex, Chapter 4	Yes
Shetland Extension Fixed Energy Costs	Re-opener	SSEN Company Annex, Chapter 4	Yes

1.12 Table 5 sets out our NIA allowances for SSEN (further details can be found in Chapter 5). Our general approach to the NIA is set out in Chapter 3 of our Core Methodology Document.

Table 5 Summary of NIA applicable to SSEN

SSEN NIA
£8.4m, to be reviewed by 2025

1.13 Table 6 summarises the financing arrangements that we are applying to SSEN. Please refer to Chapter 4 of our Finance Annex for more detail on these areas.

Table 6 Summary of financing arrangements applicable to SSEN

Finance Parameter	SSEN (SSEH) Rate	Source
Notional gearing	60%	See Table 14 in Finance Annex
Cost of equity allowance	5.23%	
Cost of debt allowance	3.07%	
WACC allowance (vanilla)	3.93%	

Finance Parameter	SSEN (SSES) Rate	Source
Notional gearing	60%	See Table 14 in Finance Annex
Cost of equity allowance	5.23%	
Cost of debt allowance	3.01%	
WACC allowance (vanilla)	3.90%	

2. Setting outputs

Introduction

2.1 In this chapter we provide our decisions on:

- The SSEN specific parameters for common outputs, detailed in our Core Methodology Document, which we propose to apply to all DNOs.
- The bespoke outputs and CVPs proposed in SSEN's Business Plan.

Common outputs

2.2 The SSEN specific parameters for the common outputs which we have determined for all DNOs in RIIO-ED2 are set out in the tables below. Further details on these outputs and our decisions are set out in the Core Methodology Document of these Final Determinations.

Interruptions Incentive Scheme (IIS)

2.3 Table 7 and Table 8 summarise SSEN's unplanned Customer Interruptions (CI) and Customer Minutes Lost (CML) targets. The targets are based on information we have at the time of the FD publication. The final numbers will be set out in SpC 4.4 of the licence.

2.4 The unplanned targets are calculated under a common methodology that uses each DNO's own historical performance to determine their targets, which means they are bespoke for each DNO. This methodology ensures the DNOs are incentivised to improve their performance (or avoid it deteriorating) but recognises that there are factors that will affect each DNO's current performance and the cost and impact of any changes. Table 9 and Table 10 summarise SSEN's planned CI and CML targets.

2.5 Please refer to Chapter 6 of the Core Methodology Document for further details.

2.6 Please refer to Appendix 7 of the Finance Annex for the incentive values, including the IIS revenue cap and collar values for SSEH and SSES.

Table 7: IIS - unplanned CI targets

Network	2023/24	2024/25	2025/26	2026/27	2027/28
SSEH	59.1	58.8	58.5	58.3	58.0
SSES	47.0	46.0	45.1	44.9	44.6

Table 8: IIS – unplanned CML targets

Network	2023/24	2024/25	2025/26	2026/27	2027/28
SSEH	43.0	42.1	41.3	40.5	39.7
SSES	39.3	38.6	37.8	37.0	36.3

Table 9: IIS – planned CI target

Network	2023/24
SSEH	3.61
SSES	1.39

Table 10: IIS – planned CML target

Network	2023/24
SSEH	7.91
SSES	3.10

Network Asset Risk Metric (NARM) PCD and ODI-F

2.7 Table 11 summarises SSEN's Network Asset Risk Metric (NARM) baseline network risk output for RIIO-ED2. Please refer to Chapter 6 of the Core Methodology Document for further details.

Table 11: NARM PCD and ODI-F – Baseline Network Risk Outputs (£R, 2020/21 prices)

Network	Baseline Network Risk Output
SSEH	191,503,131
SSES	685,313,429

Consumer Vulnerability Incentive

2.8 Table 12, Table 13 and Table 14 summarise SSEN's vulnerability incentive targets for PSR Reach, the value of fuel poverty services delivered and the value of low carbon support services delivered. Financial targets are set out in net present value (NPV). Please refer to Chapter 5 of the Core Methodology Document for further details.

Table 12: Consumer Vulnerability Incentive (ODI-F): PSR Reach target

	Year 2 target	Year 5 target
SSEN bespoke target	59.60%	69.50%

Table 13: Consumer Vulnerability Incentive (ODI-F): the value of fuel poverty services delivered (NPV, £m)

	Year 2 target	Year 5 target
SSEN bespoke target	£0.09m	£0.45m

Table 14: Consumer Vulnerability Incentive (ODI-F): the value of low carbon transition services delivered (NPV, £m)

	Year 2 target	**Year 5 target**
SSEN bespoke target	£0.05m	£0.51m

Major Connections Incentive

2.9 Table 15 shows SSEN's maximum penalty exposure for the Major Connections Incentive which is a penalty-only ODI-F. Please refer to Chapter 5 of the Core Methodology Document for further details.

Table 15: Major Connections Incentive - maximum penalty exposure

Network	**RIIO-ED2 penalty exposure in base revenue[4]**
SSEH	0.8%
SSES	0.3%

Bespoke outputs

2.10 For RIIO-ED2, we invited DNOs to propose additional bespoke outputs as part of their Business Plans reflecting the needs of, and feedback from, their stakeholders and consumers.

2.11 We said that companies were required to support their bespoke proposals with robust justification. In our Business Plan Guidance (BPG), we asked for this justification to ensure that the potential consumer benefits put forward under bespoke proposals were significant enough to merit introducing any additional cost and/or regulatory complexity associated with them.

2.12 Having considered all responses to our Draft Determinations proposals, our decision for each bespoke proposal strikes an appropriate balance between these trade-offs. You can find the background and our assessment approach in our RIIO-ED2 Draft Determinations Overview Document.

2.13 SSEN submitted 19 bespoke outputs. They include one bespoke ODI-R, four bespoke ODI-Fs, eight PCDs, one licence obligation and five CVPs.

2.14 We provide a summary of each bespoke proposal below, with the full details of each bespoke output put forward by SSEN found in its business plan submission. We set out our assessment of each output and detail which of them we have decided to accept and apply to SSEN in RIIO-ED2.

[4] The penalty is calculated by applying approximately a 0.1% penalty rate per Relevant Market Segment (RMS) within the scope of the incentive, up to a maximum exposure of 0.9% base revenue. Please see Appendix 7 of the Finance Annex for this penalty rate to be translated to RoRE.

2.15 SSEN also provided 24 'Aims' in its RIIO-ED2 Business Plan. As set out in our Draft Determinations, we welcome SSEN's commitment to delivering these outputs. However, we do not consider that the SSEN Aims require bespoke reporting requirements in the licence as these will be covered through their obligations under Standard Licence Condition 50 (Business Plan commitment reporting) or in common reporting licence obligations, eg the Annual Environmental Report (AER).

2.16 We encourage SSEN to maintain transparency of delivery with its stakeholders on its RIIO-ED2 performance through its own reporting procedures. For the full list of SSEN's Aims, please see Appendix 3.

Bespoke Output Delivery Incentives

2.17 The table below summarises the bespoke ODI proposals that SSEN submitted as part of its Business Plan and outlines our Final Determinations position.

ODI name and description	Consultation response summary	Final Determination	Draft Determination
Digital satisfaction (ODI-F): Maintain/ improve industry-leading 9.3 digital satisfaction score	SSEN said that our proposed Draft Determination position would have a low impact and noted potential interactions with the Storm Arwen review.	Reject output: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We note that we have introduced new, common reporting requirements on DNO response times for some digital communication channels. Further information can be found in Chapter 5 of our Core Methodology Document. There were no specific costs submitted against this ODI for us to assess.	Same as FD

ODI name and description	Consultation response summary	Final Determination	Draft Determination
Facilitating participation in flexibility markets (ODI-F): Set up an annual flexibility providers' forum and survey enabling regular feedback.	SSEN stated that it had no significant concerns with our position on its proposed ODIs and accepted our position.	Reject output: We are introducing a DSO incentive as a common ODI-F which includes an annual stakeholder survey, as detailed in Chapter 4 of our Core Methodology Document. There were no specific costs submitted against this ODI for us to assess.	Same as FD
Transparency of information (ODI-F): Provide timely, accurate and accessible DSO data across all DSO roles.	SSEN stated that it had no significant concerns with our position on its proposed ODIs and accepted our position.	Reject output: We are introducing a DSO incentive as a common ODI-F. This includes data publication and provision under the DSO performance panel assessment and stakeholder survey criteria. Further information on the DSO incentive can be found in Chapter 4 of our Core Methodology Document. There were no specific costs submitted against this ODI for us to assess.	Same as FD
Improving provision of forecasting information (ODI-F): Continually improve the	SSEN stated that it had no significant concerns with our position on its proposed ODIs	Reject output: We are introducing a DSO incentive as a common ODI-F. This includes a primary network forecasting	Same as FD

ODI name and description	Consultation response summary	Final Determination	Draft Determination
provision of forecast information for both new and existing flexibility markets.	and accepted our position.	accuracy metric as regularly reported evidence. Further information on the DSO incentive can be found in Chapter 4 of our Core Methodology Document. There were no specific costs submitted against this ODI for us to assess.	
Whole systems feedback survey (ODI-R): Track key stakeholder feedback annually through a qualitative and quantitative survey	The CG and SSEN's CEG were satisfied that the content of this bespoke ODI was already covered by wider expectations around stakeholder engagement. SSEN noted in its response that this whole system proposal was always intended to be wrapped into other RIIO-ED2 requirements.	Reject output: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We do not consider it appropriate to duplicate stakeholder survey arrangements already existing in stakeholder engagement plans nor to establish separate processes requiring additional funding alongside those already in place. There were no specific costs submitted against this ODI for us to assess.	Same as FD

Bespoke Price Control Deliverables

2.18 The table below summarises the bespoke PCD proposals for SSEN and outlines our Final Determinations position.

PCD name and description	Consultation response summary	Final Determination	Draft Determination
Worst-served Customers (WSC): By 2028 improve the network performance for at least 75% of worst-served customers	SSEN agreed with our Draft Determination.	Reject output: We have decided to allow all DNOs' modelled costs for WSC in line with our Draft Determinations proposal. Please see Chapter 6 of the Core Methodology Document for further detail.	Same as FD
Subsea cables – targeted intervention: Replacement or augmentation of 15 subsea cables with the greatest needs case	SSEN disagreed with our Draft Determination proposal to reject the bespoke PCD and that these projects were covered by NARM.	Reject output, and subject costs to benchmarking: This activity is covered by NARM.	Same as FD
Subsea cables – strategic upgrades: Three new cables between Skye and Uist, and Pentland Firth West to Orkney	SSEN disagreed with our Draft Determination proposal to reject the bespoke PCD and that these projects were covered by the HOWs UM.	Reject output and move projects into a UM: We have decided to reject attaching PCDs to these proposals and instead have included the Skye-Uist (north) project, Skye-Uist (south) project and Pentland Firth West project within the Hebrides and Orkney Whole systems (HOWS) reopener. Please see "Bespoke UM Proposals" for further detail.	Same as FD. At Final Determinations, we clarified the scope of the HOWS re-opener, so that it will also include the Skye-Uist (south) project.

PCD name and description	Consultation response summary	Final Determination	Draft Determination
Distributed Embedded Generation: Spend a total of £42.5m on standby generation for island communities, across seven Distributed Embedded Generation (DEG) sites.	SSEN disagreed and considered that our Draft Determination proposal would reduce its funding to maintain and operate standby generation for island communities and increase its reliance on back-up diesel generation.	Reject output: We consider that there is not sufficient evidence that the delivery risk is materially different in RIIO-ED2 to justify introducing a bespoke PCD.	Same as FD
Reduce SF6 emissions from our assets: To reduce SF6 emission from assets by a minimum of 35% (from 2019/20 levels), in line with SSEN's science-based target of 1.5ºC	SSEN did not agree with our Draft Determination proposal arguing that this would put its 1.5 degree science based target at risk. SSEN submitted additional justification and stated that we had not considered the short and longer-term impact of the position on SSEN's ability to reduce carbon emissions. It furthermore reiterated that rejecting activities in this space is not in the interest of current and future consumers.	Reject output and subject costs to benchmarking. SSEN have sufficiently evidenced their justification for the replacement of SF6 assets as part of their consultation response. However, we have decided to reject applying a PCD due to it falling significantly below the minimum value threshold for bespoke PCDs that we set at SSMD. The costs have been subject to benchmarking because there is value in carrying out the underlying activity and we have removed the disallowance of SSEN's SF6 costs in the disaggregated	Update at FD: We had proposed to reject the output and the expenditure outright, as we were not satisfied that SSEN had provided the evidence or justification to support the proposed activities at the identified cost to consumers.

PCD name and description	Consultation response summary	Final Determination	Draft Determination
		assessment (see Core Methodology Document Chapter 7).	
Nature-Based Solution for Carbon Removal: To deliver 2,000 hectares of woodland restoration and 1,200 hectares of peatland restoration which is expected to remove over 300,000 tCO2e by 2045 and provide 3,000 biodiversity units	SSEN did not agree with our proposal and stated that it significantly compromises SSEN's ability to meet the legal obligations around net zero and biodiversity. Another stakeholder responded that the Nature-Based Solution for carbon removal may not offer value for money for consumers and that there is insufficient information regarding the methodology for accounting for this activity within its science-based target.	Reject output and subject costs to benchmarking: We have assessed all evidence provided by SSEN and, although we continue to have concerns over the cost to consumers, we acknowledge SSEN's inability to deliver on their commitments in the absence of any funding. We also note that some funding has been provided to other DNOs for similar activities. We have therefore decided to allow 25% of the costs in the disaggregated assessment. We have decided to reject applying a PCD due to it falling significantly below the minimum value threshold for bespoke PCDs that we set at SSMD and expect SSEN to report on delivery through their AER.	Update at FD: we rejected the PCD proposal at DDs as there was not sufficient evidence provided that this proposal delivers good value for money for energy consumers. We also noted that approaches to biodiversity measurement and enhancement are still under development across the UK and devolved governments.
Polychlorinated Biphenyl (PCB) compounds:	SSEN agreed with the common UM proposed at Draft	Reject output: We have decided to reject this proposal	Same as FD

PCD name and description	Consultation response summary	Final Determination	Draft Determination
Asset replacement programme to address PCB contaminated assets	Determinations however it stated that at the point of business plan submission, there was still uncertainty around how it would have to deal with Ground Mounted Transformers (GMTs) and therefore included them in its UM assumptions in its Business Plan.	as a PCD and to address PCB contamination in pole mounted transformers through a common volume driver design for all DNOs with an overhead network. The replacement of GMTs will be addressed using ex ante allowances. Additional detail can be found in Chapter 3 of the Core Methodology Document.	
Reduce leakage from fluid-filled cables (FFC): To remove 72km of oil-filled cables on the network by 2028 and reduce leakages by a minimum of 20%	SSEN disagreed with our Draft Determination position, noting the significant potential environmental impacts and strong stakeholder support for action to be taken on FFCs.	Reject output, technically assess costs. We have decided to reject attaching an output to this proposal, but to accept £15.1m associated with replacing FFC in the Portsmouth Water area. This is due to the potential risk to the local environment these cables pose in the event of a leak. The remaining costs submitted for this proposal have been rejected outright. Please see below for further detail.	Change at FD: We had proposed to reject all of the expenditure outright, due to a lack of justification.
Distribution Control Centres: To build two standalone	SSEN provided additional scope information which clarified the	Accept output, technically assess costs: SSEN provided additional	Updated at FD: We previously proposed to reject the output

PCD name and description	Consultation response summary	Final Determination	Draft Determination
Distribution Control Centres in the SHEPD (SSEH) licence area and SEPD (SSES) Licence area respectively.	optioneering for both SHEPD (SSEH) and SEPD (SSES) control rooms.	evidence that showed wider benefits if projects are delivered as planned. However, as concerns remain on timing and scope, we have decided to accept these costs subject to a PCD.	and associated costs as unjustified, based on engineering review of the corresponding EJPs.

Distributed Embedded Generation

Background

2.19 SSEN proposed to spend a total of £42.5m on standby generation for island communities, across seven DEG sites.

Final Determination rationale and Draft Determination responses

2.20 We have decided to reject this proposal for a bespoke PCD because there is not sufficient evidence that the delivery risk is materially different in RIIO-ED2 and we consider that SSEN is best placed to manage this risk within its broader asset management strategy. This is in line with our Draft Determination position.

2.21 SSEN disagreed, stating Ofgem's proposal would reduce its funding to maintain and operate standby generation for island communities and increase its reliance on back-up diesel generation.

2.22 SSEN must comply with Standard Licence Condition 24 (Distribution System planning standard and quality of performance reporting) to meet the security of supply requirements.

Reduce leakage from fluid-filled cables

Background

2.23 SSEN proposed to replace 71.87 km of fluid filled cables (FFCs) under its costs for Environmental Reporting (table CV22) within the Business Plan Data Tables (BPDTs) and reduce leakage by 20% relative to FY2019/20 during RIIO-ED2. It developed a risk-based approach to reduce the risk of leakage close to drinking water sources and any Sites of Specific Scientific Interest areas, and to reduce customer interruptions from network failures.

Final Determination rationale and Draft Determination responses

2.24 We have decided to reject attaching a bespoke PCD to this proposal, but to accept £15.1m of costs related to FFCs in the Portsmouth Water area due to the potential risk to the local environment in the event of a leak.

Progress against the replacement of these cables will be reported through the Annual Environment Report rather than through a PCD.

2.25 At Draft Determinations, we proposed to reject this bespoke PCD altogether in the absence of any justification as to why delivery of replacement cables is at risk. We did not have sufficient information on whether this work was being progressed as a result of asset replacement or environmental drivers (or both).

2.26 SSEN disagreed with our Draft Determination position, noting the significant potential environmental impacts and strong stakeholder support for action on FFCs. SSEN's consultation response provided a breakdown of the investment drivers. They advised their preference is to cover all of their investment under the environmental heading as this would be simpler for reporting and communicating to their stakeholders against progress.

2.27 We have decided to accept £15.1m of costs relating to FFC in the Portsmouth Water area as the evidence submitted has provided sufficient justification that the investment will benefit consumers by reducing the risk to the local environment these cables pose in the event of a leak.

2.28 We have disallowed the remainder of costs relating to FFC replacement. We expect cables with an asset health driver to be reported as part of the NARM in line with all other DNOs' proposals. We note that the NARM process allows licensees to overspend in this area if it is efficient to do so and does not prevent SSEN from replacing those cables identified on asset health grounds.

Distribution Control Centres

Purpose	To ensure delivery of two new Control Centres in SHEPD (SSEH) and SEPD (SSES) in line with the options presented in the Engineering Justification Paper.
Benefits	DSO enablement, incremental efficiency benefits thereafter.

Final Determination

Output Parameter	**Final Determination**	**Draft Determination**
Overall Decision	Accept output and technical assessment treatment	New at FD
Type	Evaluative PCD	N/A
Outputs	2 Standalone new build Control Centres. One in SHEPD (SSEH) and one in SEPD (SSES).	N/A

Output Parameter	Final Determination	Draft Determination
Delivery date	30th March 2028	N/A
Totex allowances	£44.5m[5]	N/A
Re-opener	No	N/A
Reporting mechanism	RRP	N/A
Licensees	SSEH, SSES	N/A
Licence condition	SpC 3.3	N/A

Bespoke Licence Obligations (LO)

2.29 The table below summarises the bespoke LO proposal that SSEN submitted as part of its Business Plan and outlines our Final Determinations position.

LO name and description	Consultation response summary	Final Determination	Draft Determination
Shetland: Investment to extend operational life of Lerwick Power Station until 2035 to ensure security of supply to customers on the island.	SSEN agreed with our proposal at Draft Determinations.	Reject bespoke LO, accept technical assessment treatment: we have decided to accept part of the expenditure associated with this proposal in ex ante allowances, where we are satisfied that SSEN has provided evidence and justification to support the needs-case. We have decided to include the remainder under UMs. Please see "Shetland Enduring Solution re-opener" and "Shetland Extension Fixed Energy Costs re-opener" in the "Bespoke UM Proposals" section of this document.	Change for FD. In our Draft Determination we accepted the LO.

[5] DD and FD figures are gross costs and do not include efficiency challenge.

		We do not see the need to introduce a bespoke LO in addition to SLC 50 and the bespoke UM.	

Consumer Value Propositions

2.30 The table below summarises the CVP proposals that SSEN submitted as part of its Business Plan and our Final Determinations position in relation to each. Where appropriate, further information setting out the rationale for our decisions is set out under specified headings.

CVP name and description	Consultation response summary	Final Determination	Draft Determination
Protecting marine biodiversity: To improve the biodiversity in the seas around the island communities in locations at or close to SSEN's subsea cables. This includes the restoration of 17 hectares of seagrass meadows to support sea life and fish populations.	The SSEN CEG and SSEN welcomed our Draft Determinations proposal. Please see below for further detail.	Accept and reward. We consider that SSEN's proposal deserves a CVP reward as it goes beyond business as usual (BAU) and provides a consumer benefit. Given the discrete nature of the activity, the associated costs have been subject to technical assessment. Please see below for further detail.	Same as FD
Personal Resilience Plans: Providing Personal Resilience Plans for all newly registered Priority Services Registered (PSR) customers, retrospectively incorporating	SSEN disagreed with our view that the Personal Resilience Plans element of the CVP is BAU. Please see below for further details.	Accept and reward: we accept SSEN's CVP proposal in full. This means that SSEN will be eligible for a full reward upon delivery of this CVP. Please see below for further details. Given the discrete nature of the activity, the associated costs have been subject to technical assessment	Change at FD: We previously proposed to accept this proposal with a partial reward for the battery pack element of the CVP.

CVP name and description	Consultation response summary	Final Determination	Draft Determination
the most medically vulnerable customers, and allowing all PSR1+ customers without access to alternative back-up generation to purchase battery packs using a voucher.		rather than cost benchmarking.	
Embedded Whole Systems Support Services for Local Authorities: Provide support to local authorities and community groups by applying our expertise to facilitate the optimisation of the electricity network, delivery of whole system opportunities and net zero transition.	SSEN considered this proposal to be "in excess of minimum requirements" and therefore to go beyond BAU. It noted that no baseline activity expectations exist in this area. The CG and SSEN's CEG however agreed with our proposal to fund the activity through ex ante allowances, without reward. They noted that other DNOs are proposing similar activities as part of their baseline activities.	Accept with no reward: We do not agree with SSEN's response that being "in excess of minimum requirements" is sufficient to merit the reward element of this CVP proposal. However, we consider there is value in delivering this proposal. Given the discrete nature of the activity, the associated costs have been subject to technical assessment rather than benchmarking.	Same as FD
Supporting broadband to island communities through DNO assets: Speed up the rollout of	The CG and SSEN's CEG agreed with our position in Draft Determinations, with the CEG encouraging	Reject outright: We have decided to reject both the reward and the allowances associated with this proposal. We recognise the social	Same as FD

CVP name and description	Consultation response summary	Final Determination	Draft Determination
faster broadband, which aims to deliver value for consumers, businesses and communities in remote locations.	SSEN to explore more appropriate funding routes. SSEN re-iterated the social benefits of this activity and stated that it will explore other opportunities for joint funding for this work.	value of the connectivity work, and the strong consumer support evidenced in the Business Plan, but do not agree that DNO consumers should bear the sole cost. There are Scottish and local government subsidy and commercial partnership routes already available that we strongly recommend the DNO pursue. We have technically assessed this proposal and allowed nil funding. The costs have not been included in the cost benchmarking.	
Energy Efficiency Accelerator for Smarter Networks' and 'Local and community flexibility market stimulation' combined - SSEN proposed a CVP with two components. The first is to work with local partners to deliver energy efficiency interventions. The second is to stimulate local	Stakeholders including a consumer advocacy group and SSEN's CEG agreed with our Draft Determinations position. SSEN responded that recent changes in the energy landscape highlighted the value of their proposal but did not provide any alternative proposal to reduce the cost to network consumers, or new evidence for	Reject outright: We have decided to reject the reward and the allowances associated with this CVP. We consider that as proposed, the programme does not provide good value for money for consumers. We consider that the level of direct network benefits does not justify the level of spending borne by network consumers, relative to other funding sources.	Same as FD

CVP name and description	Consultation response summary	Final Determination	Draft Determination
market flexibility.	Ofgem to reconsider.		

Protecting marine biodiversity

Purpose	To improve the biodiversity in the seas around their island communities, in locations at or close to their subsea cables, through targeted seagrass meadow planting
Benefits	Reduce carbon in the atmosphere, decrease coastal erosion, protect coastal areas from storm damage while improving water quality and sea life biodiversity

Background

2.31 SSEN proposed to improve the biodiversity in the seas around the island communities in locations at or close to SSEN's subsea cables. This includes the restoration of 17 hectares of seagrass meadows to support sea life and fish populations.

Final Determination

CVP parameter	Final Determination	Draft Determination
Overall decision	Accept and reward	Accept and reward, with conditions
Output	Plant a minimum of 17 hectares of seagrass beds at or near subsea cable sites.	Same as FD
Performance measurement	Seagrass planted (in no. of hectares)	New to FD
Delivery date	End of RIIO-ED2	Same as FD
CVP value	£3.4m	Same as FD
CVP reward	£1.7m	Same as FD
Reporting method	Reporting of CVP delivery through the Annual Environment Report.	Same as FD

CVP parameter	Final Determination	Draft Determination
Adjustment mechanism	In the event of under-delivery SSEN are to return the proportionate element of the reward and funding, in accordance with the licence.	Same as FD
Licence condition	SpC 4.7	Same as FD

Final Determination rationale and Draft Determination responses

2.32 We have decided to accept and reward this proposal. SSEN have provided additional information around the benefits calculation and considered how the CVP mechanism can be designed to ensure that consumers are protected in the event of under delivery. We consider that this goes further than BAU activity and expect this to provide a consumer value benefit.

2.33 SSEN welcomed our Draft Determination position to accept its CVP to protect marine biodiversity, stating that restoring nature is a key priority and as part of that it is keen to promote restoration of marine biodiversity, including seagrass beds. SSEN set out a firm position that if costs are lower than anticipated, and there is capacity and scope for further projects, then they will look to extend beyond their original 17-hectare proposal.

2.34 The SSEN CEG welcomed our proposed position, as the CEG had unanimously supported this CVP, given the wide range of benefits it could deliver and the extensive engagement that SSEN had undertaken with experts in the field. The SSEN CEG noted that they are aware that SSEN is continuing to engage with potential partners to ensure the deliverability of the projects.

2.35 We have decided to accept this proposal as we acknowledge the value that delivery of the full CVP can bring to improve marine ecosystems whilst providing value to consumers.

<u>Personal Resilience Plans</u>

Purpose	To provide all medically dependent customers and Priority Services Registered customers with tailored resilience plans and access to alternative back-up generation with battery packs for all medically dependent customers
Benefits	Reduce stress for customers most vulnerable during a loss of supply

Background

2.36 SSEN proposed a CVP to deliver tailored resilience plans to all existing medically dependent customers and to all new PSR sign ups. In addition, SSEN proposed to provide at least 20,000 medically dependent customers with a battery pack during RIIO-ED2 as part of this CVP.

2.37 The cost SSEN requested to deliver this proposal was £7.3m. This cost was broken down into £0.8m for the provision of the personal resilience plans and £6.5m for the provision of battery packs.

Final Determination

CVP parameter	**Final Determination**	**Draft Determination**
Overall decision	Accept and reward	Accept and partially reward
Output	Tailored resilience plans to all medically dependent customers and all new PSR sign ups. Battery packs provided and installed for at least 20,000 medically dependent customers.	Same as FD
Performance measurement	Provision and installation of 20,000 battery packs for medically dependent customers Provision of tailored resilience plans for: All medically dependent customers All new PSR customers	Same as FD
Delivery date	End of RIIO-ED2	End of RIIO-ED2
CVP value (£m)	£3.68m	Amended for FD CVP value was £3.9m in DD
CVP reward (£m)	£1.84m	Amended for FD CVP reward was £1.1m in DD
Reporting	Reporting of CVP delivery through the Annual Vulnerability Report.	Same as FD

CVP parameter	Final Determination	Draft Determination
Adjustment mechanism	In the event of under-delivery SSEN are to return the proportionate element of the reward and funding, in accordance with the licence.	Same as FD
Licence obligation	SpC 4.7	Same as FD

Final Determination rationale and Draft Determination responses

2.38 We have decided to accept SSEN's CVP proposal in full. The costs are included in the technically assessed category and are not subject to cost benchmarking. This also means that SSEN will be eligible for a full reward upon delivery of this CVP.

2.39 SSEN disagreed with our view that the Personal Resilience Plans element of the CVP is BAU. It stated that it does not currently offer this level of service and has not seen sufficient evidence that any other DNO offers this personalised service.

2.40 SSEN submitted evidence to demonstrate the difference between the baseline level of service in this area and the proposals of the Personal Resilience Plans.

2.41 SSEN also resubmitted an updated valuation of the costs and benefits associated with this CVP to reflect the work undertaken to ensure that the methodology for calculating the benefits associated with activities undertaken by a DNO are consistent and comparable across all DNOs. The resubmitted costs and benefits values are highlighted in the table above.

2.42 We have decided to implement the changes which result in a reduction in the cost to deliver the proposal from £7.3m as proposed in Draft Determinations to £6.77m for RIIO-ED2. SSEN also reported a reduction in the CVP value from £3.9m as proposed in Draft Determinations to £3.6m for full delivery of the proposal over RIIO-ED2.

2.43 As a result of a full acceptance of SSEN's CVP and the change in the valuation of benefits discussed in paragraph 2.41 above, the CVP reward has increased from £1.1m proposed in Draft Determinations to £1.9m for the full delivery of the proposal over RIIO-ED2.

2.44 In light of the updated Social Return on Investment (SROI) values, updated costs and benefits, SSEN's articulation of the differences in the baseline level of service across DNOs and the proposals in the Personal Resilience Plans, we acknowledge the value that delivery of the full CVP can bring to consumers in vulnerable situations. As a result, we have decided to accept and reward the CVP.

3. Setting ex ante allowances

Introduction

3.1 This chapter sets out our Final Determinations on ex ante allowances for the different cost areas within SSEN's Business Plan submission. This chapter should be read alongside other parts of our Final Determinations that set out our overall approach to RIIO-ED2.

Ex ante allowances

3.2 Ex ante Totex referenced in this chapter comprises forecast controllable costs and is inclusive of our proposed ongoing efficiency challenge, unless stated otherwise. Furthermore, the figures presented in this chapter do not include real price effects (RPEs) to allow comparison with DNOs' submissions.

3.3 Table 16 and Table 17 compare SSEN's submitted ex ante Totex for its network, our Draft Determination proposals, and our Final Determinations position at a disaggregated cost activity level.

Table 16: SSEH RIIO-ED2 submitted Totex versus allowed Totex by cost activity (£m, 2020/21 prices)[6]

Cost activity	RIIO-ED2 submitted	DD (Net Before NPCA)	FD (Net Before NPCA)	FD incl Access SCR (Net After NPCA)	Difference to submitted (on a Net Before NPCA basis)
Connections	31	37	36	55	17.8%
New Transmission Capacity Charges	22	17	20	20	-9.2%
Primary Reinforcement	41	32	32	35	-21.9%
Secondary Reinforcement	31	12	22	22	-31.0%
Fault Level Reinforcement	0	0	2	2	1820.3%
Civil Works Condition Driven	6	5	8	8	25.5%
Blackstart	2	1	2	2	-7.0%
Legal & Safety	4	3	4	4	7.9%

[6] Note that these costs do not include post-modelling adjustments for reversing of ongoing efficiency for Worst Served Customers and Visual Amenity, adding Cyber resilience OT allowances and the Shetland Link RAV transfer, and deducting related party margins, disposals, and other controllable opex.

Cost activity	RIIO-ED2 submitted	DD (Net Before NPCA)	FD (Net Before NPCA)	FD incl Access SCR (Net After NPCA)	Difference to submitted (on a Net Before NPCA basis)
QoS & North of Scotland Resilience	23	-	15	15	-35.0%
Flood Mitigation	1	0	1	1	111.9%
Physical Security	-	-	-	-	-
Rising and Lateral Mains	5	4	5	5	-9.2%
Overhead Line Clearances	17	20	16	16	-7.9%
Losses	1	1	1	1	-9.0%
Environmental Reporting	34	27	25	25	-25.5%
Operational IT and Telecoms	38	31	27	27	-29.2%
Worst Served Customers	22	17	20	20	-9.0%
Visual Amenity	4	3	4	4	7.2%
Diversions (excl Rail)	15	12	14	14	-11.2%
Diversions Rail Electrification	-	-	-	-	-
Civil Works Asset Replacement Driven	7	5	7	7	4.5%
Asset Replacement NARM	108	84	95	95	-11.5%
Asset Replacement Non-NARM	60	47	56	56	-7.6%
Asset Refurbishment Non-NARM	19	14	18	18	-5.5%
Asset Refurbishment NARM	1	1	1	1	-2.7%
IT and Telecoms (Non-Op)	48	38	37	37	-23.1%
Non-Op Property	17	13	13	13	-25.6%

Cost activity	RIIO-ED2 submitted	DD (Net Before NPCA)	FD (Net Before NPCA)	FD incl Access SCR (Net After NPCA)	Difference to submitted (on a Net Before NPCA basis)
Vehicles and Transport (Non-Op)	7	5	6	6	-10.4%
Small Tools and Equipment (STEPM)	9	7	8	8	-13.5%
HVP RIIO-ED2	-	25	-	-	-
Shetland	0	-	0	-	-55.5%
Tree Cutting	49	38	41	41	-16.5%
Faults	61	47	62	62	2.5%
Severe Weather-1-in-20	10	-	-	-	-100.0%
Occurrences Not Incentivised (ONIs)	6	5	6	6	-9.2%
Inspections	24	18	23	23	-4.6%
Repair and Maintenance	28	22	29	29	3.7%
Dismantlement	0	0	0	0	-1.2%
Remote Generation Opex	26	20	24	24	-8.7%
Substation Electricity	7	5	6	6	-8.7%
Smart Metering Roll Out	1	1	1	1	-42.4%
Total Closely Associated Indirects (CAI)	342	270	298	244	-12.9%
Total Business Support	184	141	150	138	-18.0%
Cost Activities Sub-Total	1,311	1,032	1,134	1,090	-13.5%
Excluded Cost Activities	-16	-	-	-	-100.0%
Total Totex (modelled component)	1,294	1,032	1,134	1,090	-12.4%
Technically Assessed Totex	111	55	93	92	-16.5%
Total Totex	**1,406**	**1,087**	**1,227**	**1,182**	**-12.7%**

Table 17: SSES RIIO-ED2 submitted Totex versus allowed Totex by cost activity (£m, 2020/21 prices)[7]

Cost activity	RIIO-ED2 submitted	DD (Net Before NPCA)	FD (Net Before NPCA)	FD incl Access SCR (Net After NPCA)	Difference to submitted (on a Net Before NPCA basis)
Connections	127	117	118	152	-7.2%
New Transmission Capacity Charges	2	1	1	1	-13.9%
Primary Reinforcement	114	90	96	106	-15.7%
Secondary Reinforcement	71	40	58	61	-18.2%
Fault Level Reinforcement	52	41	34	37	-34.5%
Civil Works Condition Driven	22	17	20	20	-7.9%
Blackstart	4	3	3	3	-11.6%
Legal & Safety	10	8	11	11	8.9%
QoS & North of Scotland Resilience	18	-	0	0	-100.0%
Flood Mitigation	24	19	20	20	-17.4%
Physical Security	-	-	-	-	-
Rising and Lateral Mains	24	19	21	21	-13.5%
Overhead Line Clearances	34	27	27	27	-19.8%
Losses	1	1	1	1	-13.2%
Environmental Reporting	62	67	45	45	-26.9%
Operational IT and Telecoms	72	58	60	60	-16.9%

[7] Note that these costs do not include post-modelling adjustments for reversing of ongoing efficiency for Worst Served Customers and Visual Amenity, adding Cyber resilience OT allowances and the Shetland Link RAV transfer, and deducting related party margins, disposals, and other controllable opex.

Worst Served Customers	3	3	3	3	-13.2%
Visual Amenity	7	6	10	10	43.4%
Diversions (excl Rail)	97	76	76	76	-21.7%
Diversions Rail Electrification	-	-	-	-	-
Civil Works Asset Replacement Driven	13	11	13	13	-0.7%
Asset Replacement NARM	192	151	167	167	-12.9%
Asset Replacement Non-NARM	131	103	107	107	-18.2%
Asset Refurbishment Non-NARM	38	30	34	34	-10.0%
Asset Refurbishment NARM	17	13	12	12	-27.0%
IT and Telecoms (Non-Op)	90	70	78	78	-12.8%
Non-Op Property	18	14	17	17	-8.1%
Vehicles and Transport (Non-Op)	7	6	6	6	-14.4%
Small Tools and Equipment (STEPM)	25	19	19	19	-22.7%
HVP RIIO-ED2	54	42	46	46	-14.8%
Shetland	-	-	-	-	-
Tree Cutting	140	110	93	93	-34.0%
Faults	209	164	188	188	-10.0%
Severe Weather-1-in-20	10	-	-	-	-100.0%
Occurrences Not	41	32	40	40	-3.9%

Incentivised (ONIs)					
Inspections	18	14	16	16	-13.0%
Repair and Maintenance	85	66	74	74	-13.1%
Dismantlement	2	2	1	1	-47.9%
Remote Generation Opex	-	-	-	-	-
Substation Electricity	13	10	11	11	-13.2%
Smart Metering Roll Out	5	4	3	3	-31.0%
Total Closely Associated Indirects (CAI)	626	499	539	440	-13.9%
Total Business Support	308	240	272	251	-11.9%
Cost Activities Sub-Total	2,786	2,194	2,342	2,272	-15.9%
Excluded Cost Activities	-27	-	-0	-0	-100.0%
Total Totex (modelled component)	2,759	2,194	2,342	2,272	-15.1%
Technically Assessed Totex	77	5	55	53	-28.3%
Total Totex	**2,835**	**2,199**	**2,397**	**2,325**	**-15.5%**

Technically assessed costs

3.4 For technically assessed costs, we have made the following adjustments, listed in Table 18 below. Our view of bespoke proposals is presented in Chapter 2. Some further detail is provided in the section "Engineering Justification Paper review" in this chapter, and in Appendix 1.

Table 18: Technically Assessed Costs (£m, 2020/21 prices)

Proposal name	Submitted	DD[8]	FD	Confidence
Distribution Control Centres PCD	44.5	0	44.5	High
Shetland	56	56	56	Lower
HOWS development funding	20.6	-	20.6	Lower
Reducing leakage from fluid-filled cables	37.3	-	15.1	High
CVP: Supporting broadband to island communities through our assets	8	0	0	High
CVP: Protecting marine diversity: life below water	2.6	2.6	2.6	Lower
CVP: Personal Resilience Plans	6.8	6.5	6.8	High
CVP: Embedded whole systems support services for local authorities	12.3	-	12.3	High

Engineering Justification Paper review

Overview

3.5 Our review of SSEN's Engineering Justification Papers (EJP), and the associated supporting information, is one of several assessment tools that

[8] DD and FD figures are gross costs and do not include efficiency challenge.

has contributed to our assessment of SSEN's Business Plan. The assessments set out in this section informed our decisions on allowed costs and volumes, directly feeding into the cost assessment methodology set out in Chapter 7 of the Core Methodology Document.

3.6 Following our review of EJPs in accordance with paragraph 2.23 of the Engineering Justification Papers for RIIO-ED2 Guidance document[9], our review of Draft Determination consultation responses and additional material provided by SSEN, this section sets out our engineering assessment as part of our Final Determinations.

3.7 As discussed in Chapter 7 of our Core Methodology Document, our assessment provides a view on each EJP that was assigned one of three outcomes: Justified, Partially Justified, or Unjustified.

3.8 A summary of our review of SSEN's EJPs is presented in Table 19, showing the number of EJPs in each category and how our overall assessment has changed between Draft and Final Determinations. We have provided more detail in Appendix 1 on EJPs of significant value where our review determined the EJP to be Partially Justified or Unjustified, noting instances where we have changed our EJP review position as part of our Final Determinations.

3.9 We intend to work with DNOs and other stakeholders to identify additional and enhanced reporting requirements to improve our ongoing monitoring and review of DNOs' performance and delivery of their outputs in period. We set out some potential examples of areas where we will consider enhanced reporting in Appendix 2.

Table 19 Summary of Ofgem's review of SSEN's EJPs

EJP Review Outcome (Count of EJPs)	**Final Determinations**	**Draft Determinations**
Justified	73	51
Partially Justified	74	76
Unjustified	2	22
Total EJPs[10]	150	150

Load Related Expenditure (LRE): Draft Determination responses and Final Determination rationale

3.10 Chapter 7 of the Core Methodology Document details the interactions between our engineering review of the LRE EJPs and the activity level assessment of LRE.

[9] RIIO ED2 Engineering Justification Paper Guidance https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/riio_ed2_engineering_justification_paper_guidance.pdf

[10] One EJP is cyber resilience related and dealt with separately in a confidential annex.

3.11 For LRE, SSEN provided additional information on specific EJPs. This included a range of system studies information to highlight its positions for triggering investment. In addition, there have been updates to a range of demand forecasts and considerations in load related timings.

3.12 We note that there are interactions between SSEN and a new EJP which was submitted by UKPN following our Draft Determinations to resolve cross boundary demand queue connection issues around North London. This EJP is discussed in further detail within the UKPN Annex.

3.13 For LRE we note that SSEN's additional information has clarified a number of our concerns. We note that the responses were clear and provided a link between our original feedback in Draft Determinations and the new information presented.

3.14 Please see Appendix 1 for further detail on our assessment of the LRE EJPs.

Non-Load Related Expenditure (NLRE): Draft Determination responses and Final Determination rationale

3.15 For NLRE, SSEN's consultation response provided additional information on SSEN's NARM strategy, resulting in pre-submission efficiencies. Furthermore, SSEN provided additional information relating to our concerns on deliverability. We note that SSEN clarified that the inputs to RIIO-ED1 LV and HV Cable interventions rates reflected the prioritisation work it undertook in RIIO-ED1 within the constraints of its allowances.

3.16 SSEN highlighted its North of Scotland investments as an area of importance in our review. It provided feedback on individual EJPs and on thematic concerns raised in our analysis, due to their material impact that this could have on SSEN's plans.

3.17 Our concerns around SSEN's approach to addressing high risk assets, as detailed in our Draft Determinations, remain. The reason for our concern is that SSEN's position, to have some asset categories where all Health Index 5 (HI5) assets are listed for intervention while in others there is limited intervention, has not been adequately explained as to how the network risk interventions fit strategically in SSEN's NLRE plan.

3.18 We accept that the submarine cable fleet has some inherent differences to nominal land-based assets, and that this drives different intervention and asset management planning. We maintain our view set out at Draft Determinations that we expect licensees to manage their assets appropriately and in an enduring, economic and efficient manner. As such, we are unclear about SSEN's trigger point for investment in submarine cables. We note that there are a number of HI5 submarine cables which are not listed for intervention, and that as part of its original business plan submission, SSEN highlighted the need for a "fix-on-fail" volume driver for submarine cables. Our decision on fix-on-fail is set out in Chapter 4 of this document.

3.19 For submarine cables, we remain unclear about SSEN's overall strategy for these assets in relation to the interventions selected. We expect that for all the cable routes, a long-term strategic outlook is needed to determine the optimal solution selection. Our decision to accept the Hebrides and Orkney Whole System re-opener (HOWS) provides an opportunity for SSEN to ensure that its selected options for cable replacement and augmentation in the region meet this expectation.

3.20 During the business plan review period, SSEN notified us of a failure of the recently replaced Pentland Firth East cable and requested that the Pentland Firth East Replacement be included in the HOWS re-opener. We have decided to include Pentland First East within the scope of the HOWS re-opener.

3.21 We consider that the additional information provided as part of SSEN's consultation response in relation to Control Rooms includes a significant increase in the level of information provided on scope and solution selection. However, we note that there is still some uncertainty on the final selected option. We have decided to accept this proposal as a PCD "Distribution Control Centres" (see Chapter 2).

Hebrides and Orkney Whole System re-opener (HOWS)

3.22 Chapter 4 outlines the design of SSEN's bespoke HOWS re-opener. However, in this section we provide an overview of our engineering review of the relevant EJPs.

3.23 We have decided to include the Skye-Uist (south) project in the scope of the HOWS re-opener. We think further work is required to ensure that the chosen solution for the replacement of the existing cable is optimal and consistent with SSEN's broader strategic whole systems plan for the Hebrides and Orkney. Moving the Skye-Uist (south) project into HOWS means there is a clear route to funding during the early part of the RIIO-ED2 price control while ensuring the risk to consumers is managed appropriately.

3.24 We note that there is significant consumer interest in the HOWS re-opener proposal from SSEN. We recognise that there are active market challenges within the subsea cable asset class, including interactions with other submarine cable utilising industries (including offshore wind, telecoms), and therefore a bespoke approach is needed to manage both risk to consumers and the company due to cost and timing uncertainty around the scope of works and delivery date of replacements. To ensure that the projects included within HOWS are delivered in an efficient and timely manner, we have decided to allow £20.6m in ex ante development funding to undertake the prerequisite pre-construction works identified by SSEN. For each named project[11], this includes:

[11]Skye-Uist (south), Skye-Uist (north), Pentland Firth West, Orkney-Hoy South, Eriskay-Barra, South Uist-Eriskay

- Offshore - Route Surveys and Geophysical Samples
- 3rd Party - Earthing studies
- 3rd Party - Remote Utility Surveys
- 3rd Party - Landfall, Peat Probing and Cable Routing Surveys
- 3rd Party - Environmental Studies
- 3rd Party - Overhead Line and Existing Network Modification Surveys
- Internal Engineering – Feasibility Studies
- Internal Engineering – Wayleaves and Approvals
- Internal Engineering – Consenting Activities

3.25 The HOWS Overall Solution which includes system studies and engagement with the ET sector and generators as required.

- HOWS Overall Solution (whole system analysis and studies) – Outer Hebrides
- HOWS Overall Solution (whole system analysis and studies) – Inner Hebrides
- HOWS Overall Solution (whole system analysis and studies) – Orkney

3.26 Where we have provided ex ante development funding, we will take this into account in any decisions on future funding awarded following a re-opener application, to avoid the risk of double funding. We will consider if the outputs listed above have been efficiently delivered. Where there are scope or cost changes to the original business plan submission, we expect SSEN to clearly evidence the need for these changes in any re-opener applications.

TIM

3.27 Our updated cost confidence assessment results in a proposed Totex Incentive Mechanism (TIM) incentive rate for SSEN of 49.3%. For further details on the TIM, see Chapter 9 of the Overview Document.

BPI Stage 3

3.28 We have decided that SSEN does not incur any penalty following our BPI Stage 3 assessment. This is a change from our position proposed at Draft Determinations.

3.29 At Draft Determinations, we proposed that SSEN should incur a £4.4m penalty following our BPI Stage 3 assessment as we received insufficient supporting evidence underpinning its proposed new control centres.

3.30 In response to the Draft Determinations, SSEN provided two revised EJPs to support its proposed two new control centres (physical security) covering: proposed locations; detailed revised costings; delivery dates; and design stages or procurement strategies. This further evidence has

provided us assurance of these proposals and we moved this activity to high confidence, resulting in no penalty for SSEN in relation to BPI Stage 3 assessment.

BPI Stage 4

3.31 We have decided that SSEN will earn no reward following our BPI stage 4 assessment.

3.32 SSEN disagreed with the proposed approach. It was disappointed that in areas where its unit rates outperformed the modelled assessed unit rate, no incentive was provided. It noted we had proposed that high-confidence costs would be set at the lower of company forecast and efficient cost benchmark, yet that throughout the modelling suite the ratchet to enable this had been disabled. It also raised some general concerns with our proposed Stage 4 approach, as it was applied across RIIO-ED2 as well as some comments on the TIM incentive rates. We consider that the approach set out at Draft Determinations is appropriate and have therefore decided to retain our position.

3.33 Table 20 sets out our decisions on high confidence cost categories and allowances (before the application of RPEs and ongoing efficiency).

Table 20: Final Determination on Stage 4 (£m, 2020/21 prices)

Cost Category	SSEN's view	Ofgem view	BPI reward
Modelled Costs	4,058.5	3,735.9	N/A
Bespoke Outputs and Technically Assessed	188.1	155.1	N/A

4. Adjusting ex ante allowances for uncertainty

Introduction

4.1 In this chapter we set out our Final Determinations position on bespoke UMs.

4.2 We set out more detail on the common UMs in our Core Methodology Document and Overview Document, including our broader Final Determinations position and rationale.

Bespoke UM Proposals

4.3 In our SSMD, we invited the DNOs to propose bespoke UMs with suitable justification in their business plans. When assessing those we have considered the extent to which the supporting information provided by the DNOs justifies the key criteria outlined in the BPG:

- materiality and likelihood of the uncertainty
- how the risk is apportioned between consumers and the network company
- the operation of the mechanism
- how any drawbacks may be mitigated to deliver value for money and efficient delivery.

4.4 We also considered whether the uncertainty was regionally specific, or sector wide, to assess whether a common UM could be more appropriate. You can find the background and our assessment approach in Chapter 6 of our Overview Document.

4.5 The table below summarises the bespoke UM proposals that SSEN submitted and our Final Determinations position. For full details on bespoke UMs, refer to SSEN's business plan submission.

Bespoke UM name and description	**Consultation response summary**	**Final Determination**	**Draft Determination**
Wayleaves and Diversions: for costs associated with uncertain diversions costs following wayleave terminations.	Consultation responses from three DNOs disagreed with our Draft Determination proposal of not providing a UM for Diversions. Please refer to Chapter 6 of the Overview Document for more information.	Reject bespoke UM: We have decided to implement a variant of this UM as a common UM for all DNOs. Please refer to Chapter 6 of the Overview Document. Document for more information.	Same as FD. However, we did not propose a common Wayleaves and Diversions Re-opener at Draft Determinations.

Bespoke UM name and description	Consultation response summary	Final Determination	Draft Determination
Shetland: for costs associated with the supply of energy on the Shetland Islands.	SSEN agreed with our proposed re-openers for Shetland. It agreed to continue working with Ofgem to refine the scope of the Shetland re-openers.	Accept: We have decided to implement our Draft Determinations position. We have implemented two bespoke re-openers, the Shetland Enduring Solution and Shetland Extension Fixed Energy Costs re-openers. We are also implementing one pass-through for Shetland Extension Variable Energy Costs and one pass-through for Assistance for High-Cost Distribution Areas.	Same as FD
Subsea cables: for costs associated with subsea cable replacement following damage or faults ("fix-on-fail").	SSEN disagreed with our proposal to reject this UM at Draft Determinations. It suggested that subsea cable faults are outside of its control and that a volume driver mechanism would incentivise it to reduce costs.	Reject: we have decided to implement our Draft Determinations position to reject the fix-on-fail volume driver. We are not convinced that setting a volume driver would provide the right incentives for SSEN to proactively manage the risk on its subsea cables. We have increased SSEH's ex ante subsea cable faults allowance to ensure it is funded to manage the risk	Same as FD

Bespoke UM name and description	Consultation response summary	Final Determination	Draft Determination
		associated with its subsea cable fleet in RIIO-ED2.	
Subsea cables: for costs associated with additional remote backup generation.	SSEN disagreed with our proposal to reject this UM. It suggested that subsea cable faults are outside of its control and therefore a UM is required to cover backup remote generation costs in RIIO-ED2.	Reject: we have decided to implement our Draft Determinations position to reject the bespoke re-opener for remote backup generation in RIIO-ED2. We are not convinced that setting a volume driver in this area would provide the right incentives for SSEN to proactively manage the risk on its subsea cable fleet.	Same as FD
Subsea cables: for costs associated with cable decommissioning.	We did not receive any consultation responses on this area.	Reject: we have decided to maintain our Draft Determinations position to reject SSEN's bespoke re-opener to cover unforeseen subsea cable decommissioning requirements initiated by Marine Scotland or equivalent public authorities in England. There is insufficient evidence that these costs will fall within the RIIO-ED2 period.	Same as FD

Bespoke UM name and description	Consultation response summary	Final Determination	Draft Determination
Hebrides & Orkney Whole Systems (HOWS): for costs associated with the outcomes of additional whole system analysis in the Scottish Islands to meet net zero targets.	SSEN stated it was fully supportive of the HOWS re-opener. However, it requested that final engineering reviews of the projects contained within the HOWS re-opener should be completed as part of the re-opener submission review, not as part of the RIIO-ED2 Business Plan determination process.	Accept: we have decided to maintain our Draft Determination position because we agree that clarification of infrastructure needs is subject to various external factors that will not be known until later in RIIO-ED2. We have clarified the scope of the re-opener, including the Skye-Uist (south) subsea cable replacement project.	Same as FD
OpEx adjustor: for costs associated with adjusting the efficient level of operating expenditure SSEN requires to deliver specific uncertainty mechanisms.	Consultation responses from all DNOs disagreed with our Draft Determinations proposal to not provide a UM for closely associated indirect costs.	Reject: We have decided to implement a variant of this UM as a common UM for all DNOs (ie the Indirects Scaler). Please refer to Chapter 6 of the Overview Document for more information.	Same as FD. However, at Draft Determinations, we did not propose a common Indirects Scaler.
Distributed Generation (DG) Monitoring: for costs related to the possibility of increased DG monitoring requirements resulting from Ofgem's review of the issue.	SSEN agreed that our proposal was sensible.	Reject: we have decided to include this within the common Digitisation UM. This is discussed further in Chapter 4 of the Core Methodology Document.	Same as FD
Polychlorinated Biphenyls (PCB)	SSEN agreed with the common UM,	Reject bespoke UM: We have	Same as FD

Bespoke UM name and description	Consultation response summary	Final Determination	Draft Determination
volume driver: To manage the risk that the volumes of PCB-contaminated assets may be significantly higher or lower than currently expected.	however it still had uncertainty around how it would have to deal with Ground Mounted Transformers (GMTs) and therefore included them in its UM assumptions in its business plan submission.	decided to reject this proposal as a bespoke UM and to address PCB contamination in pole mounted transformers through a common volume driver for all DNOs with an overhead network. The replacement of GMTs will be addressed using ex ante allowances. Additional detail can be found in Chapter 3 of the Core Methodology Document.	
Ash dieback removal: for costs associated with removing ash dieback diseased trees in contact proximity of the network.	SSEN and SSEN's CEG both disagreed with our position to reject the UM. SSEN noted that Ash dieback is an increasing threat and that a re-opener is required to increase allowances to manage this risk in period.	Reject: We maintain our position that ex ante allowances for tree cutting enable the DNOs to adapt to the changing nature of the challenges associated with vegetation management, including new or emerging challenges. We disagree with SSEN that its tree cutting allowances cannot cover the costs associated with managing Ash dieback.	Same as FD
Strategic Investment: for costs related to uncertain LRE	No responses received in relation to this bespoke UM.	Reject: We consider this is addressed by our common LRE Re-	Same as FD

Bespoke UM name and description	Consultation response summary	Final Determination	Draft Determination
driven by the net zero transition and rising demand for electricity.		opener. Please refer to Chapter 3 of the Core Methodology Document for more information.	

Hebrides & Orkney Whole Systems (HOWS)

Purpose	To allow for upward adjustment of ex ante allowances after identification of customer needs once third-party uncertainties have reduced.
Benefits	The consumer bears less risk of paying for over- or underinvestment in infrastructure needs for the islands.

Background

4.6 Pending the impact of third-party decisions in 2022 that are likely to affect demand (such as the UK Government Contracts for Difference auctions and Ofgem's decision on Access reform), SSEN proposed utilising a re-opener that may be triggered after it has finalised a whole system review of need that takes these external decisions into account.

Final Determination

Output Parameter	Final Determination	Draft Determination
Overall decision	Accept bespoke UM	Same as FD
UM type	Re-opener	Same as FD
Re-opener Window	Years 1 & 2	Same as FD
Trigger	Licensee triggered	Same as FD
Materiality threshold	RIIO-ED2 common materiality threshold of 0.5%	RIIO-ED2 common materiality threshold of 1%
Additional requirements	n/a	n/a
Licence condition	Special Condition 3.2	n/a

Final Determination rationale and Draft Determination responses

4.7 Our decision is to implement a HOWS re-opener for SSEN. We have decided that minor updates to the scope of the UM, including security of supply considerations and the named projects covered by the re-opener, are required to ensure that the mechanism allows sufficient flexibility to support the appropriate whole systems solution for the Hebrides and Orkney areas.

4.8 We agree with SSEN's suggestion that a re-opener is the most appropriate means to fund Pentland Firth East and have decided to include it within the scope of HOWS. We have also included the Skye-Uist (south) project within the HOWS re-opener and provided ex ante development funding to allow SSEN to continue developing the whole systems solution for the Hebrides and Orkney, ahead of the re-opener windows (see Final Determination Core Methodology Document, Chapter 7 and Chapter 3 of this document for further details on our decisions on the Skye-Uist (south) project and ex ante development funding).

4.9 In its consultation response, SSEN sought clarification on whether the engineering assessment for projects requesting funding through the HOWS re-opener would be undertaken based on the information presented as part of the re-opener application, or on the information included within its business plan. We will assess any HOWS re-opener application based on the information provided as part of the re-opener application, although we may consider information contained within the business plan when coming to a decision on the re-opener application.

Shetland Enduring Solution

Purpose	To allow for adjustment of allowances to support the delivery of an enduring solution to provide long-term security of supply to Shetland following the completion of the Shetland HVDC link.
Benefits	The consumer bears less risk of paying for over- or underinvestment in infrastructure for Shetland.

Background

4.10 The Shetland Islands distribution network is not currently connected to the GB mainland. It is supplied by energy generated on the islands, with SSEH running the distribution network. The Shetland HVDC link is currently under development. Once completed and energised, it will connect Shetland to the GB mainland grid and provide a reliable supply of energy to the Shetland Islands.

4.11 Following commissioning of the Shetland HVDC link, SSEN plans to extend the life of the Lerwick Power Station to allow it to perform the standby role in the event that the link faults.

Final Determination

Output Parameter	**Final Determination**	**Draft Determination**
Overall decision	Accept bespoke UM	Same as FD
UM type	Re-opener	Same as FD
Re-opener Window	Years 1 & 5	Same as FD
Trigger	Licensee triggered	Same as FD
Materiality threshold	RIIO-ED2 common materiality threshold of 0.5% or costs exceeding +/-10% of allowances previously awarded through the Shetland Enduring Solution Costs re-opener.	RIIO-ED2 common materiality threshold of 1%
Additional requirements	n/a	n/a
Licence condition	Special Condition 3.2	n/a

Final Determinations rationale and Draft Determinations responses

4.12 We have decided to implement the Shetland Enduring Solution re-opener for RIIO-ED2. The re-opener will allow SSEN to recover uncertain costs associated with preparing, implementing and running a standby solution for Shetland.

4.13 SSEN agreed that a re-opener was the most appropriate mechanism for funding costs associated with the Shetland enduring solution, noting it was currently carrying out a tender process for the provision of a standby solution service, meaning costs would remain uncertain until this was completed. SSEN supported the re-opener having a year 1 trigger window. We agree that a re-opener is the most appropriate mechanism through which to manage the cost uncertainty for the Shetland enduring solution. We have set re-opener application windows in years 1 and 5, which will allow SSEN to make an initial application for the expected costs of implementing the enduring solution and allows the potential for allowances to be adjusted towards the end of the price control if the outturn costs are materially different from any initial funding.

4.14 Fixed costs that are beyond SSEN's control that are consequences of this work will be funded through two pass-through terms, the "Shetland Variable Energy Costs" and the "High-Cost Distribution Areas" terms.

Shetland Extension Fixed Energy Costs

Purpose	To allow for adjustment of allowances to support the costs associated with extending the operation of the Lerwick Power Station to provide energy to the Shetland islands prior to the completion of the Shetland HVDC link.
Benefits	The consumer bears less risk of paying for over- or underinvestment for the generation of power on Shetland.

Background

4.15 SSEH operates generation assets and Power Purchase Agreements (PPAs) to supply energy to the Shetland Islands. In RIIO-ED1, the costs of SSEH's activity in Shetland have been funded through a combination of defined Totex allowances, re-opener UMs, and direct pass-through of some costs.

Final Determination

Output Parameter	**Final Determination**	**Draft Determination**
Overall decision	Accept bespoke UM	Same as FD
UM type	Re-opener	Same as FD
Re-opener Window	Years 1 & 5	Same as FD
Trigger	Licensee triggered	Same as FD
Materiality threshold	RIIO-ED2 common materiality threshold of 0.5% or costs exceeding +/-10% of allowances previously awarded through the Shetland Extension Fixed Energy Costs re-opener.	RIIO-ED2 common materiality threshold of 1%
Additional requirements	n/a	n/a
Licence condition	Special Condition 3.2	Re-opener retained from RIIO-ED1

Final Determination rationale and Draft Determination responses

4.16 We have decided to retain the Shetland Fixed Energy Costs re-opener for RIIO-ED2. The re-opener will allow SSEN to recover uncertain costs

associated with third party contracts for PPAs, capital and operating costs for Lerwick Power Station and with operating the Shetland active network management (ANM) system until the commissioning of the Shetland HVDC link.

4.17 SSEN supported retaining a re-opener for funding ongoing fixed costs associated with supplying energy to Shetland until the enduring solution is in place.

4.18 Fixed costs that are beyond SSEN's control that are consequences of this work will be funded through two pass-through terms, the "Shetland Variable Energy Costs" and the "High-Cost Distribution Areas" terms.

5. Network Innovation Allowance

Introduction

5.1 Our SSMD and the Draft Determinations Core Methodology Document set out the criteria that we used to assess NIA funding requests. The Final Determinations Core Methodology Document also details our Final Determination position for the RIIO-ED2 NIA Framework and extension of the existing Strategic Innovation Fund to the DNOs.

5.2 SSEN in its business plan proposed it should be awarded £17.5m of NIA over five years, equivalent to £3.5m per year.

Final Determination

Parameter	Final Determination	Draft Determination
Level of NIA funding	£8.4m[12], to be reviewed at the latest by 2025.	Same as FD

Final Determination rationale and Draft Determination responses

5.3 We have decided to confirm our Draft Determination proposal. SSEN's award is £8.4m, equivalent to three years' worth of its annual ED2 request of £3.5m, less 20%.

5.4 SSEN was the only stakeholder that commented on the NIA proposed for it. Although SSEN opposed our proposal in Draft Determinations to provide an initial award equivalent to three years and review later whether more NIA is needed (see Chapter 3 of the Core Methodology Document), it supported the allowance we proposed. We rated SSEN as meeting four out of our five NIA criteria.

5.5 SSEN stated that the levels of funding are appropriate for the first three years and will allow SSEN to meet the innovation-related commitments it has made to its stakeholders for that period. In advance of the review of NIA funding during RIIO-ED2, SSEN noted that to fulfil its stakeholders' aspirations it would need a similar amount of funding annually for the final two years of RIIO-ED2.

[12] In Draft Determinations, this number was erroneously stated as £9.6m due to a transposition error.

Appendix 1 Key Engineering Recommendations

A1.1 This section provides additional details regarding our assessment of specific EJPs.

A1.2 Due to the high number of EJPs presented within the submission, we have focused on EJPs of significant value where our Draft Determinations review determined the EJP to be Partially Justified or Unjustified.

A1.3 The tables below present our Draft Determinations view for these EJPs, as well as a summary of our Final Determinations position, which may have been updated based on the additional information that we have received from SSEN since the publication of our Draft Determinations.

Table 21: LRE - Key Engineering Recommendations

EJP	Final Determinations	Draft Determinations
EJP 44: Fleet and Bramley 400/132kV Substation Group	Partially Justified SSEN have provided additional information on the need for the investment, based on a variety of customer connections in the area, providing some evidence for the needs case. However, SSEN do not provide data that explains how a peak demand of >1500MW is identified for 2027/28. SSEN explain that the proposed investment can act as a phase to support the NGET whole system option, however provided no additional information on the progress of this option and if it would include this investment as part of it. Therefore, the EJP remains Partially Justified due to the delivery risks.	Partially Justified The needs case was based on demand growth causing P2/7 non-compliance. The delivery of the preferred solution was proposed for 2027/28. However, Consumer Transformation Distribution Future Energy Scenarios (DFES) forecast showed peak demand >1500MW by 2024/25. The paper provided no explanation of how the proposed date was reached, or what steps would be taken in the event that the demand group became non-compliant ahead of delivery. The paper also stated that investigations into a whole system option with National Grid Electricity Transmission (NGET) would remain ongoing into 2022. It was understood that if this option was to have merit the preferred solution would be superseded. The paper provided no information on how such a potential change would be managed. We considered there was a risk related to the delivery

		date as the EJP did not present sufficient justification. There was also uncertainty over the preferred solution due to ongoing assessment of the NGET whole system option, which presented a further risk.
EJP 69: HV Feeders - Load Related	Partially Justified SSEN provided additional information on the deliverability of the investment and considered deliverability limits. However, there remains a concern on the specific routes and therefore volumes proposed as SSEN did not specify where the works will be delivered and the relationship between these proposed works and the volumes in the EJP.	Partially Justified The needs case for increased capacity was considered valid. However, although the "hotspot modelling" used to determine feeder volumes appeared robust, it was still based on significant assumptions and projections. We considered that there was a risk related to the assumptions used materialising and delivery of the proposed volumes.
EJP 365: 33kV Rutter Pole Circuit Reinforcements	Justified SSEN have provided additional information on the benefits of the proposed investment and provided additional justification for the needs case. Therefore, the EJP is considered Justified.	Unjustified The paper put forward the needs case to replace rutter poles now rather than natural replacement when reaching end of life based on asset health. The benefit was identified as reduced CI and CML, however current impact on CI and CML was not presented, nor was improvement after. Clarification indicated that the current CI and CML for the circuits within this EJP were very small and that it was difficult to quantify the actual CI and CML (without intervention) to any degree of accuracy. We therefore considered that there was a risk related to the proposed benefits to the consumer.

EJP 70: LV Feeders	Partially Justified SSEN provided additional information on the deliverability of the investment and considered deliverability limits. However, there remains a concern on the specific routes and therefore volumes proposed as SSEN did not specify where the works will be delivered and the relationship between these proposed works and the volumes in the EJP.	Partially Justified The needs case for increased capacity was considered valid. However, although the "hotspot modelling" used to determine feeder volumes appears robust, it was still based on significant assumptions and projections. We considered that there was a risk related to the assumptions used materialising and delivery of the proposed volumes.
EJP 48: Ashling Road 33/11kV Primary Substation	Partially Justified Limited additional information provided. Therefore, our Draft Determinations position remains.	Partially Justified The need was for P2/7 compliance and was driven by low carbon technologies (LCT) forecast uptake based on the Customer Transformation DFES scenario. The existing load index was 84%, with 119% predicted at end of ED2 without intervention and 81% with intervention. The chosen approach was to use a flexible solution for two years and then reinforce. We agreed with the proposed approach, however scenario outturn would influence the investment need and timing. We considered that there was a risk related to the predicted demand materialising.
EJP 72: Keith 33kV Circuit Reinforcements	Justified SSEN provided additional information on the demand growth expected on the circuits, including two new contracted customers after the submission of the original EJP. SSEN did not provide additional data on future	Partially Justified The need was for reinforcement on Keith GSP's 33kV circuits due to predicted load growth. Reinforcement of Keith 303 and 304 was proposed in 2027 and 2028 with temporary reinforcement in

	demand outturn, however we accept their justification on expected demand growth.	2023/24. Investment for Keith 307 was proposed for 2023/24 and was considered justified. We agreed with the investment for Keith 307, however, we considered that there was a risk related to the demand outturn for Keith 303 and 304.

Table 21: NLRE (Non-NARM) - Key Engineering Recommendations

EJP	Final Determinations	Draft Determinations
EJP 324: Tree Cutting	Partially Justified Further information has been provided by SSEN to underline the accuracy of its light detection and ranging (LiDAR) data, and how this informs the proposed volumes. SSEN presented updated LiDAR data from their recently completed 2022 survey, which shows a notable increase in affected spans compared with SSEN's previous estimate. This demonstrates the uncertainty associated with tree cutting volumes.	Partially Justified We were supportive that there was an ongoing need for tree cutting. The EJP requested funding for a LiDAR survey in 2025 and Ash Dieback surveys in 2024/25. LiDAR surveys would be undertaken over the entire overhead line (OHL) asset base within RIIO-ED1 with SEPD (SSES) run and analysis of data complete. SHEPD (SSEH) LiDAR flight was undertaken in 2021 and data to be complete in 2022. LiDAR is repeated again in 2025 for SEPD (SSES), and 2026 for SHEPD (SSEH) (every four years). We considered that the next LiDAR surveys due to be undertaken in 2025 and 2026 would better inform future volumes. There was therefore a potential risk in the proposed volumes until the next LiDAR flights are complete. Future volumes would then be more accurate. SHEPD (SSEH) volumes could change following LiDAR data that may be available prior to Final Determinations.
316: LV Poles, LV Services (OHL) and LV Conductor (OHL) EJP 317: 6.6/11 kV OHL Poles EJP	Partially Justified – Accept Submitted Volumes SSEN provided additional information on capping of HI5 assets, and justification on the health scoring identified for the asset categories. However, there remains a risk that the Health	Partially Justified We recognised an ongoing need for the replacement of 6.6/11 kV OHL Poles, however the EJPs lacked detail of where asset condition data (input to CNAIM26 models) was obtained from. It was confirmed that only

EJP 318: 33 kV Overhead Line Poles & Conductor CAPEX Intervention	Score Intervention Criteria (HSIC) intervention volumes are unlikely to be representative of outturn interventions due to apparent lack of coordinated programme of interventions. Therefore, due to concerns with the proposed volumes the decision is to Accept Submitted Volumes with Additional Reporting.	assets that have recent inspection data were considered for intervention and that assets without data were capped at HI3 and hence not considered. Clarifications indicates that less than 20% of this asset base was inspected annually, which introduced a risk related to the proposed volume. It was also noted that if there was a change to the health and safety regulations for creosote, this could change the cost and life (hence volumes) of future wooden poles replacements.
EJP 311: LV Underground Mains and Service	Partially Justified – Accept Submitted Volumes SSEN provided additional information on the deliverability of the investment and considered deliverability limits. In addition SSEN clarified their RIIO-ED1 performance in this category noting their prioritisation efforts in RIIO-ED1. In addition, SSEN have identified the resource and procurement requirements. However, there remains a concern on the specific routes and therefore volumes proposed as SSEN did not specify where the works will be delivered and the relationship between these proposed works and the volumes in the EJP. Therefore, as there is residual risk relating to the volume delivery, our decision is to Accept Submitted Volumes with additional reporting.	Partially Justified The EJP clearly set out the needs case and a cost benefit analysis (CBA) approach was used to determine when it was most cost effective to overlay vs repair. As the volume justified by the CBA greatly exceeded delivery capability, SSEN capped the proposed volumes in line with expected ramp up capability. Due to the ramp up in capability to deliver the proposed volume, we considered that there was a risk related to deliverability.
EJP 418: OHL Clearances	Partially Justified SSEN has now provided volume information for	Unjustified The volumes for this EJP were to be provided between Draft

	SHEPD (SSEH) based on the latest LiDAR information. However, there remains volume uncertainty.	Determinations and Final Determinations. The EJP did not have any clear description of, or comparison to, previous run rates to validate or benchmark provisional volumes. Proposed volumes were to be provided between Draft Determinations and Final Determinations, hence there was a potential risk related to volumes.
EJP 322: Rising and Lateral Mains Driven By Condition & Asset Replacement	Partially Justified SSEN provided additional information to justify the sample size used to identify the proposed volumes. Justification was provided describing the method used and the confidence level and precision. No specific data was provided. Therefore, as there remains a volume and deliverability risk, we believe that the EJP is Partially Justified.	Partially Justified The proposed volumes were based on a sample of 380 buildings which were then used to inform the forecast for circa 290,000 buildings. The relatively low sample rate was considered a risk to the required volume. The proposed volume was also a significant increase from RIIO-ED1. Due to the accuracy and deliverability of the proposed volume, we considered that there was a risk related to the proposed volume and its deliverability.
EJP 312: 6.6/11kV Underground Cables	Partially Justified – Accept Submitted Volumes SSEN provided additional information on the deliverability of the investment and considered deliverability limits. In addition, SSEN have identified the resource and procurement requirements. However, there remains a concern on the specific routes and therefore volumes proposed as SSEN did not specify where the works will be delivered and the relationship between these	Partially Justified As the volume justified by the CBA greatly exceeded delivery capability, SSEN capped the proposed volumes against expected capability. There was some concern related to the trends that fault rates and costs have "steadily" increased over time (2014-2021) in the SSES area. However, this was only apparent in the period 2014-2018. The 2018-2021 trend being downwards in both aspects.

	proposed works and the volumes in the EJP. Therefore, as there is residual risk relating to the volume delivery our decision is to Accept Submitted Volumes with additional reporting.	Due to the ramp up in capability, we considered that there was a risk related to deliverability.
EJP 387: Shetland Standby Project	Partially Justified We note the additional information provided by SSEN, however we do not believe that the risks that we raised at Draft Determinations have been sufficiently addressed.	Partially Justified We considered that there was a clear needs case for some form of solution to manage loss of the high voltage direct current link. The use of existing assets plus the addition of fault ride through equipment was proposed, however ultimately the requirements would be closely linked to actual demand out-turn. Limited information was presented on how achievable the proposal to extend the life of Lerwick Power Station is or how it has been costed. We considered that there was a risk related to the exact requirement for fault ride through assets as this is linked to demand outturn which is currently uncertain.

Table 22: NLRE (NARM) - Key Engineering Recommendations

EJP	Final Determinations	Draft Determinations
EJP 415: Southern Electric Power Distribution: Distribution System Control Centre	Partially Justified – Control Required The needs case for the control rooms were considered valid at Draft Determinations but lacked clarity around optioneering (the location of the new control room) and maturity of development. The updated information has alleviated some of these concerns. However, the estimated completion of the control centres is towards the end of RIIO-ED2, hence there is a potential risk to delivery within the regulatory period. Overall, we believe that a control is required to protect consumers.	Unjustified The needs case for a new control room was considered valid based on expanding workforce and limited available space in the current buildings. However, the design for the proposed new control rooms was at RIBA Stage 0, which is the very first stage for building design. Further stages of design are required to develop a more detailed design and hence cost. The design has been based on an existing SSEN site and includes demolition; however, the exact location was yet to be finalised with the land search ongoing and expected to be concluded by the end of 2022. Hence the local council has not been approached for planning permission (at the date of this assessment) which could influence the design and preferred site. There was significant uncertainty surrounding the design and cost of these works. The proposed new control rooms were at an early phase of development, the locations had not yet been chosen and the local councils had not been approached for the relevant planning permissions. All of this created a material risk as these factors could influence the chosen location, design and associated cost.
EJP 416: Scottish Hydro Electric Power Distribution: Distribution System Control Centre		

EJP 2: DSO Workforce Capability	Unjustified Limited additional information provided. Therefore, our Draft Determinations position remains.	Unjustified The EJP presented the workforce required to transition to a DSO model. The needs case was considered somewhat justified due to it being dependent on the outturn uptake of LCTs under the DFES. The costs and volumes presented appeared with minimal justification and there was no sensitivity analysis with regards to the DFES scenarios which may affect the required workforce. As the EJP provided minimal justification of costs and volumes, along with no sensitivity analysis of how external factors would influence the workforce required, we considered there to be a risk related to the need and timing of the workforce along with the availability of the workforce.
EJP 8: Fluid Filled Cables (FFC)	Partially Justified We note the additional information in support of this EJP. However, we believe that there remains a risk that the expected benefits may not be achieved within RIIO-ED2.	Unjustified The needs case of the resubmitted EJP was considered valid and the optioneering was based on different volumes of leak reduction achieved. SSEN's preferred option had the most favourable NPV. We considered that there was a risk that the stated leak reductions would not be achieved.
EJP 326: Non-Operational Property	Partially Justified Limited additional information provided. Therefore, our Draft Determinations position remains.	Partially Justified We agreed with the need and justification presented within the EJP, however we considered that there was a risk to individual investments being delivered.

		We considered that there was a risk related to individual investment areas being delivered.
EJP 372: Banbury Avenue	Partially Justified Limited additional information provided. Therefore, our Draft Determinations position remains.	Partially Justified The connection EJPs were based on specific customer connections and therefore dependent on the customer going ahead with their need. Generally, the connection EJPs presented limited details of background assumptions, however this was later provided in an SQ response and considered valid. Due to each EJP being driven by a specific customer connection, there was a potential risk that specific schemes may not be taken forward by the customer or the customers' needs may change.
EJP 434: Welbourne Village		
EJP 440: Andover Commercial Park		
EJP 449: Faraday Road		
EJP 432: Spring Park Campus		
EJP 367: Digiplex Data Centre		
EJP 446: Barters Farm		
EJP 422: OT2 Optical Transport Network Rollout	Partially Justified Further details of the hybrid approach are provided and the method of establishing the cost. Of the 442 sites proposed, the cost estimate is based on 26 sites analysed in the SEPD (SSES) region and 7 sites in the SHEPD (SSEH) region, however it was not evident how these sites had been chosen.	Partially Justified The proposed solution appeared to be a pragmatic balance between options. However, it was not possible to clearly determine the exact scope of works from the EJP as various methods by which the communications infrastructure could be upgraded were noted. There was a potential risk related to the various methods by which the communications infrastructure could be upgraded, as this could change the cost and benefits.

EJP 424: Protection	Partially Justified Limited additional information provided. Therefore, our Draft Determinations position remains.	Partially Justified The needs case and optioneering were considered reasonable, however there was a deliverability risk due to the availability of engineers. The delivery risk was mainly for later years in RIIO-ED2 where the volume ramps up on the assumption of more engineers becoming trained and available. We considered there to be a delivery risk related to the availability of engineers in later years of RIIO-ED2 which could mean the volumes cannot be delivered.
EJP 21: Connectivity++	Justified Sufficient information and evidence has been provided to address the concerns that we raised at Draft Determinations.	Partially Justified Many of the IT projects had multiple dependencies or enabled other IT projects. SSEN considered the IT projects as a portfolio,
EJP 33: MDM & Data Lake	Partially Justified SSEN have provided additional information that outlines the resources that would be required over the RIIO-ED2 period. However, there remains concerns on whether the full systems can be delivered on time, providing all the benefits outlined.	however we still believed the main risks were related to delivering the stated benefits within the time and budget requested. There was also a risk related to the availability of people / IT skills needed. As the IT projects would require various levels of resourcing, managing multiple outputs, deliverables to then enable linked projects we believed that there was a risk that not all the stated outcomes and benefits within the time and budget requested would be delivered.
EJP 29: DSO Management (Optimiser)		
EJP 36: Connections+		
EJP 41: DSO Enablement (Orchestrator)		
EJP 40: Commercial Optimisation		
EJP 32: Linear Assets		
EJP 1: Flexibility Contracting		

EJP 31: DSO ANM		

Appendix 2 Examples of Enhanced Reporting

Category	Asset Category	Volumes (Additions)	Relevant reporting lines	Potential monitored outcomes
LV, HV & EHV Poles	LV Poles	15,274	No. of assets replaced	Improving network safety and reliability Improving network resilience, in particular for storms
	6.6/11kV Poles	17,619		
	33kV Pole	3,851		
LV & HV Cables	LV Main (UG Consac)	0.0	km of assets	Replacement of obsolete assets (incompatibility with maintenance and repair materials and procedures) Improved safety
	LV Main (UG Plastic)	514.0		
	LV Main (UG Paper)	0.0		
	LV Service (UG)	11,920.0		
	6.6/11kV UG Cable	295.0		
LV, HV & EHV Conductors (km)	LV Main (OHL) Conductor	621.0	km of assets replaced	Improving network safety and reliability Improving network resilience, in particular for storms
	LV Service (OHL)	12,633.0		
	6.6/11kV OHL (Conventional Conductor)	208.2		
	6.6/11kV OHL (BLX or similar Conductor)	107.6		
	33kV OHL (Pole Line) Conductor	44.0		
HV & EHV Subsea cables	HV Sub Cable	14.8	km of assets replaced	Improving network reliability
	EHV Sub Cable	17.5		

Category	Asset Category	Volumes (Additions)	Relevant reporting lines	Potential monitored outcomes
HV & EHV Switchgear	6.6/11kV CB (PM)	649	No. of assets replaced Sites addressed based on safety concerns	Addressing defective batches of assets Replacement of the large ageing population which have reached obsolescence with minimal support from the original equipment manufacturer Facilitation of full remote control at some sites, enabling modern protection and communication systems Removal of oil and SF6 Circuit Breakers from the network.
	6.6/11kV Switchgear - Other (PM)	1,905		
	33kV Switchgear - Other	409		
	33kV Switch (PM)	715		

Appendix 3 SSEN Business Plan 'Aims'

A3.1 SSEN submitted 24 'Aims' and other business plan commitments in its RIIO-ED2 Business Plan. See paragraphs 2.15 to 2.16 for details.

Name	Description
Meeting the needs of small / medium business (SSEN Aim)	SSEN propose to introduce a Business Support Register
Safety Engagement (SSEN Aim)	Extend the engagement on safety around assets, reaching 50,000 partners and members of SSEN's communities by 2028
Shareholder Fund (SSEN Aim)	Introduce a shareholder-financed £500,000 annual 'Powering Communities to Net Zero' fund to support LCT accessibility initiatives for those in vulnerable situations, and community-led environmental and resilience schemes
Average speed of response (SSEN Aim)	Improve average speed of response to 20 seconds on the telephone for power cuts and to five minutes on social media.
PSR gap analysis (part of strategy)	Reach over 1 million PSR customers by 2028, refreshing data every 24 months
Fuel poverty support (part of strategy)	By 2028 support 50,000 households (equivalent to 114,000 customers) with fuel poverty
Training and development (part of strategy)	Train 30 employees to the City & Guilds energy efficiency qualification and introduce 200 vulnerability champions across the business from the start of ED2.
Training and development (part of strategy)	Deliver education on LCTs to the most vulnerable and hard to reach through partners
Educating on the benefits of energy efficiency and Low Carbon Technology, tackling digitally exclusion (part of strategy)	Deliver a programme of targeted interventions to prepare future customers (39,000 children) whilst supporting existing customers with learning difficulties (2,400 adults) with education on fuel poverty, energy efficiency and LCTs, and upskill digitally-excluded customers (5,000) in using online services
Energy Efficiency Enablement Programme (part of strategy)	Work with partners to reduce barriers to the installation of energy efficiency measures by 440 households in vulnerable situations
Personal and Social Support Packs (part of strategy)	By 2028, deliver 5,000 energy efficiency packs to fuel-poor households, and 5,000 power cut resilience packs to PSR customers, tailored to their needs
Keeping the public safe around our assets (SSEN Aim)	Aim to remove redundant equipment from unoccupied sites within 3 months to prevent risk to the public from the start of ED2

Name	Description
Enabling LCT connections (SSEN Aim)	Ready the network for net zero, consistent with up to 1.3m Electric Vehicles and up to 800,000 heat pumps connecting by 2028
Enabling LCT connections (SSEN Aim)	Ready the network for net zero, consistent with a total of 8GW of distributed energy resource (including windfarms, solar, and energy storage) connecting by 2028
Improving our connections process (SSEN Aim)	Improve the end-to-end process (application, design, quote and connection) for all connections and introduce automated quotation services for domestic LCT and minor connections customers by 2025
Deploying flexible solutions (SSEN Aim)	Target 5GW of Constrained Managed Zones across multiple service types and grow our flexible connections to 3.7GW of capacity across 35 zones by 2028
Whole systems engagement for local authorities (SSEN Aim)	Support Local Authorities' energy and heat strategy development through provision of relevant data sets and annual engagement on DFES scenarios)
Sustainable Supplier Code (SSEN Aim)	Sign up 80% of supply chain (by value) by 2028 to SSEN's Sustainable Supplier Code
Reduce travel-related emissions (SSEN Aim)	Electrify 80% of core vehicle fleet by 2028, reduce average road mileage by 15% (from pre-covid levels) and limit air travel where possible.
Set Science Based Targets, accredited with the SBTi (Part of Environmental Action Plan)	Set an ambitious 1.5 degree SBT (including losses) requiring at least a 35% reduction in carbon footprint by 2028
Manage Losses on network (Part of Environmental Action Plan)	Implement a strategy to efficiently manage losses on the network in the long-term re-classify losses as a Scope 2 emission and act to reduce actual losses
Reduce emissions from mobile diesel generation during interruptions (SSEN Aim)	Reduce emissions by replacing mobile generators wherever possible with lower carbon alternatives or by using alternative lower carbon fuel types by 2028
Reduce the reliance on back up embedded diesel generation on SSEN's islands (SSEN Aim)	Reduce reliance on diesel back-up generation, exploring local solutions and flexibility opportunities from the start of ED2
Innovation Reporting (SSEN Aim)	Publish an annual Innovation Deployment Customer Report to improve the transparency of the benefits of SSEN's innovation programme