

# Decision

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## RIIO-2 Re-opener Applications 2024 Final Determinations – ED Annex

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This document sets out our Final Determination following our assessment of re-opener applications submitted by Distribution Network Operators (DNOs) in January 2024. Scottish and Southern Electricity Networks (SSEN)<sup>1</sup> submitted projects under Special Condition (SpC) 3.2 Part O: Hebrides and Orkney Re-opener (HOt) and Electricity North West Limited (ENWL), SSEN, Northern Powergrid (NPg), Scottish Power Energy Networks (SPEN), National Grid Electricity Distribution (NGED) and UK Power Network (UKPN) submitted projects under Special Licence Condition Part J 3.2.6. We consulted on our Draft Determinations between 03 September 2024 and 01 October 2024 and asked stakeholders a number of questions. We received responses from all DNOs on Storm Arwen Re-opener and one response from SSEN on Hebrides and Orkney Re-opener.

The direction for the Hebrides and Orkney re-opener published alongside our decision will set out the proposed licence modifications reflecting these final determinations. The statutory Licence Modification for the Storm Arwen Re-opener published alongside our decision will set out the proposed licence modifications reflecting these final determinations.

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<sup>1</sup> The submission was from SSEN Distribution (SSEN) the trading name of Scottish Hydro Electrical Power Distribution plc (SSEH) and Southern Electric Power Distribution plc (SSES). The projects and responses were submitted on behalf of SSEH and SSES.

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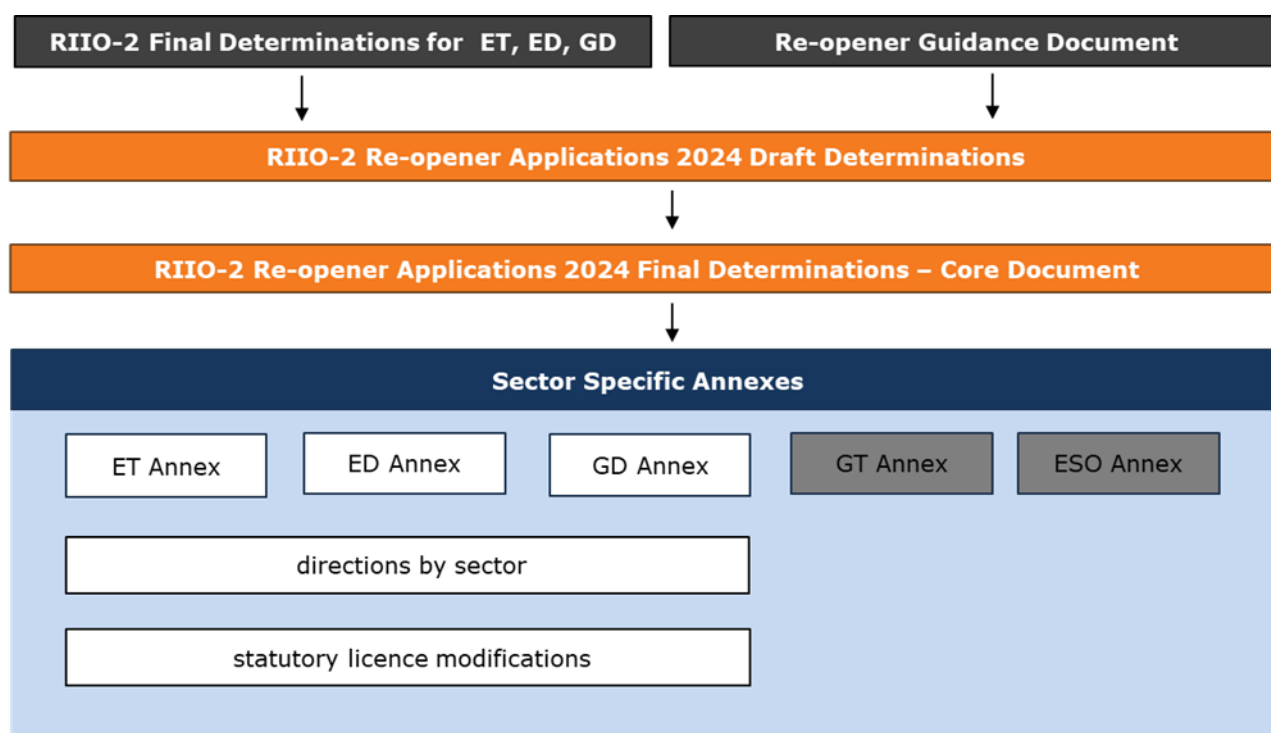
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# 1. Introduction

1.1 This document is one of the Annexes published alongside the RIIO-2 Re-opener Applications 2024 Final Determinations. It focuses on the re-opener mechanisms and the Final Determination of projects submitted in the ED sector. Please refer to the RIIO-2 Re-opener Applications 2024 Final Determination – Core Document for general information including decision making process, stages, etc.

**Figure ED1: Navigating our Final Determinations**



## Hebrides and Orkney Re-opener

- 1.2 When we<sup>2</sup> made our [RIIO-ED2 Final Determinations](#) (ED2 FDs) in November 2022, we remained unclear about customer needs for proposed projects in Hebrides and Orkney<sup>3</sup> due to the possible impact of outstanding third-party decisions that were likely to affect demand.
- 1.3 We agreed with SSEN’s [proposal](#) to utilise a re-opener that could be triggered after SSEN had finalised a whole system review of needs that takes into account

<sup>2</sup> The terms ‘the Authority’, ‘Ofgem’, ‘we’ and ‘us’ are used interchangeably in this document. The Authority is the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

<sup>3</sup> For a list of the projects, see 3.2.105(a) in Appendix 1.

these external decisions.<sup>4</sup> As such, we provided development funding in ED2 FDs and introduced the Hebrides and Orkney Re-opener for SSEN to request additional funding for the costs associated with the outcomes of additional whole system analysis in the Scottish Islands to contribute to Net Zero Carbon Targets and ensure long-term security of supply to the Hebrides and Orkney islands in Scotland.

### Storm Arwen Re-opener

- 1.4 In November 2021, Storm Arwen brought widespread disruption to the UK and resulted in over one million customers losing power. Approximately 40,000 customers were without supply for more than three days, and nearly 4,000 customers were off supply for over a week. In light of the severity of the event and the long duration that many customers endured without power, Ofgem conducted a review of the Distribution Network Operators (DNOs) response to Storm Arwen.
- 1.5 We published a [final report in June 2022](#) and provided 20 recommendations relevant to all DNOs, across five areas in need of improvement: (i) network resilience; (ii) planning and preparation; (iii) handling of incidents; (iv) communication and support during the incident; and (v) ongoing support after the incident. The review was distinct, but complementary to the review undertaken by the [Energy Emergencies Executive Committee](#) (E3C)<sup>5</sup> which was commissioned by the Department for Energy Security and Net Zero (DESNZ, formerly Business, Energy & Industrial Strategy (BEIS)) and provided 45 recommendations in December 2021.

### **What did we consult on?**

- 1.6 In accordance with SpC 3.2 Part O (Hebrides and Orkney re-opener) and SpC Part J 3.2.6 (Storm Arwen Re-opener), companies applied to Ofgem to add additional allowances for 3 projects under Hebrides and Orkney re-opener and an additional allowance for 75 projects under the Storm Arwen Re-opener (SAR<sub>t</sub>) into its RIIO-2 price control framework.
- 1.7 Following their submissions in January 2024, the licensees also provided additional information to us through a combination of bilateral meetings and Supplementary Question (SQ) responses.

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<sup>4</sup> at paragraph 4.6

<sup>5</sup> E3C is a partnership between government, and industry, which ensures a joined-up approach to emergency response and recovery.

- 1.8 We considered each proposal and the relevant justification for the funding requested in accordance with our principal objective and statutory duties. In line with the [Re-opener Guidance and Application Requirement Document](#), our assessment covered the following three areas for each project:
- the needs case.
  - the options assessment and the justification for the proposed project.
  - the efficient costs for the proposed project.
- 1.9 We combined this information to create our Draft Determinations on what additional allowances, if any, should be provided to each licensee to undertake the relevant project.
- 1.10 We consulted on our Draft Determinations between 3 September 2024 and 1 October 2024, and each included a draft of the direction or licence modification notice that would be used to implement the Draft Determination. We received 7 responses in total, one from SSEN regarding the projects under the Hebrides and Orkney re-opener and six from the DNOs ENWL, SSEN, NPg, NGED, SPEN and UKPN regarding the projects under the Strom Arwen re-opener.

### **Purpose of this document**

- 1.11 This document summarises the consultation responses received from stakeholders, and an explanation of the changes made, if any, to our draft determination position since the consultation. It also sets out our Final Determinations for applications submitted under the re-opener mechanisms listed in Table ED1 below.

**Table ED1: ED re-opener mechanisms subject to this decision**

<b>Reopener Mechanism</b>	<b>Special Licence Condition</b>
Hebrides and Orkney Reopener	3.2 Part O
Storm Arwen Reopener	3.2.6 Part J

- 1.12 Alongside this decision, we are publishing a direction to amend the licence of SSEH to give effect to the Hebrides and Orkney projects approved in our Final Determinations.
- 1.13 To give effect to the Storm Arwen projects, Evaluative Price Control Deliverables and Closely Associated Indirect costs approved in our Final Determinations, we are publishing for consultation our proposed modifications to the licences of ENWL, SSEN, NPg, NGED, SPEN and UKPN.

## Related publications

1.14 This document is intended to be read alongside:

- [Draft Determinations on RIIO-2 re-opener applications 2024: Electricity Transmission, Electricity Distribution and Gas Distribution | Ofgem](#)

1.15 Hebrides and Orkney application

- [RIIO-ED2 SSEN Final Determination](#) (FD)
- [RIIO-ED2 Re-opener Guidance and Application Requirements Document](#)
- SpCs (and SpC 3.2 Parts O and R in particular) of the [Licence](#).
- [Re-opener submission documents](#) on SSEN's website.

1.16 Storm Arwen application

- Final report on the review into network' response to Storm Arwen (July 2022)
- [Storm Arwen review: final report \(June 2022\)](#)
- [Storm Arwen electricity distribution disruption review: terms of reference \(June 2022\)](#)
- [Interim report on the review into the networks' response to Storm Arwen \(February 2022\)](#)
- RIIO-ED2 Final Determinations Overview document (ofgem.gov.uk) – Chapter 6, paragraph 6.43 **Error! Bookmark not defined.**
- SpCs (and SpC 3.2 Part J in particular) of the Licence. **Error! Bookmark not defined.**

## Summary of our Final Determinations

1.17 Table ED2 below summaries our Draft and Final Determinations for the ED re-openers covered in this annex. Chapters 2 and 3 discusses these in greater detail.

**Table ED2: Summary of our ED Draft and Final Determinations**

Sector Group	Network	Company requested - Number of Projects	Company Forecast costs (£m)	Ofgem's DD - Projects Approved*	Ofgem's DD - Projects Not Approved	Ofgem's DD - Cost adjustment (£m)	Ofgem's DD - Allowance (£m)	Ofgem's Adjustment from DD to FD (£m)	Ofgem's FD allowances (£m)
Electricity North West	ENWL	7	27.50	6	-	-	27.50	2.92	30.42
Northern Powergrid	NPGN	14	28.61	8	6	-10.86	17.75	8.12	25.87
Northern Powergrid	NPGY	11	6.18	6	5	-3.87	2.31	1.67	3.98
National Grid Electricity Distribution	WMID	16	16.52	5	11	-11.75	4.77	1.11	5.88
National Grid Electricity Distribution	EMID	15	14.40	1	14	-12.55	1.85	1.31	3.16
National Grid Electricity Distribution	SWALES	16	10.05	5	11	-6.06	3.99	0.96	4.95
National Grid Electricity Distribution	SWEST	14	20.39	4	10	-12.82	7.57	2.78	10.35
SP Energy Networks	SPD	13	37.15	3	10	-33.52	3.63	7.19	10.82
SP Energy Networks	SPMW	13	38.75	3	10	-34.72	4.03	6.91	10.94
Scottish and Southern Energy	SSEH	8	51.01	2	6	-3.62	47.39	0.58	47.97
Scottish and Southern Energy	SSES	3	5.74	1	2	-2.60	3.14	0.94	4.08
UK Power Networks	EPN	8	42.30	3	5	-18.90	23.40	6.25	29.65
UK Power Networks	LPN	-	-	-	-	-	-	-	-
UK Power Networks	SPN	20	14.40	5	15	-9.30	5.10	2.64	7.74



## 2. Hebrides and Orkney Re-opener

### Summary of our Draft and Final Determinations

2.1 Table ED3 below highlights summaries of our Draft and Final Determinations.

**Table ED3: Summary of Hebrides and Orkney Re-opener Projects Draft and Final Determinations (£m 20/21 prices)**

Sector Group	Network	Company Proposed Project	Company requested - Forecast costs (£m)	Ofgem's DD - Cost adjustment (£m)	Ofgem's DD - Allowances (£m)	Ofgem's Adjustment from DD to FD (£m)	Ofgem's FD - Allowances (£m)
Scottish and Southern Energy	SSEH	SSEN-D Pentland Firth East 3 (PFE3)	34.67	-	34.67	-	34.67
Scottish and Southern Energy	SSEH	SSEH South Uist-Eriskay solution	0.36	-	0.36	-	0.36
Scottish and Southern Energy	SSEH	SSEH Eriskay-Barra solution	11.25	-0.11	11.14	-	11.14

### Our Draft Determinations

2.2 In its 2024 Hebrides and Orkney Re-opener submission, SSEN sought funding for the following three projects:

- PFE3: Replace the faulty PFE2 33kV subsea cable
- South Uist-Eriskay solution: Replace the subsea cable which connects South Uist in the Outer Hebrides to the islands of Eriskay with a land-based 11kV cable along the Eriskay Causeway
- Eriskay-Barra solution: Install an additional 11kV subsea cable to connect the Isle of Barra in the Outer Hebrides

2.3 We assessed these projects and in our Draft Determinations:

- Proposed to accept the needs case for these three projects as we consider that the needs case is valid,
- Agreed that SSEN had chosen the appropriate option with the Uist-Eriskay solution and Eriskay-Barra solution,
- Agreed that the selected option with PFE3 is acceptable,

- Proposed adjustments to project costs by applying ongoing efficiency in line with [RIIO-ED2 FDs](#) to the Eriskay-Barra project, and
- Proposed to award allowances to the three projects as listed in paragraph 2.1.

## **Response to our Draft Determinations**

2.4 We received one response, from SSEN.

2.5 SSEN's response stated that it:

- agreed with our assessment of the needs case for the projects under Hebrides and Orkney Re-opener submission,
- agreed with our assessment of the preferred option for the projects, but in respect of PFE3 disagreed with our proposal to further assess potential long-term detriment to consumer interest due to selected PFE3 cable size. It considered the selected cable size was the most appropriate choice readily available under fault conditions. It also explained the process of type testing cable for making other options available,
- agreed with our assessment of the efficient costs of projects,
- broadly agreed with our assessment of SSEN's request for allowances but believed that reducing allowance for Eriskay-Barra is likely to mean it will be underfunded because it considered achieving ongoing efficiency is extremely challenging.

## **Our Final Determinations**

2.6 Given no evidence was presented to dispute our Draft Determinations position, our decision is to approve the needs case and optioneering for the projects listed in paragraph 2.1.

### PFE3

2.7 We maintain our view that the preferred option to meet the needs case of PFE3 is acceptable only because options are now constrained by SSEN's decision in 2021 to install a 33kV cable.

2.8 When PFE2 failed (cable size of 400mm<sup>2</sup>) in 2021, SSEN replaced it with a slightly larger 33kV cable (500mm<sup>2</sup>). SSEN made the decision to install a 33kV cable due to long lead time on procuring and type testing a larger 33kV (630mm<sup>2</sup>) or 66kV cable, which would have led to a delay in cable installation of up to two years and meant that the risk of loss of supply to Orkney is too high during this period.

- 2.9 In making its decision, SSEN considered the short-term cable availability and impacts. However, it is not evident that it appropriately considered the long-term whole system requirements and correctly ruled out the option of postponing cable installation. Postponing the installation would have meant that a number of possible long-term whole system solutions for the Orkney islands that are now ruled out would still be viable options. It is therefore not clear that the installation of the 33kV cable was the most efficient option available had long-term whole system requirements been appropriately considered.
- 2.10 We believe further cost benefit analyses to compare future investment proposals with the counterfactual where a larger size cable had been installed could determine if there is any detriment to the long-term interest of consumers. We therefore maintain our DD view, and when making future funding decisions may account for any inefficiencies that may have arisen from SSEN's failure to appropriately consider long-term whole system requirements at the time of PFE3 installation.

Ongoing efficiencies

- 2.11 On-going efficiency was applied in unit costs in the RIIO-ED2 FDs. We maintain our view that applying on-going efficiencies is appropriate as it aligns with the RIIO-ED2 FDs.

## 3. Storm Arwen Re-opener

### Summary of our Draft and Final Determinations

- 3.1 We received submissions for all six DNOs, covering 13 out of 14 licence areas. Across all DNO's there were 75 project proposals submitted, totalling £266.75m. Our Draft Determination proposes to fund £106.26m worth of projects across the six DNOs.
- 3.2 Following the review of the consultation responses and the submission of additional information, we have reassessed several proposals to ensure the Final Determination is fair and justified.
- 3.3 We have accepted proposals which we consider have evidenced to have costs incurred or expected costs as a result of Storm Arwen Recommendations by E3C and Ofgem in line with Special Condition 3.2.67.
- 3.4 Our Final Determinations are to:
- Accept 40 of the 75 proposals submitted, and
  - Provides all Network Companies with a 10.8% uplift on direct activity allowances to fund the DNOs associated Closely Associated Indirect (CAI) activities. For more information on the adjustment made for CAI, see section 3.15. A breakdown of the accepted and rejected proposals can be found below in Appendix 2 of this document.
- 3.5 Table ED4 below summaries our Draft and Final Determinations. The following sections explain the consultation responses received and the reasons for our final determinations in relation to the proposals in more details. Given the large volume of proposals we have assessed, we have not provided an exhaustive breakdown of each proposal. However, we have provided additional rationale where necessary. Where we have rejected a proposal, we have aimed to provide clear reasoning, which can be linked to the SAR<sub>t</sub> principles and the Storm Arwen recommendations assessment as directed by the Licence Condition Special Condition 3.2.67.

**Table ED4 below highlights summaries of our Draft and Final Determinations.**

<b>DNO</b>	<b>Number of proposals</b>	<b>Accepted number of proposals</b>	<b>Company requested - Forecast costs (£m)</b>	<b>Ofgem's DD - Cost adjustment (£m)</b>	<b>Ofgem's DD - Allowances (£m)</b>	<b>Ofgem's Adjustment from DD to FD (£m)</b>	<b>Ofgem's FD – Allowances (£m)</b>
ENWL	7	6	27.50	0.00	27.50	+2.92	30.42
SSEN	5	3	10.48	6.11	4.37	+1.51	5.88
NPG	26	12	34.79	14.73	20.06	+9.79	29.85
SPEN	13	4	75.90	68.30	7.60	+14.16	12.76
NGED	16	8	61.38	43.21	18.17	+6.17	24.34
UKPN	8	6	56.70	28.20	28.50	+8.89	37.39
Total	75	39	266.8	160.6	106.2	+43.44	149.64

### **Storm Arwen Re-opener cross over proposals**

3.6 This section will provide a decision on proposals submitted by DNOs which we jointly assessed due to project similarities. We will provide a collective Final Determination based on the evidence provided in line with the E3C and Ofgem recommendations, Storm Arwen recommendations assessment and SART principles.

### **Closely Associated Indirect (CAI) Costs**

#### **Our Draft Determinations**

3.7 CAI activities and costs are defined in the [RIIO-ED2 Regulatory Instructions and Guidance Glossary](#).

3.8 In our Draft Determination we proposed to exclude the cost of all CAIs on the grounds that it was out of scope of SART.

#### **Response to our Draft Determinations**

3.9 Most of the DNOs responses were consistent in their view that the types of CAI costs being applied for are necessary to support the delivery of their proposed capital projects.

#### **Our Final Determinations**

3.10 Following consideration of the further explanation contained in the responses we agree that the licensees will need incur additional CAI costs in order to deliver some of their proposals. We have therefore decided to approve funding for certain CAI costs.

3.11 We have set the CAI allowances at 10.8% of direct allowances on individual projects which qualify for CAI funding. This 10.8% uplift is consistent with the amount provided through the Indirects Scaler licence condition (Special Condition 3.12). For most DNOs the CAI allowances are less than their forecast CAI costs,

the exceptions are ENWL and UKPN, who did not include any CAI forecasts in their original submission.

3.12 Table ED5 below details the Final CAI allowances for each DNO.

**Table ED5: Summary the CAI allowances for SAR<sub>t</sub>**

<b>DNO</b>	<b>Requested funding (£m)</b>	<b>Final Allowance (£m)</b>
ENWL	-	2.89
SSEN	0.65	0.56
SPEN	3.2	2.06
NGED	5.2	2.33
NPg	2.93	2.88
UKPN	-	3.56
Total	11.98	14.28

## **Cross-boundary Interconnectors**

### **Our Draft Determinations**

3.13 SPEN, NGED, and ENWL all challenged Ofgem's proposed methodology for funding based on the 'DNO median Interconnector Cost,' with ENWL specifically requesting a recalculation using ten interconnectors instead of eleven. However, no objections to the funding being approved were presented.

### **Response to our Draft Determinations**

3.14 The consultation responses for the cross-boundary interconnector highlighted a concern with the benchmarking approach taken in our Draft Determination. While the Draft Determination approach was consistent with the RIIO-ED2 Cost Assessment, we acknowledge the concerns raised given the bespoke volumes and type of work required to complete these projects individually.

### **Our Final Determinations**

3.15 All the DNOs are at different design stages of these projects, with some having only completed a desk-based study, while others have developed initial engineering drawings. We recognise that further work is needed to develop an in depth understanding of the proposal feasibility, benefits, associated costs and detailed design to ensure a holistic and efficient network development.

3.16 Given the variability of project maturity there is a concern that not all of the proposed 56 interconnector projects will be completed, as the project design process continues to refine location suitability.

3.17 In addition, following a review of the costs proposed by the DNOs, some discrepancies were identified between the proposed costs put forward by the

partnering DNOs. These discrepancies raise concerns and suggest that the proposals require further refinement.

3.18 However, as noted in our Draft Determination, we do agree with the proposal in principle and support the innovative and collaborative approach that has been taken. We believe that these projects will deliver a real benefit to consumers, prioritising remote and rural areas which typically suffer from longer restoration times.

3.19 Given this, we feel the most appropriate action is to allow the DNOs to continue with design and implementation of the projects by providing all of the requested funding, but we must take into account concerns around deliverability of the 56 projects and uncertain costs. More information on how we are taking into account deliverability of all funding under the SAR<sub>t</sub> can be found in paragraph 3.264.

**Final Determination: Accept**

3.20 We have decided to accept the funding allowances for the proposals submitted to us by ENWL, SSEN, NPg, SPEN and NGED for cross-boundary interconnectors. The final funding allowances are set out in Table ED6 below, and includes a 10.8% uplift related to CAI costs, as outlined in paragraph 3.7.

**Table ED6: Summary the Cross-boundary interconnector final allowances for SAR<sub>t</sub>**

<b>DNO</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
*ENWL	1.6	1.57	1.74
*SSEN	0.14	0.14	0.14
*SPEN	4.38	1.14	4.38
*NGED	3.3	2.3	3.3
*NPg	0.9	0.89	0.9
Total	10.32	6.04	10.46

**\* Proposal qualifies for an indirect cost uplift**

**Vegetation management**

**Our Draft Determinations**

3.21 In our Draft Determination, we proposed to reject all vegetation management projects on the ground of them being a Business as Usual (BAU) activity and are therefore funded through RIIO-ED2 baseline allowances. The DNOs disagreed with the assessment that these proposals are BAU.

### **Response to our Draft Determinations**

3.22 Several companies, including SSEN, SPEN, and NGED, disagreed with Ofgem's assessment of their vegetation management proposals, while NPg agreed with the draft decisions.

### **Our Final Determinations**

3.23 We have considered the consultation responses, but at this time, we have taken the decision to maintain our position to reject the four proposals under the SARs.

3.24 For the three proposals submitted by ENWL, NGED and SPEN relating to the updated ETR 132, we maintain that the recommendation outlined in EC3 E3 and Ofgem 1 recommendation have already been addressed by the implementation of a review of standard ETR 132 and believe that all decisions relating to the updated ETR 132 cannot be taken until after the updated standard has been published.

3.25 However, we recognise that the publication of an updated ETR 132 standard is expected in November 2024. At present we do not know what the updates to this standard will be, and while ETR 132 is not a mandatory standard, we anticipate that DNOs may wish to implement changes based on the updated standard, which may be in the interests of consumers.

3.26 Following ETR 132's publication we would welcome and encourage DNOs to embed relevant changes and upgrades to its network and we are amenable to directing an additional re-opener application window within RIIO-2 should DNOs be able to demonstrate that revisions to the ETR132 technical standard necessitate additional work.

3.27 In regard to SSEN's proposal Restoring Overhead Line Resilience which focuses on additional tree harvesting, we have decided to maintain our position outlined in the Draft Determination. We maintain the stance that this proposal is a BAU activity, evidenced in SSEN's RIIO-ED2 Engineering Justification Paper on Tree Cutting, where SSEN requested the same plant equipment for the same purpose of tree harvesting in commercial forestry areas.

3.28 In addition to this, there is no evidence of the expected benefits to consumers or its methodology to targeting the site locations to ensure the greatest benefit. There is little information on how the request for duplicative plant equipment interacts with the wider SSEN RIIO-ED2 plans, or any indication on how this equipment will be used beyond RIIO-ED2.



### Final Determination: Reject

3.29 We have decided to reject the funding allowances for the proposals submitted by ENWL, SSEN, SPEN and NGED for vegetation management. The final funding allowances are set out in Table ED7 below.

**Table ED7: Summary the Vegetation management final allowances for SAR<sub>t</sub>**

DNO	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
ENWL	0	0	0
SSEN	2.1	0	0
SPEN	10.5	0	0
NGED	6.1	0	0
Total	18.7	0	0

### Temporary Power Sources

#### Our Draft Determinations

3.30 In our Draft Determination, we proposed to reject all temporary power sources proposals, on the grounds of them being a BAU activity as part of the RIIO-ED2 price control.

#### Response to our Draft Determinations

3.31 There was a mixed response across the DNOs on the proposal to reject all Temporary Power Sources:

- ENWL – No comment;
- SSEN – Agrees with our assessment of being a BAU activity;
- NPg, SPEN and UKPN – Disagreed with the proposal to reject small generator proposals but stated they understood and accepted the reasoning; and
- SPEN and NPg – Did not accept the proposed decision to reject its proposal for GCPs and Step-up generators, suggesting that they are not BAU activities and should be reconsidered.

#### Our Final Determinations

3.32 We have decided to maintain this decision to reject all proposals for temporary power sources, excluding SPEN’s proposal for New Generation Connection Points (GCPs) and NPg’s Step up generator proposals.

3.33 We are maintaining our stance for rejection on the grounds set out in our Draft Determination. In addition, the Storm Arwen reviews by E3C and Ofgem, did not suggest that there was an issue with the number of generators in use but rather the issue was more specifically related to the deployment strategies used.

- 3.34 Furthermore, storms are not a new phenomenon and there have been opportunities for DNOs to review its need for temporary power source and request assets accordingly over the years, namely in RIIO-ED1 following the Christmas Storms of 2013.
- 3.35 Following these storms, Ofgem conducted a [Stage two review of the Christmas 2013 storms - impact on electricity distribution customers](#), within this review, mobile generation was noted as a key area of improvement, identified by the DNOs. As a result, DNOs were given the action to review the arrangement for mobile generation ('ownership', numbers and use) to ensure the efficient deployment of generating sets which have the potential to minimise the duration of outages. This review was called for in 2014, ahead of Storm Arwen and RIIO-ED2 Business Plan Submissions and therefore, as part of the DNOs Business Plans, temporary power sources should have been considered and requested appropriately.
- 3.36 Therefore, we not only know that temporary power sources are considered a BAU activity, but we also know that all DNOs were given the opportunity to ask for these assets based on the finding in its review.
- 3.37 Should companies feel a review of temporary power sources is required, we would urge the DNOs to conduct this review ahead of ED-3, to allow appropriate assessments of funding to be provided for the ED-3 price control period.
- 3.38 Taking all the evidence into consideration, we are rejecting all requests to fund for temporary power sources, excluding SPEN's proposal for new GCPs and NPg's Step up generator proposals. However, we do recognise the need to explore this issue in more detail and therefore, we propose to discuss this wider policy issue as part of the upcoming ED-3 Resilient & Sustainable Networks Working Groups.
- 3.39 However, as noted above, we have decided to provide funding for SPEN's GCPs and NPg's Step up generator (and associated generator) proposals.
- 3.40 SPENs GCPs proposal requested funding for the installation of 29 new and permanent GCPs totalling £2m, and funding to purchase 21 500kV generators, totalling £1.9m noting that they currently have 8 suitable generators in-house.
- 3.41 NPg requested funding for the Installation of 120 permanent generator platforms, totalling £3.36m and the purchase of 7 step up generators, totalling £0.33m

- 3.42 Both proposals would allow rapid connection of large-scale generation to feed multiple pole-mounted transformers and its customers, and in particular those that are located in rural areas and have no alternative power supply. SPEN noted that its location prioritisation also took into account future network demand (to 2050) historical network performance and customer rurality to ensure long-term benefit.
- 3.43 SPEN and NPg both suggested that this equipment would almost always be used in severe storm conditions and are a strategic measure which would result in improved deployment restoration times to rural areas through enhanced efficiency, and potentially reducing dependency on smaller generators.
- 3.44 SPEN’s consultation response urged Ofgem to reconsider this proposal, based on the proposal being significantly different to the other generator proposals.
- 3.45 We recognise that the GCP and Step up proposals may allow for an easier and faster connection to temporary generation by offering permanent connection points in areas of the network which can be used in severe outages due to storms. These proposals are distinctly different from smaller temporary power sources, largely due to the capability to supply power to a number of homes in rural areas without relying on smaller generators which will not only ensure homes are back online quickly, but also free up operational staff to focus on identifying and fixing faults.
- 3.46 After reconsidering the proposal, we are satisfied that the SPEN and NPG proposals have been incurred as a direct result of the Storm Arwen Recommendations and can be funded under the re-opener. We consider the activities to be going beyond BAU activities and they both meet the recommendations E3C (R2) and Ofgem (8) which recognises the constraint around transporting, installing, refilling and removing standard smaller generators, concerns which are minimised particularly in rural area by having pre-equipped sites to support areas which do not have alternative supplies, and where it could be difficult to deploy a large number of smaller generators.

**Final Determination: Accept GCPs and Step-up Generators Only**

- 3.47 We have decided to reject the funding allowances for the mixed temporary power sources proposals submitted to us by SPEN, NGED, NPg and UKPN. However, we have accepted SPEN and NPg’s proposals for GCPs and Step-up generators. The final funding allowances for temporary power sources are set out in Table ED8 below, and includes a 10.8% uplift related to CAI costs, as outlined in paragraph 3.7

**Table ED8: Summary the Temporary Power Sources final allowances for SARs**

<b>DNO</b>	<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
SPEN	Power Packs	0.35	0	0
*SPEN	New Generation Connection Points	3.1	0	3.1
NGED	Mobile and suitcase generation	5.3	0	0
NPg	Making greater use of generation (excluding Step up generators)	2.36	0	0
NPg	Step up generators	0.33	0	0.33
*NPg	Install step-up generator platforms	3.36	0	3.36
UKPN	Additional generators for vulnerable customers	6.1	0	0
Total		20.9	0	6.79

**\* Proposal qualifies for an indirect cost uplift**

## Customer Care and Welfare

### Our Draft Determinations

3.48 In our Draft Determination we proposed to reject all customer care and welfare projects that were put forward by NPg and SPEN, as they were assessed as not meeting the recommendations.

### Response to our Draft Determinations

3.49 In both of their consultation responses, NPg and SPEN noted and understood our assessment, despite disagreeing with the decision, and welcomed the opportunity to discuss this further with Ofgem and all relevant stakeholders as part of RIIO-ED3 discussions.

### Our Final Determinations

3.50 Based on our assessment of the proposals and the consultation responses, we are maintaining our Draft Determination position and have decided to reject all customer care and welfare proposals.

3.51 However, we do recognise the need to explore this issue in more detail and therefore, we propose to discuss this wider policy issue as part of the upcoming ED-3 Resilient & Sustainable Networks Working Groups.

**Final Determination: Reject**

**Table ED9: Summary the Customer Care and Welfare final allowances for SAR<sub>t</sub>**

<b>DNO</b>	<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
NPg	Food and provision retainer and call out agreement	0.67	0	0
NPg	Improved Welfare Packs	0.54	0	0
SPEN	Increased Customer Welfare Support	1.0	0	0
SPEN	Additional generators for vulnerable customers	2.3	0	0
SPEN	Warm Customer Communication Hubs	13.4	0	0
SPEN	Digital Switchover Support for Vulnerable Customers	23.5	0	0
SPEN	Proactive Support - Medical Equipment Back Ups	0.03	0	0
<b>Total</b>		<b>41.44</b>	<b>0</b>	<b>0</b>

## Customer Communication

### Our Draft Determinations

3.52 In our Draft Determination we proposed to reject all customer communication projects that were put forward by NGED and SPEN, as they are considered BAU activities. SPEN stated that it accepts our decision on this proposal to discuss it as part of RIIO-ED3.

### Response to our Draft Determinations

3.53 NGED and SPEN disagreed with our decision, noting that IT and Telecoms allowance could not be used due to the timing on Storm Arwen and the RIIO-ED2 Business Plan submissions.

### Our Final Determinations

3.54 Following the consultation responses we have reassessed both NGED and SPEN’s proposals. We maintain our stance that SPEN’s proposal for increased contact centre ramp up is a BAU activity which is within SPEN’s ability to manage accordingly.

3.55 However, we recognise that NGED would have been unable to claim for this funding as part of the ED-2 IT and Telecoms funding, but in addition to this, as it is a system upgrade it cannot be managed in the same way as personnel resources. Following a reassessment of this proposal, we recognise the benefits

to capacity that this upgrade would bring if brought forward into RIIO-ED-2 rather than waiting for ED-3 allowances.

- 3.56 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject SPEN’s proposal for increased contact centre ramp up, however, we have decided to fund NGED’s proposal for enhancements to telephony servers.

**Table ED10: Summary the Customer Communication final allowances for SARt**

<b>DNO</b>	<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
NGED	Enhancements to telephony servers	0.41	0	0.41
SPEN	Increased Contact Centre Ramp Up	1.9	0	0
Total		2.31	0	0.41

### **ENWL Final Determination**

- 3.57 ENWL applied for an increase of £27.5m to its allowances under the Storm Arwen Re-opener. ENWL proposed 7 projects in its re-opener application. We accepted 6 in our [Draft Determination](#)<sup>6</sup> and rejected the proposal relating to ETR 132 (see paragraph 3.21 for further details).
- 3.58 As part of its consultation response, ENWL did not raise any objections to our Draft Determination position. Further, no other DNOs raised any objections. For this reason, we have decided to maintain our Draft Determination position in relation to ENWL’s re-opener application.

#### **Final Determination: Accept (6 out of 7 proposals)**

### **ENWL Final Allowances**

- 3.59 We have decided to accept the funding allowances for 6 out of the 7 proposals submitted to us by ENWL. The final costs for each proposal are set out in table ED11 below. The project costs and allowances exclude CAI, which are detailed as a separate line item.

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<sup>6</sup> see page 38 of the Draft Determinations for our reasoning related to each proposal.

**Table ED11: Summary of ENWL’s final allowances for SART**

<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
Proposal 1: HV network strengthening predictive modelling	0.8	0.8	0.8
*Proposal 2: Targeted HV undergrounding/strengthening	12.6	12.6	12.6
*Proposal 3: Pennine and borders interconnection	1.6	1.6	1.6
*Proposal 4: LV automation enhancements	5.5	5.5	5.5
*Proposal 5: Coniston HV interconnector	3.1	3.1	3.1
*Proposal 6: Alston HV interconnector	3.9	3.9	3.9
Proposal 7: ETR 132	0	0	0
Indirect Uplift (Totex Allowance)	0	0	2.9
Total overall funding requested by ENWL	27.5	-	-
Total	27.5	27.5	30.4

**\* Proposal qualifies for an indirect cost uplift**

## **SSEN Final Determination**

3.60 SSEN applied for an increase of £10.48m to its allowances under the Storm Arwen Re-opener. SSEN proposed 5 projects in its re-opener application on behalf of both SHEPD and SEPD. We accepted 2 proposals as part our Draft Determination and have decided to provide a final allowance to 3 of the proposed project.

### **SSEN - Proposal 1: Restoring Overhead Line Resilience**

3.61 We have decided to maintain our position to reject this proposal. See paragraph 3.21 for more information relating to vegetation management.

### **SSEN - Proposal 2: HV Feeder Monitoring**

3.62 SSEN proposed to install 200 HV feeder monitoring devices to improve the visibility of defects on its network and improve response time during storm events.

3.63 At Draft Determination we proposed to accept this proposal, but did not accept the full funding costs, proposing to disallow a proportion of activities we deemed to be CAIs.

3.64 In its consultation response, SSEN partly agreed with our Draft Determination position, but disagreed with our assessment to disallow CAIs from the total cost.

3.65 No other DNOs have raised any objections with this proposal, therefore we are maintaining our stance on accepting SSEN’s funding request for HV Feeding

Monitoring. However, as part of our final decision, we have decided to remove the CAI costs from SSEN's project cost, but we will provide a 10.8% uplift on SSEN final allowance. For further information on our Final Determination of CAIs, see Closely Associated Indirect (CAI) Cost section 3.15.

- 3.66 As mentioned, SSEN did raise concerns about the draft decision on CAI's and the potential IIS improvements to other DNOs as a result of similar monitoring and fault detection projects that have been proposed by other DNOs. We conducted a review of the IIS implications associated with introducing upgrade and new assets, we have set out our final decision in the Interruption Incentive Scheme section 3.255.

**Final Determination: Accept**

- 3.67 We have decided to accept the funding allowances for the proposed HV Feeder Monitoring submitted to us by SSEN.

**SSEN - Proposal 3: Wood Pole Assessment Tool (WPAT)**

- 3.68 SSEN proposed to deploy of 346 Smart Hammers and 14 Residrills to field staff to provide a more consistent and accurate measurement of condition data for wood poles and ensuring targeting wood pole replacements are carried out.
- 3.69 At Draft Determination we proposed to reject this proposal on the grounds that it was not a cost-effective project and that the tool was more appropriate for asset health purposes rather than storm resilience.
- 3.70 SSEN disagreed with this assessment, noting that the tool would deliver improvements in the condition reporting of our overhead poles. In addition, SSEN provided an updated version of its Cost-Benefit Analysis (CBA) which included the avoided cost saved through the implementation of the Wood Pole Assessment Tool.
- 3.71 We thoroughly reviewed SSEN's consultation response and the additional evidence presented. As part of the avoided cost CBA, it was evidenced that there is potential benefit of around £8m over a 10-year period (roughly the asset-life of the WPAT) and £10m over full 45-year period. SSEN noted This benefit which would have tangible benefits during a storm conditions by reducing the number of susceptible poles including mis-graded poles, age and accelerated decay.
- 3.72 As noted in the Draft Determination, we do believe that this proposal meets the Ofgem 2 recommendation relating to improving pole condition reporting.



3.73 However, based on the additional information provided by SSEN, we have been able to clearly identify the benefit, particular through avoided costs, and the benefit to consumers, and we recognise that there are clear and justified benefit in adopting the WPAT which can be of benefit during storm events.

3.74 As part of this proposal, we would expect SSEN to proactively share any updated information with the other DNOs and Ofgem.

**Final Determination: Accept**

3.75 Based on our rationale presented in this section following a review of the additional information submitted by SSEN, we have decided to accept the proposal for the WPAT.

**SSEN - Proposal 4: Satellite Communication System**

3.76 SSEN proposed the Deployment of fixed location Low Earth Orbit satellite communication systems.

3.77 At Draft Determination we proposed to reject this proposal we considered communication systems to be a BAU activity. In its consultation response, SSEN disagreed with our Draft Determination position but agree that the solutions should be explored further to understand what they mean for DNOs and how this may be considered alongside initiatives from mobile network operators, Ofcom and Government.

3.78 No other DNOs have raised any objections with this proposal, therefore we are maintaining our stance on rejecting SSEN's funding request for Satellite Communication System.

3.79 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal for Satellite Communication System but we acknowledge the need to explore this further and we will provide an opportunity to discuss this with all relevant stakeholders as part of RIIO-ED3 discussions.

**Final Determination: Reject**

3.80 We have decided to reject the funding allowances for the proposed Satellite Communication System submitted to us by SSEN.

**SSEN - Proposal 5: Cross DNO Interconnection**

3.81 We have decided to maintain our position to accept this proposal. See the Cross Boundary Interconnector section 3.25 of the document for more information.

## SSEN Final Allowances

3.82 In line with the rationale set out above, we have decided to provide SSEN with funding for two of its proposed projects. The project costs and allowances exclude CAI, which are detailed as a separate line item.

**Table ED12: Summary of SSEN’s final allowances for SAR<sub>t</sub>**

Proposal name	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
*Proposal 2: HV Feeder Monitoring	6.7	4.22	4.22
*Proposal 3: Wood Pole Assessment Tool	0.95	0	0.95
Proposal 5: Cross DNO Interconnection	0.14	0.14	0.14
Indirect Uplift (Totex Allowance)	0	0	0.56
Total overall funding requested by SSEN	10.48	-	-
Total	7.79	4.37	5.88

**\* Proposal qualifies for an indirect cost uplift**

## NPg Final Determination

3.83 NPG applied for an increase of £34.79m to its allowances under the Storm Arwen Re-opener. NPG proposed 26 projects in its Re-opener application. We accepted 10 in our Draft Determination and have decided to provide a final allowance to 12 of the proposed projects.

### NPg - Proposal 1: Invest in mobile command vehicles in RIIO-ED2

3.84 NPg proposed to invest in mobile command vehicles in RIIO-ED2 – in which comprises of two 4x4 vehicles to be fitted with technology to allow them to act as remote command offices, located strategically to coordinate activities in the impacted community.

3.85 At Draft Determination we proposed to reject this proposal on the grounds that the project had unclear value to consumers and therefore consider the proposal unreasonable.

3.86 In NPg’s consultation response, it made no comments on our decision to reject this proposal.

### Final Determination: Reject

3.87 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal to invest in mobile command vehicles in RIIO-ED2.

**NPg - Proposal 2: Invest in UAVs for reconnaissance and damage assessment in RIIO-ED2**

- 3.88 NPg proposed to invest in Unmanned Aerial Vehicles (UAVs) for reconnaissance and damage assessment in RIIO-ED2 to carry out post storm reconnaissance damage assessments.
- 3.89 At Draft Determination we proposed to reject this proposal as it was considered a BAU activity given the use of UAVs was clearly identified prior to Storm Arwen, given that NPg have an existing fleet of 50 UAVs that they use to carry out damage assessments.
- 3.90 In NPg’s consultation response, they made no comments on our decision to reject this proposal.

**Final Determination: Reject**

- 3.91 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal to invest in UAVs.

**NPg - Proposal 3, 4, 5, 6, 7, 8, 9, 10: Mixed generators**

- 3.92 We have decided to maintain our position to reject proposal 3, 4, 5, 6, 8, 9 and 10, however we have decided to fund the proposal 7 for step up generators. See the Temporary Power Sources section 3.40 of the document for more information.

**Proposal 11: Improve the speed of compensation**

- 3.93 NPg proposed to invest in improvements to IT systems to allow quicker and more efficient processing of customer compensation.
- 3.94 At Draft Determination we proposed to accept this proposal as we considered that the proposal meets recommendation E3C CP2.
- 3.95 As part of the consultation responses, no issues were raised by NPg or any other DNOs.

**Final Determination: Accept**

- 3.96 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to improve the speed of compensation.

**Proposal 12: Establishing a new electronic payment system**

- 3.97 NPg proposed to establish a new payment system to allow compensation payments to be made via electronic payment.

3.98 At Draft Determination we proposed to reject this proposal due to a lack of maturity, which goes against the SAR<sub>t</sub> principles. We agreed that the proposal has the potential to speed up compensation, thus enacting the updates to the GSOP regulation, to allow for electronic payments. However, the proposal remains at an exploratory stage.

3.99 In its consultation response, NPg stated that this proposal should be funded under the re-opener, as it does not understand the assessment and welcomes the opportunity to explore this issue more as part of ED3 policy development.

**Final Determination: Reject**

3.100 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal to establish a new electronic payment system.

**Proposal 13 & 14: Customer Welfare**

3.101 We have decided to maintain our position to reject these proposals. See the Customer Care and Welfare section 3.58 of the document for more information.

**NPg - Proposal 15: Convert open conductor to Aerial Bundled Conductor (ABC)**

3.102 NPg proposed to replace its open wire low voltage (LV) conductors with covered ABC to provide more mechanical strength, making the conductor less likely to break, as well as removing the risk of flashover faults from branches or debris making contact across phases.

3.103 At Draft Determination we proposed to accept this proposal as we considered the recommendations for E3C E2 and Ofgem 1 as met. We continue to disagree that recommendations E3C R1, R5 and Ofgem 6 have been met. However, we do note that the recommendations are not specific to the individual proposal, but rather they relate to a theme set out by NPg such as “Increasing overhead line resilience” and therefore we consider that E3C R1, R5 and Ofgem 6 may not have been intended to be addressed as part of this proposal. As part of the consultation responses, no issues were raised by NPg or any other DNOs with the acceptance of the proposal, however NGED and UKPN note that its similar proposal were rejected at Draft Determination, this will be discussed further in the respective sections.

**Final Determination: Accept**

3.104 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to Convert open conductor to ABC.

**NPg - Proposal 16: Install Remotely Indicating Fault Flow Indicator (RIIFI)**

- 3.105 NPg proposed to install 3 RIIFI units per feeder section (equalling 387 units across the network) which will allow for remote communication, improving fault location and restoration time.
- 3.106 At Draft Determination we proposed to accept this proposal as we considered the recommendations for E3C R1 and Ofgem 6 as met. We continue to disagree that recommendations E3C E2, R5 and Ofgem 1 have been met. However, we do note that the recommendations are not specific to the individual proposal, but rather they relate to a theme set out by NPg such as “Increasing overhead line resilience” and therefore we consider that E3C R1, R5 and Ofgem 6 may not have been intended to be addressed as part of this proposal.
- 3.107 As part of the consultation responses, no issues were raised by NPg or any other DNOs.

**Final Determination: Accept**

- 3.108 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to install 387 units of RIIFI across the network.

**NPg - Proposal 17: Install pole mounted remote control (RC)/automation point**

- 3.109 NPg proposed to install pole mounted remote control (RC)/automation points in order to enhance its capability to isolate faulty sections of network and faster restoration of supplies to healthy sections of the network.
- 3.110 At Draft Determination we proposed to accept this proposal as we considered the recommendations for E3C R1 and Ofgem 6 as met. We continue to disagree that recommendations E3C E2, R5 and Ofgem 1 have been met. However, we do note that the recommendations are not specific to the individual proposal, but rather they relate to a theme set out by NPg such as “Increasing overhead line resilience” and therefore we consider that E3C R1, R5 and Ofgem 6 may not have been intended to be addressed as part of this proposal.
- 3.111 As part of the consultation responses, no issues were raised by NPg or any other DNOs with the acceptance of the proposal, however NGED and UKPN note that its similar proposals were rejected at Draft Determination, this will be discussed further in the respective sections.

**Final Determination: Accept**

3.112 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to installation of pole mounted remote control (RC)/automation points.

**NPg - Proposal 18: Install step-up generator platform**

3.113 We have decided to revise our Draft Determination position to reject fund NPg’s proposal 18 for step up generator platforms and have decided to fund this proposal due to its link to NPg’s proposal 7 relating to step up generators. We outline our decision and rationale in the Temporary Power Sources in paragraph 3.30.

**NPg - Proposal 19: Transformer rationalisation – replace several PM transformers with a GM substation**

3.114 NPg propose to replace a cluster of small PMTs with a GM transformer, to enable faster restoration of customers as it will only require one large generator to be deployed as opposed to multiple smaller generators.

3.115 At Draft Determination we proposed to reject this proposal on the grounds that while the proposal may address recommendations R1 and Ofgem 6, we consider it to be a BAU activity which should be funded by other means in the price control, as SAR<sub>t</sub> is not the key driver for the proposal.

3.116 In NPg’s consultation response, they made no comments on our decision to reject this proposal.

**Final Determination: Reject**

3.117 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal to invest in transformer rationalisation.

**NPg - Proposal 20: Install interconnector at 8 locations**

3.118 We have decided to maintain our position to partially accept this proposal. See the Cross Boundary Interconnector paragraph 3.13 of the document for more information.

**NPg - Proposal 21, 22, 23, 24 and 25: Asset upgrades**

3.119 NPg proposed:

- Proposal 21: Replace cross arm
- Proposal 22: Install additional poles on existing line
- Proposal 23: Upgrade pole size

- Proposal 24: Upsize conductor
- Proposal 25: Underground line

3.120 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations E3C E2, R1, R5 and Ofgem 1 and 6 as met.

3.121 As part of the consultation responses, no issues were raised by NPg or any other DNOs.

**Final Determination: Accept**

3.122 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept the proposals for asset upgrades.

**NPg - Proposal 26: Indirect Scalar**

3.123 We have decided to remove the CAI costs from the final allowances, but we will provide a 10.8% uplift on individual projects which qualify for CAI funding. For further information on our Final Determination of CAIs, see Closely Associated Indirect (CAI) Cost section 3.15

**NPg Final Allowances**

3.124 In line with the rationale set out above, we have decided to provide NPg with funding for 12 of its proposed projects. A breakdown of the proposed funding can be found below in Table ED13. The project costs and allowances exclude CAI, which are detailed as a separate line item.

**Table ED13: Summary of NPg final allowances for SAR<sub>t</sub>**

Proposal name	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (Totex) (£m)
Proposal 7: Step up generators	0.33	0	0.33
Proposal 11: Improve the speed of compensation	0.03	0.03	0.03
*Proposal 15: Convert open conductor to ABC	1.79	1.79	1.79
*Proposal 16: Install RIFFI	0.3	0.3	0.3
*Proposal 17: Install pole mounted RC/automation point	1.04	1.04	1.04
*Proposal 18: Install step-up generator platform	3.36	0	3.36
*Proposal 20: Install interconnector at 8 locations	4.38	1.14	4.38
*Proposal 21: Replace cross arm	0.39	0.39	0.39
*Proposal 22: Install additional poles on existing line	3.75	3.75	3.75
*Proposal 23: Upgrade pole size	0.32	0.32	0.32
*Proposal 24: Upsize conductor	2.1	2.1	2.1
*Proposal 25: Underground line	9.19	9.19	9.19
Indirect uplift (Totex Allowance)	2.93	0	2.88
Total overall funding requested by NPg	34.79	-	-
Total	29.91	20.06	29.85

**\* Proposal qualifies for an indirect cost uplift**

## SPEN Final Determination

### Proposal 1: Enhanced HV Pole Storm Resilience

- 3.125 SPEN propose to improve the targeting of poles using enhanced asset risk modelling, to avoid damage and reduce interruptions, also saving time on repairing damaged poles.
- 3.126 At Draft Determination we proposed to reject this proposal on the grounds that it was a BAU activity, on the basis that SPEN discounted their option for targeted stand-alone intervention and followed a whole circuit approach.
- 3.127 In SPENs consultation response, it states that it's disappointed by our Draft Determination position. It noted that Storm Arwen provided better insight into the risks and rejecting this initiative in its entirety risks leaving customers exposed to power cuts for extended periods during future severe weather events.
- 3.128 Following a review of the original submission and consultation response from SPEN, we recognise that this targeted approach may be more appropriate to deal with the risks presented by storm risks, compared to the whole circuit approach used as part of RIIO-ED2. Given this we consider this proposal to go beyond BAU, linking the pole replacement to factors including a Severe Weather Score and Rurality which would not typically be considered as part of the whole



circuit approach. The project aims to address remove weak assets and improve the performance for customers particularly during storm event.

3.129 Despite the pole replacements, we will not be reviewing SPENs Network Asset Risk Matrix target, as the volume of poles replaced as part of this initiative will be recorded separately to those replaced under the RIIO-ED2 baseline plan, as will the NARMS risk point benefit.

3.130 We consider the E3C E2 and Ofgem recommendation relating to increase network resilience to severe weather events and pole health as met, given the approach will target poles which have been identified as being at higher risk from storm events.

**Final Determination: Accept**

3.131 Based on our assessment of the proposals and the consultation responses, we have decided to approve the funding, as we believe the targeted approach provides a benefit to consumers which is appropriate for this Re-opener.

**Proposal 2: Innovative OHL Smart Solutions**

3.132 SPEN proposed the installation of smart technologies on targeted areas of the OHL network, in particular installing 24 units of LineSight solutions to improve its ability to identify faults.

3.133 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations E3C R1 Ofgem 6 as met.

3.134 As part of the consultation responses, no issues were raised by SPEN or any other DNOs.

**Final Determination: Accept**

3.135 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to install 24 units of LineSight across the network.

**Proposal 3: Interconnection across DNOs**

3.136 We have decided to maintain our position to accept this proposal. See the Cross Boundary Interconnector section 3.25 of the document for more information.

**Proposal 4: OHL Digital Twin Storm Modelling**

3.137 SPEN proposed the development of an HL Digital Twin Storm Model with the aim to reduce restoration times by avoiding asset failures through the application of digital technology on their HV OHL network.

3.138 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations E3C R1 Ofgem 6 as met.

3.139 As part of the consultation responses, no issues were raised by SPEN. NGED noted that they considered this proposal as very similar to its network geospatial mapping tool which was proposed to be rejected. This is explored further in NGEDs respective section.

**Final Determination: Accept**

3.140 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal OHL Digital Twin Storm Modelling.

**Proposal 5: Reflecting ETR 132 Updates**

3.141 We have decided to maintain our position to reject this proposal. See the vegetation management paragraph 3.21 of the document for more information.

**Proposal 6: New Generation Connection Points**

3.142 We have decided to revise however we have decided to fund the proposal 6 for new GCPs. See the Temporary Power Sources paragraph 3.21 of the document for more information.

**Proposal 7: Keeping Customers Connected – Power Pack**

3.143 We have decided to maintain our position to reject SPEN’s proposal for power packs, see the Temporary Power Sources paragraph 3.21 of the document for more information.

**Proposal 8: Increased Customer Welfare Support**

3.144 We have decided to maintain our position to reject SPEN’s proposal for Increased Customer Welfare Support, see the Customer Care and Welfare section in paragraph 3.48 of the document for more information.

**Proposal 10, 11 & 12: Customer Care**

3.145 We have decided to maintain our position to reject SPEN’s proposal 10, 11 and 12 for Customer Care, see the Customer Care and Welfare section in paragraph 3.48 of the document for more information.

**Proposal 13: Increased Contact Centre Ramp Up**

3.146 We have decided to maintain our position to reject SPEN’s proposal for Increased Contact Centre Ramp Up, see the Customer Communication section in paragraph 3.52 of the document for more information.

## **SPEN Final Allowances**

3.147 In line with the rationale set out above, we have decided to provide SPEN with funding for 4 of its proposed projects. A breakdown of the proposed funding can be found below in table ED14. The project costs and allowances exclude CAI, which are detailed as a separate line item.

**Table ED14: Summary of SPENs final allowances for SAR<sub>t</sub>**

<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
Proposal 1: Enhanced HV Pole Storm Resilience:	8	0	8.0
*Proposal 2: Innovative OHL Smart Solutions	4.6	4.6	4.6
*Proposal 3: Interconnection across DNOs	3.3	2.3	3.3
Proposal 4: OHL Digital Twin Storm Modelling	0.7	0.7	0.7
*Proposal 6: New Generation Connection Points	3.1	0	3.1
3.148 Indirect uplift (Totex Allowance)	3.2	0	2.1
Total overall funding requested by SPEN	75.9	-	-
Total	22.9	7.6	21.8

**\* Proposal qualifies for an indirect cost uplift**

## **NGED Final Determination**

### **Proposal 1: Undergrounding HV OHL in wooded areas**

3.149 NGED proposed Undergrounding or diversion of 340km of OHL from wooded areas to remove the risk of tree damage or avoid other damage caused by storms.

3.150 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations Ofgem 1 as met and we consider this activity to be beyond the scope of BAU, increasing the level of storm resilience along targeted circuits, reducing the number of customers at risk during a storm event.

3.151 As part of the consultation responses, no issues were raised by NGED or any other respondents.

#### **Final Determination: Accept**

3.152 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal Undergrounding HV OHL in wooded areas.

**Proposal 2: Replacing LV open wire overhead lines impacted by trees**

- 3.153 NGED proposed to replace targeted LV open wire OHL impacted by trees across its network by converting the bare conductors to ABC, which will provide resilience to LV OHL.
- 3.154 At Draft Determination we proposed to reject this proposal, despite proposing to accept NPg’s proposal convert open conductor to Ariel Bundled Conductor (ABC). The rationale for this decision was based on NPg evidencing a more targeted methodology which focused primarily on its high altitude and coastal locations and is therefore more susceptible to climate risks including storms, compared to NGEDs targeted approach which focuses on lines near trees.
- 3.155 As part of NGED consultation response, they provided a revised proposal which provided updated targeted locations which focussed primarily on its high altitude and coastal areas.
- 3.156 Due to the proposed changes, it should be noted that NGED’s proposed volumes and costs have decreased from the original re-opener application:
- Original submission consisted of resilience cutting to 1564km of HV networks, totalling £6.06m; and
  - Revised submission consists of resilience cutting to 53km of HV networks, totalling £1.41m.
- 3.157 Given the targeted approach NGED has set out in its revised proposal, we consider this proposal to have a specific benefit to areas of its network impacted by storm conditions, which will have a direct benefit to customers who would likely be impacted during a storm event which should be a priority, compared to the network wide approach submitted as part of the original submission. We agree that this proposal meet the Ofgem 1 recommendation relating to identifying efficient improvements that could increase network resilience to severe weather events.
- 3.158 Following a review of the revised proposals submitted by NGED, we have decided to approve the funding, as we believe the high-risk approach taken by NGED is appropriate for this Re-opener.

**Final Determination: Accept**

- 3.159 Based on our updated assessment of the proposals and the consultation responses, we are revising our position and accepting this proposal for replacing LV open wire overhead lines.

**Proposal 3: Resilience tree cutting on HV circuits**

3.160 We have decided to maintain our position to reject this proposal. See the vegetation management section in paragraph 3.21 of the document for more information.

**Proposal 4: Application of Pre-Fix detection technology for fault location**

3.161 NGED proposed the installation of Pre-Fix technology which aims to identify disturbances on the network caused by potential faults, in order to remove these defective components before they cause a fault.

3.162 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations E3C R1 and Ofgem 6 as met and we consider this activity to be beyond the scope of BAU, increasing monitoring and restorations capabilities which will reduce restoration times during a storm event.

3.163 As part of the consultation responses, no issues were raised by NGED or any other respondents.

**Final Determination: Accept**

3.164 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to install Pre-Fix detection technology.

**Proposal 5: Torque tooling for LV fuses**

3.165 NGED proposed to invest in a new torque tooling, which can be used to prevent overtightening when replacing of fuses.

3.166 At Draft Determination we proposed to reject this proposal as it was not linked to a E3C or Ofgem recommendation. We recognise that the E3C report refers to the restoration efforts required to maintain network resilience, however no specific recommendation was made by E3C or Ofgem.

3.167 In NGED’s consultation response, they disagreed with our decisions stating they believe the reference to “restoration efforts remain an integral part of electricity network resilience” as stated in page 12 of the E3C report qualifies this proposal and is therefore in line with the licence condition. NGED also disagreed with our assessment that the cost is out of scope on the basis of retrospectivity.

**Final Determination: Reject**

3.168 We acknowledge that the licence condition allows costs to be incurred on or after 1 April 2023. However, while NGED referred to page 12 of the E3C report

in their consultation response, we have not seen evidence that the proposal relates specifically to a recommendation made in either the E3C report or an Ofgem recommendation. As such, we are maintaining our position to reject this proposal on the basis that the costs relating to this proposal have not been incurred as a direct result of the Storm Arwen recommendations.

**Proposal 6: Reducing customers in a protection zone to 1000**

- 3.169 NGED proposed to reduce customers in the protection zone to 1000 by Subdividing circuits into smaller zones by installing additional protection devices, to prevent customers upstream of the devices being affected by faults downstream of the devices.
- 3.170 At Draft Determination we proposed to reject this proposal, despite proposing to accept NPg’s proposal to install pole mounted RC/automation point. The rationale for this decision was based on NPg evidencing a more targeting methodology which focussed primarily high-risk areas, compared to NGEDs approach which identified opportunities across the whole network.
- 3.171 As part of NGED consultation response, they provided a revised proposal which provided updated targeted location which focussed primarily on its high altitude and coastal areas.
- 3.172 Due to the proposed changes, it should be noted that NGED’s proposal volumes and costs decreased:
- Original submission proposed to address the 885 protection zones, totalling £12.84m
  - Revised submission proposes to address the 135 protection zones, totalling £1.96m.
- 3.173 NGED’s revised proposal used a targeted methodology which aims to increase resilience at locations which have increased risk due to climate hazards with the primary focus being on locations in coastal and high-altitude areas. We consider this proposal to now be going beyond BAU as the specific locations help address risks within the protection zones that would not be addressed under current programmes and is focussed on circuits with greatest impact on customers.
- 3.174 We agree that this proposal meet the Ofgem 3 recommendation relating to improving the speed of customer restoration during severe weather events.
- 3.175 Following a review of the revised proposals submitted by NGED, we have revised our decision to approve the funding, as there is a greater focus on high-risk

areas, which will provide benefits to customers that would not typically be a priority.

**Final Determination: Accept**

- 3.176 Based on our updated assessment of the proposals and the consultation responses, we are revising our position and accepting the revised proposal.

**Proposal 7: Automation of spur protection**

- 3.177 NGED proposed the automation of spur protection by applying a targeted programme to install TripSaver II to replace fuses on spurs that have either more than 150 customers or are longer than 10km, or where both situations apply.
- 3.178 At Draft Determination we proposed to accept this proposal as we considered the associated recommendation Ofgem 3 as met and the automation enhancements has been shown to be an effective method to restoring supply during a storm events and moving the need for operators to go to site to replace fuses, speeding up the restoration of supply, particularly for communities in rural locations that are predominantly supplied from network spurs.
- 3.179 As part of the consultation responses, no issues were raised by NGED or any other respondents.

**Final Determination: Accept**

- 3.180 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to automate spur protection.

**Proposal 8: LineSight detectors to identify nested and low conductor faults**

- 3.181 NGED proposed the installation of LineSight detectors to allow for faster identification of the location of faults and can also identify the type of fault.
- 3.182 At Draft Determination we proposed to accept this proposal as we considered the associated recommendations E3C R1 and Ofgem 6 as met and we consider this activity to be beyond the scope of BAU, increasing fault detection and restorations capabilities which will reduce restoration times during a storm event.
- 3.183 As part of the consultation responses, no issues were raised by NGED or any other respondents.

**Final Determination: Accept**

3.184 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal to installation of LineSight detectors.

**Proposal 9 & 10: Generators**

3.185 We have decided to maintain our position to reject this proposal. See the Temporary Power Sources section in paragraph 3.30 of the document for more information.

**Proposal 11: Pre-emptive movement of resources**

3.186 NGED requested funding for the pre-emptive movement of resources during storm periods to enable staff to start dealing with storm damage as soon as it occurs.

3.187 At Draft Determination we proposed to reject this proposal on the grounds that the proposal lacked maturity to ensure implementation and therefore was rejected on the bases of not meeting the SAR<sub>t</sub> principles. We noted in our Draft Determination that NGED provided no evidence on the practicalities of how this proposal will enhance business operation beyond the current process during a storm event.

3.188 NGED’s consultation response, disagreed with our decisions stating that the project was not immature, as the practice of redeployment was not a new concept, but rather the movement of resources during a localised storm was new.

**Final Determination: Reject**

3.189 Despite disagreeing that the proposal was not mature enough to be practically implemented, NGED did not provide any additional supporting evidence for review. Therefore, based on our assessment of the proposals and consultation responses we are maintaining our position to reject this proposal to for pre-emptive movement of resources, as the proposal does not meet the SAR<sub>t</sub> principle relating to project maturity.

**Proposal 12: Enhancements to telephony servers**

3.190 We have decided to revise our position for this proposal and will accept this proposal. See the Customer Communication section in paragraph 3.52 of the document for more information.



**Proposal 13: Inter-DNO interconnection**

3.191 We have decided to maintain our position to accept this proposal. See the Cross Boundary Interconnector section in paragraph 3.13 of the document for more information.

**Proposal 14 & 15: Intra-NGED DNO interconnection & spur interconnection**

3.192 NGED requested funding for Intra-NGED DNO interconnections and spur interconnectors which would provide alternative supplies from another NGED licence area that can be used to restore power when repairs are being completed.

3.193 At Draft Determination we proposed to reject these proposals as they were considered a BAU activity that NGED could deliver under the current RIIO-ED2 Price Control mechanisms.

3.194 NGED’s consultation response, noted that they accept the proposed rejection of the proposal 15 relating to the Intra-NGED DNO spur interconnection.

3.195 However, NGED stated that they believed that proposal 14 for Intra-NGED DNO interconnection should be considered alongside the Cross Boundary Interconnector seen in paragraph 3.13 of this document. The reason for this was due to NGED owning 4 separate DNOs which has presented legacy issues.

3.196 While we appreciate the challenges presented by NGED regarding owning multiple DNOs, we do not believe that the legacy issues presented in its consultation response is a justified reason for this proposal to be funded through the SAR<sub>t</sub>. NGED have had ownership of its 4 licence areas since 2001, and therefore have had a significant period of time (including RIIO-ED1 and ED2) to address this issue.

**Final Determination: Reject**

3.197 Given the information presented in this document and our Draft Determination, we are maintaining our position to reject both proposal 14 Intra-NGED DNO interconnection and proposal 15 Intra-NGED DNO spur interconnection.

**Proposal 16: Network geospatial mapping**

3.198 NGED requested funding for network geospatial mapping, to enhance data capture and visualisation and to provide better identification of where trees are close to overhead lines, enabling to prioritisation of tree clearance activities as well as other resilience activities.

- 3.199 At Draft Determination we proposed to reject these proposals, while we agreed that the proposal may support the delivery of Ofgem’s 1 recommendation, it was considered a BAU activity that NGED could deliver under the current RIIO-ED2 Price Control mechanisms.
- 3.200 NGED’s noted in its consultation response that the SPEN’s proposal 4 for OHL Digital Twin Storm Modelling was proposed to be accepted, noting that they see the projects as being very similar.
- 3.201 While NGED are correct in noting that SPENs OHL Digital Twin Storm Modelling project was proposed to be accepted, we do not agree with the assessment that the models are very similar. While SPEN’s proposal is for a digital twin model which included capabilities to support vegetation management similar to NGED’s proposal, SPEN’s model also allows for the modelling of mechanical forces specific to storm resilience such as wind speed to determine likelihood of failure under storm conditions. Given the specificity to modelling climate risk and in particular storm conditions, enabling SPEN to integrate existing data sets such as asset health to perform ‘what-if’ weather analysis, we believe SPEN’s modelling initiative has greater capabilities specific to this Re-opener that NGED’s model does not possess.
- 3.202 With NGED’s proposal focussing on vegetation management, which is a BAU activity, we are maintaining our position to reject this proposal, based on the reasoning provided in our Draft and Final Determinations.

**Final Determination: Reject**

- 3.203 Given the information presented in this document and our Draft Determination, we are maintaining our position to reject this proposal.

**Proposal 17: Closely Associated Indirects (CAIs)**

- 3.204 See the Closely Associated Indirects section 3.15 of the document for more information.

**NGED Final Allowances**

- 3.205 In line with the rationale set out above, we have decided to provide NGED with funding for 8 of its proposed projects. A breakdown of the proposed funding can be found below in table ED15, and includes a 10.8% uplift related to CAI costs, as outlined in paragraph 3.7.
- 3.206 It should be noted that while we decided to approve a number of NGED’s proposals under the SAR<sub>t</sub>, some of NGED’s proposals have been presented as being part of a longer term 20-year programme. We recognise NGED’s ambition

and dedication to ensuring storm resilience goes beyond the SAR<sub>t</sub>, however, NGED will still be required to submit these projects as part of any future RIIO business plans to secure future funding in future price control periods to continue its proposed 20-year programme. The final costs for each proposal are set out in table ED15 below. The project costs and allowances exclude CAI, which are detailed as a separate line item.

**Table ED15: Summary of NGED final allowances for SAR<sub>t</sub>**

<b>Proposal name</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (Totex) (£m)</b>
*Proposal 1: Undergrounding HV overhead lines in wooded areas	6.4	6.4	6.4
*Proposal 2: Replacing LV open wire overhead lines impacted by trees	8.4	0	1.4
*Proposal 4: Application of Pre-Fix detection for fault location	5.4	5.4	5.4
*Proposal 6: Reducing customers in a protection zone to 1000	12.8	0	2
*Proposal 7: Automation of spur protection	1.8	1.8	1.8
*Proposal 8: LineSight detectors to identify nested and low conductor faults	3.6	3.6	3.6
Proposal 12: Enhancements to telephony servers	0.4	0	0.4
*Proposal 13: Inter-DNO interconnection	0.9	0.9	0.9
Proposal 17: Closely associated indirects	5.2	0	2.3
Total overall funding requested by NGED	61.4	-	-
Total	44.9	18.2	24.3

**\* Proposal qualifies for an indirect cost uplift**

## **UKPN Final Determination**

### **Proposal 1: Modernisation of the overhead network**

- 3.207 UKPN proposed a programme to target the replacement of small section overhead line conductor with a more robust conductor.
- 3.208 At Draft Determination we proposed to accept this proposal as we considered the associated recommendation E3C E2 as met and believe this proposal could have a benefit specific to climate events including storms as assets which have a higher-than-normal failure rate during abnormal weather conditions.
- 3.209 As part of our Draft Determination we noted that would like to see UKPN further develop their methodology to demonstrate that the types of faults seen on selected feeders is likely to be mitigated by modernising the OHL, and that the

impacts of such faults could not be more economically minimised or mitigated via alternate methods e.g. vegetation management.

- 3.210 UKPNs consultation response provided no comments or additional evidence regarding the methodology development for this proposal, no other respondents provided comments on this proposal.

**Final Determination: Accept**

- 3.211 In line with our Draft determination, we are maintaining our decision to accept this proposal, however, as part of the PCD Licence for this proposal, we will be requesting that UKPN evidence that replacing the OHL is the most cost-effective plan for mitigating the types of faults seen on that particular line. We expect UKPN under this initiative to focus on areas of the networks which would not see investment under any other driver, specifically within ED2.

**Proposal 2: Resilient communications**

- 3.212 UKPN requested funding for the installation of BGAN on overhead line secondary sites to provide resilient communications.

- 3.213 At Draft Determination we proposed to reject this proposal on the grounds that communication systems are considered as BAU and should have already been considered. In addition to this, we noted that there are ongoing initiatives being explored by mobile networks operators, Ofcom and Government to further national resilient communications, which may lead to duplicative efforts.

- 3.214 UKPN's consultation response provided no comments on this decision and no other comments were provided by any other respondents.

**Final Determination: Reject**

- 3.215 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to reject this proposal for Resilient Communications.

**Proposal 3: Distribution Fault Anticipation (DFA)**

- 3.216 UKPN requested funding for an innovative real time monitoring system DFA, which can be used to identify a fault before it causes a permanent interruption.

- 3.217 At Draft Determination we proposed to accept this proposal as it was considered to meet the E3C R1 recommendation relating to quickly identifying and assessing faults in the network in a severe weather event. DFA promotes proactive repair, reducing the likelihood of a fault during an event and reduce

the time taken to identify and assess the impacts of faults, allowing for faster more coordinated restorations.

3.218 The activity is considered to go beyond BAU as its increased monitoring and restorations capabilities which will reduce restoration times during a storm event.

3.219 UKPN’s consultation response provided no comments on this decision and no other comments were provided by any other respondents.

**Final Determination: Accept**

3.220 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal for DFA.

**Proposal 4: Metrysense 5000 sensors**

3.221 UKPN requested funding for a technology which helps to reduce interruptions and assists in locating downed conductions on HV feeders, ensuring faults not which are not identified via the application of arc suppression coils are located and repaired.

3.222 At Draft Determination we proposed to accept this proposal as it was considered to meet the E3C R1 recommendation relating to quickly identifying and assessing faults in the network in a severe weather event. Metrysense works to identify and locate faults for repair, which should reduce the time taken to identify and assess the impacts of faults, allowing for faster more coordinated restorations.

3.223 The activity is considered to go beyond BAU as the fault location will allowing for faster more coordinated restorations during a storm event.

3.224 UKPN’s consultation response provided no comments on this decision and no other comments were provided by any other respondents.

**Final Determination: Accept**

3.225 Based on our assessment of the proposals and the consultation responses, we are maintaining our position to accept this proposal for Metrysense 5000 sensors.

**Proposal 5: Telecontrol Delayed Auto Reclose (TDAR)**

3.226 UKPN requested funding for the deployment of auto reclose functionality at source circuit breakers at Primary substations to improve supply restoration capability following a transient fault.

- 3.227 At Draft Determination we proposed to reject this proposal, while it was considered to meet the E3C R1 recommendation, it was considered a BAU activity which is incentivised as part of the IIS, and therefore would have an impact in the IIS delivery.
- 3.228 UKPN’s consultation response provided no comments on this decision and no other comments were provided by any other respondents.
- 3.229 Following the consultation, UKPN provided revised submissions of the TDAR proposal, initially reducing the circuit breaks selected for intervention to those feeding HV feeders that have endured a sustained HV fault due to severe weather since storm Arwen and are in close proximity to vegetation. These sites were further reduced via probabilistic modelling of estimated ISS benefit delivered via the intervention, excluding sites where the modelled ISS benefit is greater than the cost of intervention.
- 3.230 The original proposal was for 392 units (242 in EPN and 150 in SPN) costing £3m. The revised proposal is for 116 units (61 EPN and 55 SPN) costing £0.89m.
- 3.231 As the revised submission only includes sites where the ISS benefit delivered would not economically justify intervention, we consider the proposal to go beyond BAU and is unlikely to have a material impact on overall ISS performance. We therefore consider that the concerns raised in the Draft Determination have been addressed and that the proposal now helps to directly address the E3C R1 recommendation.

**Final Determination: Accept**

- 3.232 Based on our assessment of the proposals and the consultation responses, we have decided to accept this proposal for TDAR.

**Proposal 6: Auto Reclose Penetration**

- 3.233 UKPN requested funding for the installation of auto reclose penetration at primary substations and pole-mounted auto-reclosers to UKPN requested funding for the deployment of auto reclose functionality at source circuit breakers at Primary substations to improve supply restoration capability following a transient fault.
- 3.234 At Draft Determination we proposed to reject this proposal, while it was considered to meet the E3C R1 recommendation, it was considered a BAU activity which is incentivised as part of the IIIS, and therefore would have an impact in the IIS delivery.

- 3.235 UKPN’s consultation response noted that other DNOs were awarded allowances for similar but no other comments were provided by any other respondents.
- 3.236 Following the consultation, UKPN provided revised submissions of the proposal, initially reducing the HV feeders selected for intervention to those that have endured a sustained HV fault due to severe weather since storm Arwen, and are in close proximity to vegetation. These sites were further reduced via probabilistic modelling of estimated ISS benefit delivered via the intervention, excluding sites where the modelled ISS benefit is greater than the cost of intervention.
- 3.237 The original proposal was for 392 units (242 in EPN and 150 in SPN) costing £3m. The revised proposal is for 116 units (61 EPN and 55 SPN) costing £0.89m.
- 3.238 Based on the revised proposal and selection methodology, we consider the revised proposal to be in line with the E3C R1 recommendation, relating to quickly identifying and assessing faults in the network in a severe weather event, as it has specific storm benefits. Further, as the revised submission only includes sites where the ISS benefit delivered would not economically justify intervention, we consider the proposal to go beyond BAU and is unlikely to have a material impact on overall ISS performance. We therefore consider that the concerns raised in the Draft Determination have been addressed and that the proposal now helps to directly address the E3C R1 recommendation.

**Final Determination: Accept**

- 3.239 Based on our assessment of the proposals and the consultation responses, we have decided to accept this proposal for Auto Reclose Penetration.

**Proposal 7: Overhead circuit sectionalisation enhancement**

- 3.240 UKPN requested funding for further installation of auto-reclosers and fuse savers to limit the number of customers between remote control points to no more than 300. Sectionalisation can be implemented to mitigate against both transient and permanent faults caused by vegetation, which is the most prevalent cause of network damage during storms
- 3.241 At Draft Determination we proposed to reject this proposal as the proposal did not address the E3C R1 recommendation. In addition to this, we noted that while we accept the concept of the proposal had potential benefits, we did not agree with the selection methodology on increasing sectionalisation across OHL in general rather than focussing on OHL at risk of failure during storm event.

- 3.242 UKPN’s consultation response noted that other DNOs were awarded allowances for similar but no other comments were provided by any other respondents.
- 3.243 Following the consultation, UKPN provided revised submissions of the proposal, initially reducing the HV feeders selected for intervention to those that have endured a sustained HV fault due to severe weather since storm Arwen and are in close proximity to vegetation. These sites were further reduced via probabilistic modelling of estimated ISS benefit delivered via the intervention, excluding sites where the modelled ISS benefit is greater than the cost of intervention.
- 3.244 The original proposal was for 671 units (537 in EPN and 134 in SPN) costing £9.4m. The revised proposal is for 200 units (154 EPN a 46 SPN) costing £2.81m.
- 3.245 Based on the revised proposal and selection methodology, we consider the revised proposal to be in line with the E3C R1 recommendation, relating to quickly identifying and assessing faults in the network in a severe weather event, as it has specific storm benefits. Further, as the revised submission only includes sites where the ISS benefit delivered would not economically justify intervention, we consider the proposal to go beyond BAU and is unlikely to have a material impact on overall ISS performance. We therefore consider that the concerns raised in the Draft Determination have been addressed and that the proposal now helps to directly address the E3C R1 recommendation.

**Final Determination: Accept**

- 3.246 Based on our assessment of the proposals and the consultation responses, we have decided to accept this revised proposal for Overhead circuit sectionalisation enhancement.

**Proposal 8: Additional generators for vulnerable customers**

- 3.247 We have decided to maintain our position to reject this proposal. See the Temporary Power Sources section 3.40 of the document for more information.

**UKPN Final Allowances**

- 3.248 In line with the rationale set out above, we have decided to provide UKPN with funding for 6 of its proposed projects. A breakdown of the proposed funding can be found below in table ED16. The project costs and allowances exclude CAI, which are detailed as a separate line item.



**Table ED16: Summary of UKPN final allowances for SAR<sub>t</sub>**

Proposal name	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (Totex) (£m)
*Proposal 1: Modernisation of the overhead network	15.5	15.5	15.5
*Proposal 3: Distribution Fault Anticipation (DFA)	8.7	8.7	8.7
*Proposal 4: Metrysense 5000 sensors	4.3	4.3	4.3
Proposal 5: Telecontrol Delayed Auto Reclose (TDAR)	3	0	0.9
*Proposal 6: Auto Reclose Penetration	3.5	0	0.9
*Proposal 7: Overhead circuit sectionalisation enhancement	9.4	0	2.8
Indirect Uplift (Totex Allowance)	0	0	3.6
Total overall funding requested by UKPN	56.7	-	-
Total	44.4	28.5	37.4

**\* Proposal qualifies for an indirect cost uplift**

### Interruption Incentive Scheme (IIS)

- 3.249 IIS is an incentive on DNOs to improve overall the reliability of their networks by reducing the number and duration of interruptions. It sets target levels of performance for DNOs to achieve; rewards are provided for DNOs who beat their targets, and penalties apply for DNOs who fail to achieve their targets.
- 3.250 As noted in the Draft Determination Response section 3.3 of this document, a concern was raised regarding IIS benefits as a result from the implementation of the proposed projects.
- 3.251 SSEN commented that Ofgem is duty bound to ensure that it has thoroughly assessed whether any reliability improvements to customers which can flow from projects funded in this (or other) re-openers will drive improved performance against the IIS targets in RIIO-ED2. SSEN believe that this critical assessment was missing from the Draft Determination and needed to be completed ahead of the Final Determination.
- 3.252 While reference to IIS was not explicitly made as part of the Draft Determination, this was a consideration in all proposed decisions.
- 3.253 Following a review of the consultation responses, we reassessed all proposals with a potential IIS benefit to ensure any benefits were not going to be disproportionate across the DNOs.
- 3.254 It is important to note that while IIS does reward DNOs for seeking out efficient ways of delivering reliability improvements, the DNOs are not in competition for this money. Each DNO has a specific target based on average individual DNO

performance at the start of the price control (the methodology for this can be found in the [RIIO-ED2 Final Determinations Core Methodology Document](#)<sup>7</sup>), updated annually with improvement factors, and financial rewards and penalties based on a percentage of the individual DNO's own Return on Regulatory Equity. We will always work to ensure that the price control and the associated incentives such as IIS are fair, but these changes will have little to no impact on another DNOs ability to meet its target.

- 3.255 Furthermore, the baseline for IIS in RIIO-ED2 was set based on performance data from a 4-year period up to 2021/22. This means it has a 2-year lag time and does not take into account any future investment plans set to take place in RIIO-ED2. Given this, the proposals will be an extension of the projects that are already being carried out as part of RIIO-ED2.
- 3.256 We do not agree with SSEN's assessment of their HV monitoring proposal, on which they are basing their claim that the potential impact on IIS is disproportionate. SSEN noted that that their HV monitoring system will not have IIS benefits as these would only be realised during storms. However, given that the UKPN innovation project ([HV Feeder monitoring to pre-empt faults](#)) which SSEN's HV monitoring project is based on did in fact identify that this technology would have an IIS benefit, it is unclear why SSEN believe they would not also benefit from this project. Our assessment is that it is likely that, as with the installation of the other projects funded through the Storm Arwen Re-opener, there will be some small IIS benefits to SSEN.
- 3.257 It was therefore assessed that all proposals including but not limited to asset replacement, underground, asset monitoring and fault detection could have a positive impact on IIS. However, the benefits were assessed as being minimal given the relatively small volumes and targeted nature of the projects. Furthermore, our view is that SSEN is not disproportionately impacted compared to other DNOs given they would also receive some IIS benefit.

### **Funding Mechanism**

- 3.258 In Appendix 4 of the Draft Determination document, we presented a draft notice of statutory consultation to modify the Special Conditions for Storm Arwen. This notice proposed to modify Special Conditions 3.7 Part I (Storm Arwen Re-opener).

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<sup>7</sup> Paragraph 6.66 and 6.71

- 3.259 The effect of these proposed modifications was to enable the SAR<sub>t</sub> allowances to be subject to a PCD.
- 3.260 PCDs can be put in place to ensure companies are held to account to deliver specific outputs. If an output is not delivered or delivered to a specific standard, there is then a mechanism in place to refund customers. Where there are cost and volume uncertainties around certain network activities, PCDs allow funding to be allocated for these works but protect consumers against unspent allowances.
- 3.261 The consultation responses noted that four of the DNOs commented on the use of a PCD for the purpose of this Re-opener:
- SPEN approves the cross-boundary interconnectors to be delivered through a PCD framework;
  - ENWL felt the determined allowance should be provided through a single Evaluative PCD rather than through multiple;
  - UKPN felt that evaluative PCDs are appropriate for the nature of work proposed by other DNOs, but a mechanistic PCD would be more appropriate for the simple volumes of work they are proposing; and
  - NPg disagreed and felt that SAR should be funded through adjustments to the ex-ante allowances as per the reopener intent.
- 3.262 We have considered the appropriate funding mechanism for this Re-opener taking into account the comments provided through the consultation.
- 3.263 We recognise NPg’s concerns, however all Re-opener funding will be provided ex-ante but it will be subject to the conditions in the PCD.
- 3.264 We are unable to provide a single Evaluative PCD as requested by ENWL, and we do not consider a mechanistic PCD to be an appropriate option as the proposed project are not repeatable due to the bespoke nature of the proposals and associated volumes.
- 3.265 Given this, we are proposing to maintain our approach of assigning individual PCD’s for each project. While we recognise that this is not the preferred approach for some of the DNOs, considering the importance of the projects to deliver improved resilience to future storm events, we want to ensure that they are all completed with the provided funding. To achieve this. We consider that evaluative PCDs are the most effective way to ensure these projects are delivered on time and on/ or below budget.

## **4. Conclusion**

- 4.1 We have considered all consultation responses and concluded our assessment of the three projects under the Hebrides and Orkney re-opener with our Final Determinations.
- 4.2 To give effect to our decision, we publish alongside the Final Determinations a direction to modify the HOt term in Appendix 1 of SpC 3.2 of SSEH’s electricity distribution licence.
- 4.3 We have considered all consultation responses and concluded our assessment of the 75 projects under the Storm Arwen Re-opener with our Final Determinations.
- 4.4 To give effect to our decision, we have published alongside the Final Determinations a statutory consultation on our proposals to modify the DNOs licence to give effect to the decisions.

## Appendices

<b>Appendix</b>	<b>Name of appendix</b>	<b>Page no.</b>
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## **Appendix 1 SpC 3.2.105 - List of Activities under Hebrides and Orkney Re-opener**

3.2.105 The Hebrides and Orkney Re-opener may be used where:

- a) the licensee has incurred or expects to incur costs as a result of changes to the scope or timing of work relating to twelve sub-sea cables:
  - i. Skye to Uist (North route);
  - ii. Skye to Uist (South route);
  - iii. Pentland Firth West;
  - iv. Pentland Firth East;
  - v. Mainland Orkney – Hoy South;
  - vi. Orkney (additional 66kV circuit)
  - vii. Eriskay – Barra 2;
  - viii. South Uist – Eriskay;
  - ix. Mull to Coll (double circuit);
  - x. Coll - Tiree (double circuit);
  - xi. Mainland - Jura (double circuit); and
  - xii. Jura - Islay (double circuit); or
- b) the licensee has incurred costs associated with ensuring security of supply in the Scottish islands, and can demonstrate efficient whole systems considerations have been taken into account, including considering alternative activities to installing the cables listed in paragraph (a); or
- c) the licensee has incurred or expects to incur costs associated with the outcomes of additional whole system analysis in the Scottish Islands to contribute to Net Zero Carbon Targets and ensure long-term security of supply, including any alternative activities to installing the cables outlined in (a); and
- d) the change in those costs in paragraphs (a) or (b) exceeds the Materiality Threshold and are not otherwise funded by the SpCs.

## Appendix 2 – SAR<sub>t</sub> Funding Summaries

### ENWL SAR<sub>t</sub> summary

Proposed Activity	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
<b>Proposal 1: HV network strengthening predictive modelling</b>	0.8	0.8	0.8
<b>*Proposal 2: Targeted HV undergrounding/strengthening</b>	12.6	12.6	12.6
<b>*Proposal 3: Pennine and borders interconnection</b>	1.6	1.6	1.6
<b>*Proposal 4: LV automation enhancements</b>	5.5	5.5	5.5
<b>*Proposal 5: Coniston HV interconnector</b>	3.1	3.1	3.1
<b>*Proposal 6: Alston HV interconnector</b>	3.9	3.9	3.9
Proposal 7: ETR 132	0	0	0
<b>Indirect Scalar Uplift</b>	0	Not requested at DD	2.9
Total overall funding requested by ENWL	27.5	N/A	-
<b>Total</b>	27.5	27.5	30.4

\* Proposal qualifies for an indirect cost uplift

**Bold text indicated the proposal was accepted in the final allowance**

### SSEN SART summary

Proposed Activity	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
Proposal 1: Restoring OHL Resilience	2.1	0.0	0.0
<b>*Proposal 2: HV Feeder Monitoring</b>	6.7	4.2	4.2
<b>Proposal 3: Wood Pole Assessment Tool</b>	1.0	0.0	1.0
Proposal 4: Satellite Communication System	0.7	0.0	0.0
<b>Proposal 5: Cross DNO Interconnection</b>	0.1	0.1	0.1
<b>Indirect Uplift</b>	0.0	0.0	0.6

Total overall funding requested by SSEN	10.5	N/A	N/A
Total	10.5	4.4	5.9

\* Proposal qualifies for an indirect cost uplift

**Bold text indicated the proposal was accepted in the final allowance**

### NPg SAR<sub>t</sub> summary

<b>Proposed Activity</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
Proposal 1: Invest in mobile command vehicles in RIIO-ED2	0.34	0	0
Proposal 2: Invest in Unmanned Aerial Vehicles (UAVs) for reconnaissance and damage assessment in RIIO-ED2	0.39	0	0
Proposal 3, 4, 5, 6, 8, 9 & 10: Generator proposals – A mixed use of generators	2.36	0	0
<b>Proposal 7: Step up generators</b>	0.33	0	0.33
<b>Proposal 11: Improve the speed of compensation</b>	0.03	0.03	0.03
Proposal 12: Establishing a new electronic payment system	0.07	0	0
Proposal 13: Food and provision retainer and call out agreement	0.67	0	0
Proposal 14: Improved welfare packs	0.54	0	0
<b>*Proposal 15: Convert open conductor to ABC</b>	1.79	1.79	1.79
<b>*Proposal 16: Install RIFFI</b>	0.3	0.3	0.3



<b>*Proposal 17: Install pole mounted RC/automation point</b>	1.04	1.04	1.04
<b>*Proposal 18: Install step-up generator platform</b>	3.36	0	3.36
	0.50	0	0
<b>*Proposal 20: Install interconnector at 8 locations</b>	4.38	1.14	4.38
<b>*Proposal 21: Replace cross arm</b>	0.39	0.39	0.39
<b>*Proposal 22: Install additional poles on existing line</b>	3.75	3.75	3.75
<b>*Proposal 23: Upgrade pole size</b>	0.32	0.32	0.32
<b>*Proposal 24: Upsize conductor</b>	2.1	2.1	2.1
<b>*Proposal 25: Underground line</b>	9.19	9.19	9.19
<b>Proposal 26: Indirect Scalar</b>	2.93	0	2.88
Total overall funding requested by NPg	34.79	N/A	N/A
Total	34.79	20.06	29.85

\*Proposal qualifies for an indirect cost uplift

**Bold text indicated the proposal was accepted in the final allowance**

### SPEN SAR<sub>t</sub> summary

Proposed Activity	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
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<b>Proposal 1: Enhanced HV Pole Storm Resilience:</b>	8.0	0	8.0
<b>*Proposal 2: Innovative OHL Smart Solutions</b>	4.6	4.6	4.6
<b>*Proposal 3: Interconnection across DNOs</b>	3.3	2.3	3.3
<b>Proposal 4: OHL Digital Twin Storm Modelling</b>	0.7	0.7	0.7
Proposal 5: Reflecting ETR 132 Updates	10.5	0	0
<b>*Proposal 6: New Generation Connection Points</b>	3.1	0	3.1
Proposal 7: Keeping Customers Connected – Power Packs	0.4	0	0
Proposal 8: Increased Customer Welfare Support	1	0	0
Proposal 9: Digital Switchover Support for Vulnerable Customers	13.4	0	0
Proposal 10: Proactive Support - Medical Equipment Back-Ups	23.5	0	0
Proposal 11: Proactive Support - Hospital Beds	0	0	0
Proposal 12: Warm Customer Communication Hubs	2.3	0	0
Proposal 13: Increased Contact Centre Ramp Up	1.9	0	0
Indirect Uplift	3.2	0	2.06
<b>Total overall funding requested by SPEN</b>	75.9	N/A	N/A
<b>Total</b>	14.9	7.6	21.76

\*Indirect cost of 10.8% applied to final allowance

**Bold text indicated the proposal was accepted in the final allowance**

### NGED SAR<sub>t</sub> summary

<b>Proposed Activity</b>	<b>Requested funding (£m)</b>	<b>DD proposed funding (£m)</b>	<b>Final Allowance (£m)</b>
<b>*Proposal 1: Undergrounding HV overhead lines in wooded areas</b>	6.4	6.4	6.4

<b>*Proposal 2: Replacing LV open wire overhead lines impacted by trees</b>	8.4	0	1.41
Proposal 3: Resilience tree cutting on HV circuits	6.06	0	0
<b>*Proposal 4: Application of Pre-Fix detection for fault location</b>	5.4	5.4	5.4
Proposal 5: Torque tooling for LV fuses	0.1	0	0
<b>*Proposal 6: Reducing customers in a protection zone to 1000</b>	12.8	0	2
<b>*Proposal 7: Automation of spur protection</b>	1.8	1.8	1.8
<b>*Proposal 8: LineSight detectors to identify nested and low conductor faults</b>	3.6	3.6	3.6
Proposal 9: Increased volumes of mobile generation	5.12	0	0
Proposal 10: Using suitcase generators	0.17	0	0
Proposal 11: Pre-emptive movement of resources	0.32	0	0
<b>Proposal 12: Enhancements to telephony servers</b>	0.4	0	0.4
<b>*Proposal 13: Inter-DNO interconnection</b>	0.94	0.89	0.94
Proposal 14: Inter-NGED DNO interconnection	0.73	0	0
Proposal 15: Inter-NGED DNO spur interconnection	2.08	0	0
Proposal 16: Network geospatial mapping	1.74	0	0
<b>Proposal 17: Closely associated indirects</b>	5.2	0	2.33
<b>Total overall funding requested by NGED</b>	61.37	N/A	N/A
<b>Total</b>	44.94	18.17	24.34

\*Proposal qualifies for an indirect cost uplift

**Bold text indicated the proposal was accepted in the final allowance**

### UKPN SAR<sub>t</sub> summary

Proposed Activity	Requested funding (£m)	DD proposed funding (£m)	Final Allowance (£m)
<b>*Proposal 1: Modernisation of the overhead network</b>	15.5	15.5	15.5
Proposal 2: Resilience communications	6.1	0	0
<b>*Proposal 3: Distribution Fault Anticipation (DFA)</b>	8.7	8.7	8.7
<b>*Proposal 4: Metrysense 5000 sensors</b>	4.3	4.3	4.3
<b>Proposal 5: Telecontrol Delayed Auto Reclose (TDAR)</b>	3	0	0.89
<b>Proposal 6: Auto Reclose Penetration</b>	3.5	0	1.63
<b>Proposal 7: Overhead circuit sectionalisation enhancement</b>	9.4	0	2.81
<b>Indirect Uplift</b>	6.1		
<b>Total overall funding requested by UKPN</b>	0	0	3.65
<b>Total</b>	56.7	-	-

\* Proposal qualifies for an indirect cost uplift

Bold text indicated the proposal was accepted in the final allowance