



PHYSICAL SECURITY RE-OPENER (PSUPt)

SSEN re-opener application - core narrative

January 2026

SENSITIVE – HIGHLY CONFIDENTIAL



Scottish & Southern
Electricity Networks





CONTENTS

1. ABOUT SSEN DISTRIBUTION	4
2. EXECUTIVE SUMMARY	5
3. MEETING OFGEM'S REQUIREMENTS	8
Structure of this application	8
Ofgem re-opener requirements	9
Summary of bilateral engagement	11
Related documents	12
Application contact point	13
4. ADJUSTMENT SUMMARY	14
SHEPD and SEPD allowance adjustments	15
5. SUMMARY TABLE	16
6. INTRODUCTION	17
Background to Physical Security re-opener and this workstream	17
7. STAKEHOLDER ENGAGEMENT	20
Overarching considerations	20
8. NEEDS CASE AND OPTIONEERING	22
Physical Security re-opener methodology	22
Identifying the needs case	23
Approach to optioneering	24
Cost information	31
Cost benefit analysis and engineering justifications	32
Preferred option	32
9. DELIVERABILITY AND RISK	36
Procurement and delivery approach	36
Managing risk	38
Physical Security outlook to ED3 and beyond	38
10. CONCLUSION	39
Key recommendations	39
Total funding request	39
APPENDIX 1 DEFINITIONS AND ABBREVIATIONS	40
APPENDIX 2 DESNZ LETTER	41
APPENDIX 3 NESO LETTER	42
APPENDIX 4 [REDACTED]	43
APPENDIX 5 COST WORKBOOK	45



1. ABOUT SSEN DISTRIBUTION

Who we are

- 1.1. SSEN Distribution (SSEN) operates and maintains the electricity distribution networks north and west of the central belt of Scotland and across central southern England.
- 1.2. Through our two licensed electricity distribution network areas, Scottish Hydro Electric Power Distribution (SHEPD) and Southern Electric Power Distribution (SEPD), we deliver power to over 3.9 million homes and businesses. We operate over 111,000 substations and pole mounted transformers, and 128,000km of overhead lines and underground cables across one third of the UK land mass.
- 1.3. We serve some of the most diverse and unique geographies across the UK, keeping customers and communities connected whilst developing the flexible electricity network solutions vital to delivering decarbonisation and sustained economic growth. Our network serves some of the UK's most remote communities and some of the most densely populated. Our two networks cover the greatest land mass of any of the UK's Distribution Network Operators (DNOs), covering 72 local authority areas and 75,500km² of extremely diverse terrain.
- 1.4. Our core purpose is to power communities to thrive today and create a net zero tomorrow. We have a responsibility to supply customers with safe and reliable power, allowing them to focus on the things that matter most, while we work hard to build a smarter, flexible, greener network that's fit for the future.
- 1.5. SSEN is part of SSE plc, one of the largest companies in the UK, FTSE listed, and which operates across the energy sector. SSE's activities and investments contribute around £9bn to the UK economy every year. SSE plc's vision is to be a leading energy company in a net zero world. As one of the UK and Ireland's leading generators of renewable energy and one of the largest electricity network companies in the UK, sustainability and climate action are at the core of its business strategy. It is a driver of sustainable growth in the UK and key partner of the UK Government in delivering its program.
- 1.6. SSE plc is grounded in strong ethical principles, which translates to us doing the right thing in how we undertake business. Examples include our commitments to the Fair Tax Mark, being a Real Living Wage, Hours and Pensions employer, meeting Science-based Carbon Targets and empowering people to speak up against wrongdoing through our Whistleblowing Policy.



2. EXECUTIVE SUMMARY

Introduction

- 2.1. The protection of our distribution networks, from the perspective of safety for both the public and our employees, and of maintaining network integrity, is of the utmost priority to SSEN Distribution.
- 2.2. In the context of our responsibility to manage physical security of our distribution networks, this application sets out information on our assessment of need, optioneering and recommended solutions to support our request for funding to implement additional measures to enhance physical security for our assets [REDACTED].

Background

- 2.3. We are required to manage the physical security of our network assets in the context of our licence obligations to maintain an economic and efficient distribution system, and specifically to implement measures designed to ensure the physical protection of property and assets at Critical National Infrastructure (CNI) sites, and any sites included in the Physical Security Update Programme (PSUP). We meet these obligations this under DESNZ as ultimate authority on policy and ministerial responsibility for the physical security of the GB energy system, in line with the [REDACTED] requirements confirmed by NESO further to its licence responsibilities in relation to CNI, and in active collaboration with other energy sector licensees. [REDACTED]

- 2.4. We dynamically monitor, assess and manage our physical security arrangements on an ongoing basis, in the context of evolving threat profiles and severity and continuing technological advances. We seek to do this in a proportionate and efficient way.

- 2.5. [REDACTED]

Approach to assessing need and optioneering

- 2.6. This application seeks funding to implement our recommendation of additional measures to enhance physical security for our assets [REDACTED]. Our approach to assessing the need for intervention, and appropriate options to resolve identified needs, aligns with the process set out for the identification and implementation of security solutions [REDACTED]

- 2.7. In the first instance, we have identified a need to intervene based on our review [REDACTED]
[REDACTED]
[REDACTED] We have therefore identified that it would be prudent to enhance protections [REDACTED].



- 2.8. We have assessed the operational requirements for the defined sites based on full site surveys, identifying what must be achieved by the solutions, with reference to NPSA guidance. [REDACTED]
[REDACTED] we have considered a number of measures, and have selected our preferred approach based on the specific outcomes that we require to be met, and what is technically appropriate, efficient and proportionate. Throughout this process we have engaged with [REDACTED] NESO and DESNZ on our view of need, considered options, the measures we propose to deploy, and the implementation process and timescales.
- 2.9. The scope of work we have agreed to undertake in relation to physical security has changed, with the support of DESNZ, NESO [REDACTED], taking account of recent events and current threat levels. As such, we interpret that our recommendations meet the Physical Security Scope of Work and re-opener eligibility criteria set out in Special Condition 3.2 Part B of our licence. [REDACTED]
[REDACTED]

Overview of projects

- 2.10. The recommended measures for [REDACTED]
[REDACTED]
- 2.11. We have recommended [REDACTED]
[REDACTED] There are individual nuances on each site which have been identified and integrated into the design and specification of the solutions, and are reflected in the specific cost estimates for each site. In addition to being technically appropriate, [REDACTED].
- 2.12. In this application we have used Scheme Identifiers - unique identification numbers given to sites covered by the Physical Security Upgrade Programme and / or under CNI designations - rather than site names and locations, in line with RIIO-ED2 RIGs Guidance.³

Our plan for delivery

- 2.13. We plan for all measures to be implemented within RIIO-ED2. [REDACTED]
[REDACTED]
- 2.14. Our delivery process aligns with the existing PSUP [REDACTED] and reporting to DESNZ, and our own ongoing engagement with [REDACTED] NESO and DESNZ as relevant stakeholders for the works. Given the nature of the works, [REDACTED]
[REDACTED] we have included an ask for risk funding, commensurate with what has already been awarded to network licensees under Physical Security re-opener windows in RIIO-ED2.⁴

3 Guidance – RIIO-ED2 Regulatory Instructions and Guidance – Glossary v2.0, “Scheme Identifier”.

4 [Physical Security Re-opener Final Determinations](#)



Trajectory to ED3 and beyond

2.15. Our interpretation is that deployment of these works within RIIO-ED2 is consistent with [REDACTED] CNI criteria [REDACTED].

2.16. [REDACTED]

January 2026 application overview

2.17. We are therefore seeking funding for enhancements at [REDACTED] in this application, [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

2.18. We include associated risk funding for all projects at 7.5%, and CAI funding for the projects at 10.8%. The total funding adjustment requested in this application is £4.13m, summarised in Table 1.

2.19. All prices in this application are in 2020/21 price base, unless otherwise stated.

Total adjustment summary	2023/24	2024/25	2025/26	2026/27	2027/28	Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	4.13

Table 1: Total allowance adjustment summary (£m, 2020/21 prices)



3. MEETING OFGEM'S REQUIREMENTS

Structure of this application

3.3. Our application consists of:

- a core narrative document developed to address the requirements of Ofgem's Re-opener Guidance for the recommended interventions included in our application, and
- appendices consisting of correspondence with DESNZ, NESO [REDACTED] confirming consensus on the proposed measures included in our application, and our cost workbook.

3.4. Taking account of the non-engineering and sensitive nature of the proposals, and in the interests of an efficient application, and we have incorporated the requirements of the EJP into the main body of the core narrative document.

3.5. The structure and outline content of the application is illustrated in Figure 1.

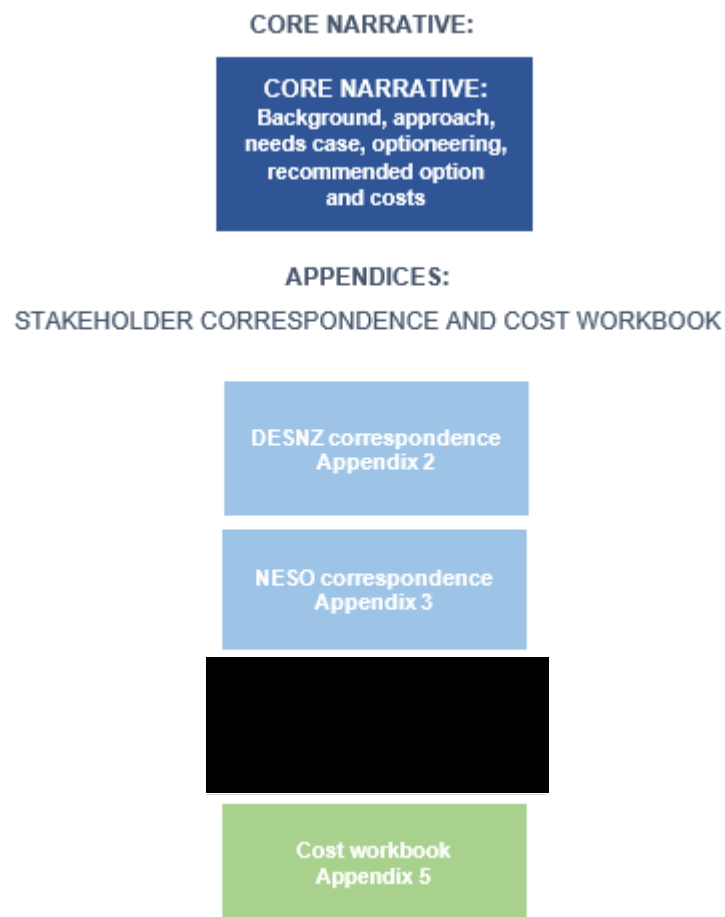


Figure 1: SSEN January 2026 Physical Security application structure



Ofgem re-opener requirements

3.6. Table 2 sets out how we meet Ofgem's Re-opener Licence requirements in this application.

Ofgem Re-opener Licence requirement	Requirement met?	How addressed
3.2.6 The Physical Security Re-opener may be used where there has been a change to the Physical Security Scope of Work and the licensee has incurred or expects to incur additional costs associated with such changes.	✓	The Physical Security Scope of Work has changed, as we have the support of key stakeholders to undertake additional measures to enhance physical security for a number of our assets [REDACTED].
3.2.8 The licensee must, when making an application under the Physical Security Re-opener, send to the Authority a written application that:		
(a) sets out the changes to the Physical Security Scope of Work, the associated costs and an explanation of how the circumstances in paragraph 3.2.6 are met;	✓	We set out the changes to the Physical Security Scope of work, the costs and the related explanation within this application, notably at Sections 6 and 8.
(b) sets out any modifications to the value of PSUPt in Appendix 1 being sought;	✓	We set out modifications being sought to the value of PSUPt in various parts of this application, but notably at the Adjustment Summary section.
(c) explains the basis for calculating any modifications requested to allowances and the profiling of those allowances; and	✓	We set out the basis for calculating modifications requested to allowances and the profiling of those allowances in the Adjustment Summary and Section 8.
(d) provides such detailed supporting evidence as is reasonable in the circumstances, including where available, any reports prepared by external auditors.	✓	We have provided some supporting evidence within this application. Taking account of the sensitive nature of the information and its significance to national security, we have limited some detail within this application, on the basis that we can supply supplemental information required directly to Ofgem or via DESNZ, NESO [REDACTED].

Table 2: Mapping Ofgem's re-opener licence requirements

3.7. Table 3 sets out where we meet Ofgem's Re-opener Guidance and Application Requirements in this application. Table 4 sets out our interpretation of EJP and CBA requirements for this application, and Table 5 shows where we have provided associated information.

3.8. **We note that for the purposes of this application we have aligned with the PSUP** [REDACTED]

3.9. On the basis of aligning with the PSUP [REDACTED] taking into account the sensitive nature of the vulnerabilities, assessment and proposed measures, the oversight by DESNZ and NESO, [REDACTED] we have applied a more efficient approach to the information contained within this application in comparison with other re-opener [REDACTED]



applications. In doing so, we have continued to align the content with the requirements of Ofgem's Re-opener Guidance and Application Requirements, and have sought to explain and justify where specific information has, or has not, been provided.

Ofgem re-opener guidance and application requirement	Requirement met?	Where addressed
Needs case and preferred option	✓	Sections 6 and 8
Stakeholder engagement and whole system opportunities	✓	Section 7
Cost information	✓	Sections 8 and 9
Cost Benefit Analysis and Engineering Justifications	✓	Section 8

Table 3: Mapping Ofgem's Re-opener Guidance and Application Requirements

Threshold for EJP / CBA use	Applicable?	Comment
EJP: Investment proposal forecast costs exceed £2m. ⁷	N	[REDACTED] EJP requisite information has been provided where possible to meet EJP requirements. Sensitive nature of the site vulnerabilities and proposed measures mean that some of anticipated EJP detail cannot be meaningfully communicated in this format.
CBA: Approach is significantly higher cost than previous, or likely to appear higher cost compared to other companies because alternative approach has been adopted. ⁸	N	Costs of recommended measures are considered [REDACTED]

Table 4: EJP and CBA pre-requisite conditions

3.10. This section meets the requirements of an Engineering Justification Paper and CBA, as follows:

EJP requirement	Requirement met?	Where addressed
Summary table	✓	Summary table section
Introduction and background information	✓	Executive summary, Sections 6, 7 and 8
Optioneering	✓	Section 8
Analysis and cost	✓	Sections 8 and 9
Deliverability and risk	✓	Section 9
Conclusion	✓	Section 10

Table 5: Mapping EJP and CBA requirements

⁷ RIIO ED2 Engineering Justification Paper Guidance, 2.6

⁸ RIIO-ED2 CBA Guidance, 1.7



Summary of bilateral engagement

3.11. We have had a number of points of engagement with Ofgem on the Physical Security re-opener since late summer 2025. Table 6 provides an overview of discussion points relevant to our application.

Engagement (date)	Scope	Discussion and outcomes
29 August 2025	Ofgem confirmation on relevance of CNI requirements to Jan 2026 re-opener window (email)	[REDACTED]
25 September 2025	Introductory conversation on SSEN plans for re-opener application (Teams call)	[REDACTED] Ofgem confirmed that we need to demonstrate how / why new requirements have arisen, referring to requirements [REDACTED] NESO, and to demonstrate that the proper process has been followed.
31 October 2025	SSEN outline of basis for re-opener application in context of re-opener licence criteria (email)	We shared more information on our need for and context around our proposed re-opener application and our interpretation of our eligibility against licence criteria, noting our interpretation that the Physical Security Scope of Work we have agreed to undertake has changed, and as such we believe this meets the Physical Security Scope of Work and re-opener eligibility criteria set out in licence.
11 November 2025	Bilateral discussion on key aspects of application preparation (Teams call)	We shared more information on the specific circumstances in which we propose additional physical security measures, and confirmed we planned to secure agreement [REDACTED] as part of the evidence for the application. We shared our plan to align the optioneering and specification process with the PSUP [REDACTED]. We asked Ofgem for its views on these aspects, and on the following: <ul style="list-style-type: none">• the level of technical detail Ofgem would expect to see in application;• our assumption that on the basis of following the PSUP [REDACTED] separate CBA is not required; and• what form of evidence of discussions [REDACTED] [REDACTED] does Ofgem require to see in the application. Ofgem noted that: <ul style="list-style-type: none">• based on information shared on planned works, [REDACTED] [REDACTED] proposal appears to be in scope of re-opener licence criteria (subject to assessing full application).• we should clearly outline [REDACTED] [REDACTED] how these tie back to licence.• it would be useful to see more on whether there have been options discussed to meet the requirements, [REDACTED] [REDACTED]



Engagement (date)	Scope	Discussion and outcomes
		<ul style="list-style-type: none">given we are at pre-execution stage, we should highlight any areas of uncertainty, and how we've arrived at preferred options.on need for CBA, it appears as though this is not required but Ofgem will review and come back to SSEN.to demonstrate evidence of discussions [REDACTED] [REDACTED] a letter outlining what has been agreed / discussed would be normal approach.
14 November 2025	Ofgem feedback on key queries in relation to application (email following on from call on 11 November)	<p>Ofgem provided the following feedback:</p> <ul style="list-style-type: none">Level of technical detail expected in application: this is dependent on the application content itself. [REDACTED] [REDACTED]Whether a separate CBA is required: this will likely depend on the application and will depend on whether there are multiple options considered. [REDACTED] [REDACTED] Ofgem would still expect to see what considered options were and why they were ruled out.Form of evidence [REDACTED]: Ofgem would expect to see a letter confirming these agreements.Will other teams be involved in reviewing the application, e.g. Engineering team: [REDACTED] [REDACTED]
13 January 2026	Bilateral discussion on key aspects of application preparation (Teams call)	<p>We shared more detail on our approach to assessing options, [REDACTED], further to Ofgem's feedback provided in November 2025. [REDACTED] our assessment criteria has clearly ranked the options, meaning CBA would not lead to an alternative recommendation. Ofgem confirmed the assessment criteria looked comprehensive and in line with other applications where CBA has not been used. We also discussed submission process and publishing requirements.</p>

Table 6: Key bilateral engagement on Physical Security January 2026 re-opener

Related documents

Ofgem Final Determinations⁹ including SSEN Annex

SSEN Business Plan¹⁰

SHEPD Special Licence Conditions¹¹ specifically Special Condition 3.2, Part B

SEPD Special Licence Conditions¹² specifically Special Condition 3.2, Part B

[REDACTED]
[REDACTED]
[REDACTED]

⁹ [RIIO-ED2 Final Determinations | Ofgem](#)

¹⁰ [Our RIIO-ED2 Business Plan - SSEN](#)

¹¹ [Decision on the proposed modifications to the RIIO-2 Electricity Distribution licences | Ofgem](#)

¹² [Decision on the proposed modifications to the RIIO-2 Electricity Distribution licences | Ofgem](#)



[REDACTED]
[REDACTED]

Application contact point

Any correspondence in relation to this application can be directed to:

[REDACTED]

[REDACTED]

[REDACTED] DistributionRegulation@sse.com

4. ADJUSTMENT SUMMARY

4.1. We provide a detailed breakdown of the allowance adjustment for this re-opener application Table 7. Please see the following sections for more information, and Appendix 5.

Adjustment summary (£m, 2020/21 price base)	2023/24	2024/25	2025/26	2026/27	2027/28	Total
				■		■
				■		■
				■		■
				■		■
				■		■
				■		■
				■		■
				■		■
				■	■	■
				■	■	■
				■	■	■
				■	■	■
				■	■	■
TOTAL ADJUSTMENT				■	■	4.13
				■	■	■

NOTES:

1. Delivery costs are project costs before the addition of risk and CAI costs.
2. The risk allowance is set at 7.5% of delivery cost, is based on the standard risk allowance for RIIO-2 re-opener mechanisms. See Sections 8 and 9 for more information.
3. CAI costs are calculated as 10.8% of total project costs, after addition of project risk allowances. See Sections 8 and 9 for more information.

Table 7: Detailed total adjustment summary



SHEPD and SEPD allowance adjustments

4.2.

Adjustment summary (£m, 2020/21 price base)	2023/24	2024/25	2025/26	2026/27	2027/28	Total
TOTAL ADJUSTMENT	-	-	-			4.13

Table 8: Apportionment of adjustment by SHEPD and SEPD licensees



5. SUMMARY TABLE

5.1. This table is included to meet Ofgem's requirements in its Guidance on Engineering Justification Papers for RIIO-ED2.¹³

Name of scheme / programme	Physical security upgrades [REDACTED].	
Primary investment driver	Physical security	
Scheme reference/ mechanism or category	<i>E.g. SH-00001/Generation Connection, or SP00002/Transformer As input in the Business Plan Data Tables</i> Critical National Infrastructure (CNI)	
Output references / type	<i>Please list all outputs to be delivered, e.g.:NLR0001/Transformer, NLR-0002/Circuit Breaker As input in the Business Plan Data Tables</i> To date no outputs have been reported against BPDT	
Cost	£4,127,015	
Delivery year	2027/28	
Reporting table	C3 – Physical Security	
Related outputs in RIIO ED2 Business Plan	N/A – driven by Physical Security / CNI requirements	
Related RIIO ED2 baseline funding	N/A – no associated RIIO-ED2 baseline funding	
Spend apportionment – price control	RIIO-ED2	ED3
	£4,127,015	£0
Spend apportionment - licensee	SHEPD	SEPD
	[REDACTED]	[REDACTED]

Table 9: Physical Security January 2026 re-opener application summary table

¹³ RIIO ED2 Engineering Justification Paper Guidance Section 3.1.13



6. INTRODUCTION

Background to Physical Security re-opener and this workstream

Physical Security context

- 6.1. The protection of the distribution network, from the perspective of safety for both the public and our employees, and of maintaining network integrity, is of the utmost priority to SSEN Distribution.
- 6.2. We are required to manage the physical security of our network assets in the context of our obligations to maintain an economic and efficient distribution system, and specifically to implement measures designed to ensure the physical protection of property and assets at Critical National Infrastructure sites, and any sites included in the Physical Security Update Programme.
- 6.3. [REDACTED] he Special Conditions of the distribution licence refer to PSUP and also recognise the wider scope of “government policy, guidance or requirements, relating to Physical Security”, which includes the measures designed to ensure the physical protection of property and assets at Critical National Infrastructure sites, or any sites included in the PSUP.
- 6.4. The Physical Security re-openers can be used where there has been a change to the Physical Security Scope of Work and the licensee has incurred or expects to incur additional costs associated with such changes. Physical Security Scope of Work means the scope of work the licensee has agreed to undertake in order to comply with government policy, guidance or requirements, relating to Physical Security.
- 6.5. We propose to implement additional measures to enhance physical security for [REDACTED] the scope of work we have agreed to undertake has changed. As such, we interpret that this meets the Physical Security Scope of Work and re-opener eligibility criteria, as set out above.

RIIO-ED2 Business Plan and Ofgem determinations

- 6.6. [REDACTED] ur plan set out that we would continue to ensure that all our substations are secure against trespass, theft, terrorism and cyber-attacks. We also included recommendations for the development of two new control centres in RIIO-ED2, as set out below.

Physical Security funding

- 6.7. SSEN was awarded c.£41.13m in allowances under C3 – Physical Security for the delivery of the two new control centres within RIIO-ED2. This allowance is intended to cover the activities in Table 10.

Activity	Allowance	Detail
Control Centre SSEH	C3 - £13.41m	SSEH was awarded funding under a PCD to deliver a new control centre within RIIO-ED2.



Activity	Allowance	Detail
Control Centre SSES	C3 - £27.72m	SSES was awarded funding under a PCD to deliver a new control centre within RIIO-ED2.

Table 10: Ex ante Physical Security funding breakdown

- 6.8. All of the awarded funding under C3 is forecast to be utilised under the PCDs. [REDACTED]
[REDACTED] we did not apply for funding at the earlier January 2024 Physical Security re-opener window. We have not previously requested allowances for the projects set out in this application.

Physical Security performance to date in RIIO-ED2

Wider Physical Security performance

- 6.9. As set out in our business plan, we have continued to ensure that all our substations are secure against trespass, theft, terrorism and cyber-attacks.

- 6.10. We have also been actively involved in the following:

- We have also been proactively engaging with DESNZ and NESO [REDACTED]
[REDACTED]
- [REDACTED]
- We have [REDACTED] have been assessed by Ofgem several times. [REDACTED]
[REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Alignment of Physical Security January 2026 application with ED3 and longer-term horizon

- 6.11. Our January 2026 application consists of measures we have assessed as appropriate, proportionate and efficient [REDACTED]. These measures are proposed to be implemented [REDACTED]. The specific drivers, needs case,



consideration of options and recommendations for each site are provided in the following sections.

6.12.

[REDACTED]

f any more urgent unfunded physical security activities are required within the RIIO-ED2 period, we will engage with Ofgem on this.



7. STAKEHOLDER ENGAGEMENT

Overarching considerations

- 7.1. As part of our RIIO-ED2 business plan development, we engaged with 2,684 stakeholders across 15 events on Safety and Compliance topics at a high level. Through this process:
- Stakeholders identified ensuring the safety of the public, our partners and our staff should be our utmost priority.
 - Key stakeholders, including the emergency services and housing developers, felt that the threats to the electricity system coupled with a rise in society’s increasing dependency on it meant that the safety and security of assets is a primary concern.¹⁵
- 7.2. This feedback has been acted upon throughout RIIO-ED2 to date in our management of physical security measures across our network, and remains relevant for our assessment of the assets and measures proposed in this application.
- 7.3. The key stakeholders for the specific measures included in this application are DESNZ, as ultimate authority on policy and ministerial responsibility for the physical security of the GB energy system; NESO, in the context of its role and responsibilities in relation to identifying CNI and associated methodologies and assessments; [REDACTED]. This section describes the engagement that has been implemented to inform this submission.

[REDACTED]

7.4. [REDACTED]

- 7.5. An overview of our engagement over the past several years is set out in Table 11:

Date	Purpose	Outcome
2023	[REDACTED]	[REDACTED]
Nov 2025	[REDACTED]	[REDACTED]
Nov 2025 – Jan 2026	[REDACTED]	[REDACTED]

15 SSN Distribution RIIO-ED2 Business Plan, Chapter 6: Safety and Compliance – Enhanced engagement overview



7.6.

NESO

7.7. In the context of its role requiring it to support the identification of critical national infrastructure and to review and apply associated methodologies¹⁶, we have engaged with NESO to communicate and seek its views on our plans to upgrade security measures [REDACTED]. We have included a letter from NESO as part of this application, at Appendix 3.

7.8. An overview of our engagement over the past year is set out in Table 12:

Date	Purpose	Outcome
Oct 2025	[REDACTED]	Discussion on rationale and approach [REDACTED].
Nov - Dec 2025	Request for and provision of supporting letter for SSEN Physical Security re-opener application.	Provision of supporting letter (Appendix 3).

Table 12: Engagement with NESO on measures proposed in January 2026 re-opener application

DESNZ

7.9. We have also engaged with DESNZ (and previously DECC and BEIS) on our proposals, in the context of its role as authority responsible for directing the overarching physical security framework for the UK, and the responsible entity which must be satisfied with our proposed measures. We have included a letter from DESNZ as part of this application, at Appendix 2.

7.10. An overview of our engagement over the past several years is set out in Table 13:

Date	Purpose	Outcome
2010	[REDACTED]	[REDACTED]
2013	Development of plans [REDACTED].	[REDACTED]
2020-2023	Engagement on assessment and suitability of existing measures [REDACTED].	Through engagement with various (DECC, BEIS and DESNZ), [REDACTED].
Oct 2025	[REDACTED]	Discussion on rationale and approach [REDACTED].
Nov - Dec 2025	Request for and provision of supporting letter for SSEN Physical Security re-opener application.	Provision of supporting letter (Appendix 2).

Table 13: Engagement with DESNZ on measures proposed in January 2026 re-opener application

¹⁶ Annex E - Electricity System Operator Licence Conditions - Condition C6 – Licensee's obligations regarding critical national infrastructure

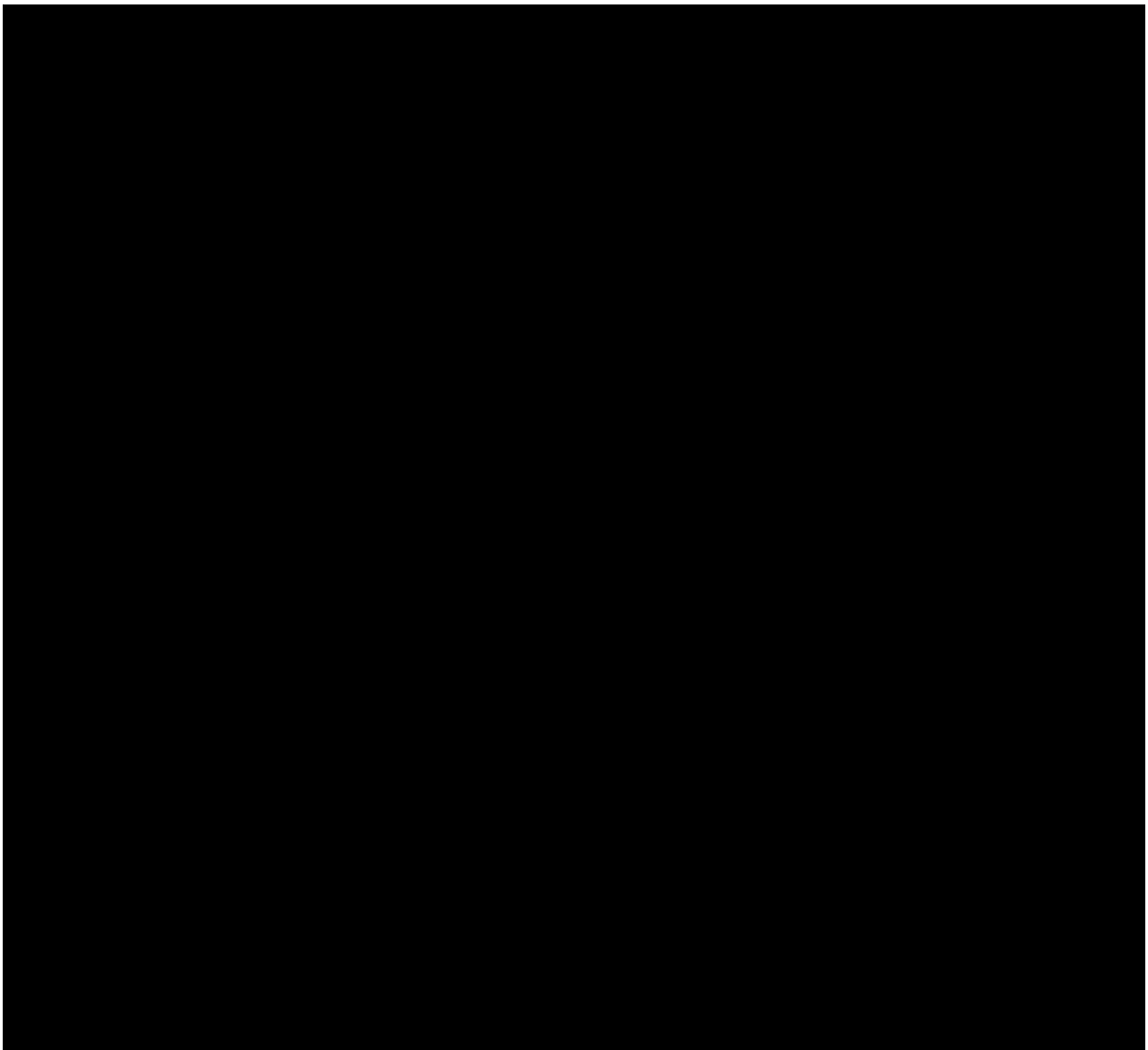


8. NEEDS CASE AND OPTIONEERING

Physical Security re-opener methodology

Overarching process

- 8.1. The process to identify the need for further physical security measures, and options to meet this need, is aligned with the PSUP [REDACTED]
- 8.2. This section describes our approach in determining the need for additional physical security measures, and identifying which measures to implement, as summarised in Figure 2.





Identifying the needs case

Site assessment

8.3. There are a number of [REDACTED] sites designated as CNI [REDACTED] [REDACTED]. We dynamically monitor, assess and manage our physical security arrangements [REDACTED] on an ongoing basis, in the context of evolving threat types and severity and continuing technological advances, [REDACTED]

8.4. [REDACTED]

8.6. We have engaged with DESNZ, NESO [REDACTED] [REDACTED] over a number of years. In late 2024 and 2025 discussions moved forward, [REDACTED]. Site visits were held, DESNZ and NESO invited us to confirm our views on this basis, and indicated support for our review. As a result, more concrete proposals started to be developed.

8.7. Having conducted full site security surveys on all sites, [REDACTED] [REDACTED] here are individual nuances at each site which have been identified and built into the design and specification of the solutions. [REDACTED]

Alignment of need with licence and PSUP [REDACTED]

8.8. [REDACTED] the scope of work we have agreed to undertake in relation to physical security has changed, with the support of DESNZ, NESO [REDACTED], taking account of recent events and current threat levels. As such, we interpret that our recommendations meet the Physical Security Scope of Work and re-opener eligibility criteria

19 This is confirmed on the CNI "Pink List".



set out in Special Condition 3.2 Part B of our licence. [REDACTED]

Approach to optioneering

8.9. Our overall approach to optioneering starts with assessing what we are trying to protect, and what we are trying to protect it from. The intent is to build enough, and technically adequate, layers of defence to protect a given asset, with appropriate fail-safes.

8.10. [REDACTED]

8.11. Our approach is aligned with the PSUP [REDACTED]. In any CNI environment, we will always also reference NPSA guidance through our assessment of operational requirements, specification and design.

8.12. We have assessed the operational and risk mitigation requirements for the defined sites [REDACTED] we have considered a number of measures.

8.13. It is fairly clear which measures are appropriate to be deployed on the sites, taking account of key factors:

- a) **Mitigates risk:** The measures require to address the nature and scale of the risks identified.
- b) **Technical suitability:** The measures require to be technically appropriate to mitigate the risks, while also integrating with minimum impact [REDACTED].
- c) **Efficient cost:** The measures should be deployable at a cost commensurate with the mitigations they bring, and their wider impacts (see other criteria).
- d) **Proportionate:** The measures should be proportionate in the context of enhancing, [REDACTED], protection at sites [REDACTED].
- e) **Agreed among stakeholders:** Given the roles and responsibilities of the other stakeholders, the measures should be agreed among them. [REDACTED]



f) **Time to deploy:**

8.14. We have ranked and selected options based on these criteria that we require to be met. Throughout this process we have engaged with [REDACTED] NESO and DESNZ on our view of need, considered options, the measures we propose to deploy, and the implementation process and timescales.

8.15. [REDACTED]

Options considered

8.16. We considered six options: one option to do nothing, which we do not consider is appropriate, and five alternative options which could provide additional protections for our assets. These are summarised in Table 14 and discussed further in the next sections.

Option considered	Description (including outputs)
1. Do nothing	Under this option we would not intervene to enhance protection of our assets. This option is not taken forward as we consider we are required to further protect the assets on the basis of our CNI responsibilities.
2. [REDACTED]	[REDACTED]
3. [REDACTED]	[REDACTED]
4. [REDACTED]	[REDACTED]
5. [REDACTED]	[REDACTED]
6. [REDACTED]	[REDACTED]

Table 14: Options considered for Physical Security interventions at identified sites

Assessing options

8.17. This section sets out how we have assessed options considered to meet the need identified to enhance protections [REDACTED], taking account of points a) to c) set out at the start of Section 8. We set out whether our assessment criteria are met, against the following outcomes:

Key	
✓	Option fully meets criteria
✗	Option is not optimum / ranked first under criteria but could meet need with additional work / cost.
✗	Option is rejected under criteria

Table 15: Criteria outcomes



8.18. The assessment is relatively binary, [REDACTED] the appropriateness of a limited number of solutions, [REDACTED] cost, and appetite to deploy measures quickly.

Option 1: Do Nothing

8.19. Under this option we would not intervene to enhance protection of our assets, so there would be no intervention cost in RIIO-ED2. This option is rejected as we consider we are required to further protect the assets on the basis of our CNI responsibilities. In not enhancing protection at these sites we would carry the risk of incurring operational and reputational cost if they were inappropriately accessed or damaged.

Key cost / impact areas	Indicative value points
No intervention to enhance protections in RIIO-ED2	Zero cost for measures
Operational and reputational cost associated with risk of breach	Material risk

Table 16: Option 1 costs / impact

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
1	X	X	✓	X	X	n/a

Table 17: Option 1 criteria test

Option 2: [REDACTED]

8.20. [REDACTED]

8.21. [REDACTED]

²⁰ Qualifying for Operation Ingelbrook – rapid response to CNI sites.



8.22. [REDACTED]

Key cost / impact areas	Indicative cost points
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Table 18: Option 2 costs / impacts

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
2	✓	✓	✓	✓	✓	[REDACTED]

Table 19: Option 2 criteria test

Option 3: [REDACTED]

8.23. [REDACTED]

8.24. [REDACTED]

8.25. [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]



Key cost / impact areas	Indicative value points
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Table 20: Option 3 costs / impacts

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
3	X	X	X	X	X	[REDACTED]

Table 21: Option 3 criteria test

Option 4: [REDACTED]

- 8.26. [REDACTED]
- 8.27. [REDACTED]
- 8.28. [REDACTED]
- 8.29. [REDACTED]
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]

Key cost / impact areas	Indicative value points
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

**Key cost / impact areas****Indicative value points**

[REDACTED]					[REDACTED]
------------	--	--	--	--	------------

Table 22: Option 4 costs / impacts

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
4	✓	X	X	X	X	[REDACTED]

Table 23: Option 4 criteria test

Option 5: [REDACTED]

8.30. [REDACTED]

8.31. [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Key cost / impact areas**Indicative value points**

[REDACTED]					[REDACTED]	
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						

Table 24: Option 5 costs / impacts



Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
5	✓	X	X	X	X	9-12 months per site

Table 25: Option 5 criteria test

Option 6: [REDACTED]

8.32. [REDACTED]

8.33. [REDACTED]

8.34. [REDACTED]

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
6	X	X	✓	✓	X	[REDACTED]

Table 26: Option 6 criteria check

Assessing options: conclusions

Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
1	X	X	✓	✓	X	[REDACTED]
2	✓	✓	✓	✓	✓	[REDACTED]
3	X	X	X	X	X	[REDACTED]
4	✓	X	X	X	X	[REDACTED]
5	✓	X	X	X	X	[REDACTED]



Option	Mitigates risk	Technical suitability	Efficient cost	Proportionate	Agreed among stakeholders	Time to deploy
6	X	X	✓	✓	X	

Table 27: Summary of options analysis

8.35. Our recommended option is therefore Option 2.

8.36. We have assessed that there is no additional benefit in carrying out a deterministic CBA, as our assessment has identified the preferred approach. We have reached this conclusion as a result of the following considerations:

- Our assessment criteria clearly identifies the recommended option, Option 2, [REDACTED]
- [REDACTED]
- [REDACTED]
- Alternative measures have been ruled out on the basis of technical suitability, proportionality and / or cost;
- [REDACTED]
- Our approach and recommended option has been supported through engagement with [REDACTED] NESO and DESNZ.

8.37. The preferred option is discussed in more detail in the following sections.

Cost information

8.38. This section provides information on how we have derived and used cost data in our analysis. More detail is included in Appendix 5.

Cost data sources

8.39. For the purposes of the January 2026 application, pricing for our preferred option has been sourced through current quotations [REDACTED]
[REDACTED] On this basis, we have high confidence in our costs for Option 2.

8.40. For activities included in our optioneering of alternative measures we have reflected on similar recent work we have undertaken for previous projects. In these cases, we have medium confidence in our estimates of cost, as they are not specific or tailored to these sites, or reflective of those site assessments. In all cases, final costs will only be confirmed once projects are fully implemented. [REDACTED]



[REDACTED]

Cost benefit analysis and engineering justifications

CBA

8.41. As noted at 8.35, as Option 2 is evidenced to be the preferred outcome based on a number of criterion, and we can see that assessment via CBA will not change this outcome. We have considered factors which might normally be included in CBA such as a sensitivity on the option to delay – this would not be preferable and would not bring any benefits in this context. Option 2 is therefore our recommended solution.

EJP

8.42. [REDACTED]

Preferred option

8.43. This section summarises our preferred option.

Option 2 costs

8.44. The cost estimates presented for the Option 2 interventions use the specific assumptions detailed in Table 28. This table does not include risk or CAI costs, which are set out at Sections 8.59, 8.60 and 9, and. Appendix 5 contains an overview of the costs including risk and CAI.

Site	£m	Cost area / scope	Source
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	3.46		

Table 28: Option 2 core cost assumptions

Description of key features



8.45. Option 2 involves [REDACTED]

8.46. The project will be resourced [REDACTED]

Benefits to customers

8.47. The preferred options will give us [REDACTED] capabilities which are appropriate [REDACTED].

Technical feasibility

8.48. The earlier sections in this chapter provide information on technical feasibility of these projects. [REDACTED]

Rationale for timing of investment

8.49. We propose to implement the measures quickly and within RIIO-ED2, enhancing the site protections to manage the associated risk. Given the risk mitigation need for the interventions, we don't think it is appropriate or beneficial to delay implementing the measures further, and therefore we have not assessed the impact of delay through sensitivity analysis.

Impacted assets or programmes of work

8.50. Relevant assets affected by proposed works are shown in Table 29. All interventions recommended are planned to be implemented within RIIO-ED2. [REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

21 [Thornton Tomasetti | When others say no, we say "Here's How"](#)



Alignment with business strategy and commitments

Alignment with licence, statutory obligations and Business Plan in RIIO-ED2

- 8.51. As set out, these interventions align with our obligations to manage the physical security of our network assets in the context of our obligations to maintain and economic and efficient distribution system, and to implement measures designed to ensure the physical protection of property and assets at CNI sites, and any sites included in the PSUP.
- 8.52. They also align with our RIIO-ED2 Business Plan commitment to continue to ensure that all our substations are secure against trespass, theft, terrorism and cyber-attacks.

Alignment with licence, statutory obligations and Business Plan for future price control periods

- 8.53. The measures we propose to implement are aligned with [REDACTED]. Based on our engagement with DESNZ and other stakeholders [REDACTED], we believe the measures represent a proportionate approach [REDACTED].
- 8.54. We will re-assess and, where necessary, build on existing physical security measures across our portfolio of assets [REDACTED] over the next several years, and will include any relevant additional measures in our ED3 Business Plan.

Cost efficiency

Efficiency in cost estimating

- 8.55. We have used available information to provide as accurate a forecast view of costs as possible within this submission. All costs included under Option 2 are taken from current quotations [REDACTED].
- 8.56. Further detail as to how we have estimated costs is included earlier in this chapter0, and Appendix 5.

Efficiency in procurement and delivery

- 8.57. [REDACTED]

Cost uncertainties and mitigations

- 8.58. There are a number of risks associated with delivering Option 2. Selected risks are noted below:



- [REDACTED]
- █ [REDACTED]
- █ [REDACTED]

8.59. We are seeking risk allowances taking account of the potential for cost risk, discussed at Sections 8 and 9.

Closely Associated Indirects

8.60. A factor of 10.8% has been applied to the total project cost to account for the cost of CAIs, in line with a number of other RIIO-ED2 re-openers (including Storm Arwen, HOWSUM and LRE). This funding will be used primarily to fund overhead costs associated with the completion of these projects. We consider that additional activities resulting from increased funding under re-openers should be paired with a commensurate increase in indirect allowances to cover increased expense.

CAI costs - January 2026 application	2023/24	2024/25	2025/26	2026/27	2027/28	Total
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]		[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				[REDACTED]	[REDACTED]	[REDACTED]
Total CAI adjustment - January 2026 applications	-	-		[REDACTED]	[REDACTED]	[REDACTED]

Table 30: CAI costs associated with January 2026 application



9. DELIVERABILITY AND RISK

Procurement and delivery approach

9.1. The section highlights the procurement and delivery approach planned to undertaken by SSEN.

9.2. [REDACTED]

9.3. [REDACTED]

- I [REDACTED]
- I [REDACTED]
- I [REDACTED]
- I [REDACTED]

9.4. [REDACTED]

- Work carried out to date

9.5. We have already carried out initial site assessment, optioneering work, solution design and procurement enquiries (including securing quotations) [REDACTED].

Project management and monitoring

Project delivery approach, management and monitoring

9.6. Projects will be managed under SSE's Large Capital Project (LCP) governance framework or the Distribution Governance Investment Framework (DGIF) depending on the value of the project. These governance frameworks ensure that all capital investment projects for the SSE Group are governed, developed, approved and executed in a safe, consistent, sustainable and effective manner.

9.7. [REDACTED]

9.8. We will set the project baseline programme at the beginning of the project and monitor progress throughout, [REDACTED], and ongoing reporting to

[REDACTED]



DESNZ and others are required. Progress will be overseen [REDACTED] identifying any delays and changes.

- 9.9. Regular review of expenditure and forecast will be done throughout the project to monitor this and deliver the project within budget. Risk will be managed in accordance with the relevant governance framework to ensure risks are identified, assessed, mitigated, and monitored.

Project delivery

- 9.10. Table 31 details key estimated delivery stages and outputs associated with our recommended interventions.

Site	Key outputs	Forecast delivery dates ¹
All	[REDACTED]	[REDACTED]
All	[REDACTED]	[REDACTED]
[REDACTED]	Further site assessment to inform implementation of Option 2 measures, and refinement of solution proposals.	[REDACTED]
	[REDACTED] Preparation of CDM for the sites.	[REDACTED]
	Implementation of measures.	[REDACTED]
	Regular progress updates [REDACTED].	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	DESNZ endorsement.	[REDACTED]
[REDACTED]	Further site assessment to inform implementation of measures, and refinement of solution proposals.	[REDACTED]
	[REDACTED] Preparation of CDM for the sites.	[REDACTED]
	Implementation of measures.	January to June 2027
	Regular progress updates [REDACTED].	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	DESNZ endorsement	[REDACTED]



Site	Key outputs	Forecast delivery dates ¹
¹ Delivery dates are estimated, not wholly within our control and will be refined as projects are further developed.		

Table 31: Indicative delivery programme for recommended measures

Managing risk

- 9.11. In this section we include in more detail on how we intend to manage risk.
- 9.12. Clause 08.58 provides information on areas of uncertainty which apply to our recommended projects. Reflecting on these, we have included a risk funding request of 7.5%, applied to the direct project costs before consideration of CAIs. This percentage is based on the risk allowance apportionment pre-determined by Ofgem and applied in the Physical Security Final Determinations in April 2025, and is “consistent with [Ofgem’s] policy of applying a flat rate of 7.5% risk allowance on most RIIO-2 re-opener mechanisms”.²⁴
- 9.13. Based on our experience we are confident that the recommended risk allowances are proportionate to the scale of cost risk involved, and that this is a fair approach for both SSEN and customers. The risk allowance total across Option 2 which is included within our adjustment request is set out in Table 32.

	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Option 2				■	■	■

Table 32: Summary of risk allowance for Option 2

Physical Security outlook to ED3 and beyond

- 9.14. The next significant milestone in our Physical Security outlook is expected to be [REDACTED]
[REDACTED]
[REDACTED] We plan to build associated requirements for the next period into our ED3 Business Plan submission.

²⁴ Physical Security Re-opener Final Determinations



10. CONCLUSION

10.1. This funding application supports the development and operation of these projects through the remainder of the RIIO-ED2 period. We summarise the application below. We welcome engagement with Ofgem and key stakeholders, and a swift determination process to facilitate our progression of these plans.

Key recommendations

- 10.2. We recommend [REDACTED]
- 10.3. We will [REDACTED] completing the works before the end of RIIO-ED2. We have included funding requests for risk (7.5%) and CAI (10.8%) costs, at levels in line with previous re-opener determinations in RIIO-ED2.

Total funding request

10.4. The total funding adjustment requested in this application is £4.13m, summarised in Table 33.

Total adjustment summary (£m, 2020/21 price base)	2023/24	2024/25	2025/26	2026/27	2027/28	Total
[REDACTED]				■	■	■
[REDACTED]				■	■	■
[REDACTED]				■	■	■
[REDACTED]				■	■	■
Total adjustment				■	■	4.13

Table 33: Total allowance adjustment summary



APPENDIX 1 DEFINITIONS AND ABBREVIATIONS


Acronym	Definition	Acronym	Definition
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
CAI	Closely Associated Directs	[REDACTED]	[REDACTED]
CBA	Cost Benefit Analysis	NESO	National Energy System Operator
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
CDM	Construction (Design and Management)	NPSA	National Protective Security Authority
CNI	Critical National Infrastructure	[REDACTED]	[REDACTED]
DESNZ	Department for Energy Security and Net Zero	PSUP	Physical Security Upgrade Programme
DNO	Distribution Network Operator	RIIO-ED2	Revenue = Incentives + Innovation + Outputs, Electricity Distribution 2 (current price control)
[REDACTED]	[REDACTED]	SHEPD	Scottish Hydro Electric Power Distribution
ED3	Electricity Distribution 3 (next price control)	SEPD	Southern Electric Power Distribution
EJP	Engineering Justification Paper	SSEN	Scottish and Southern Electricity Networks



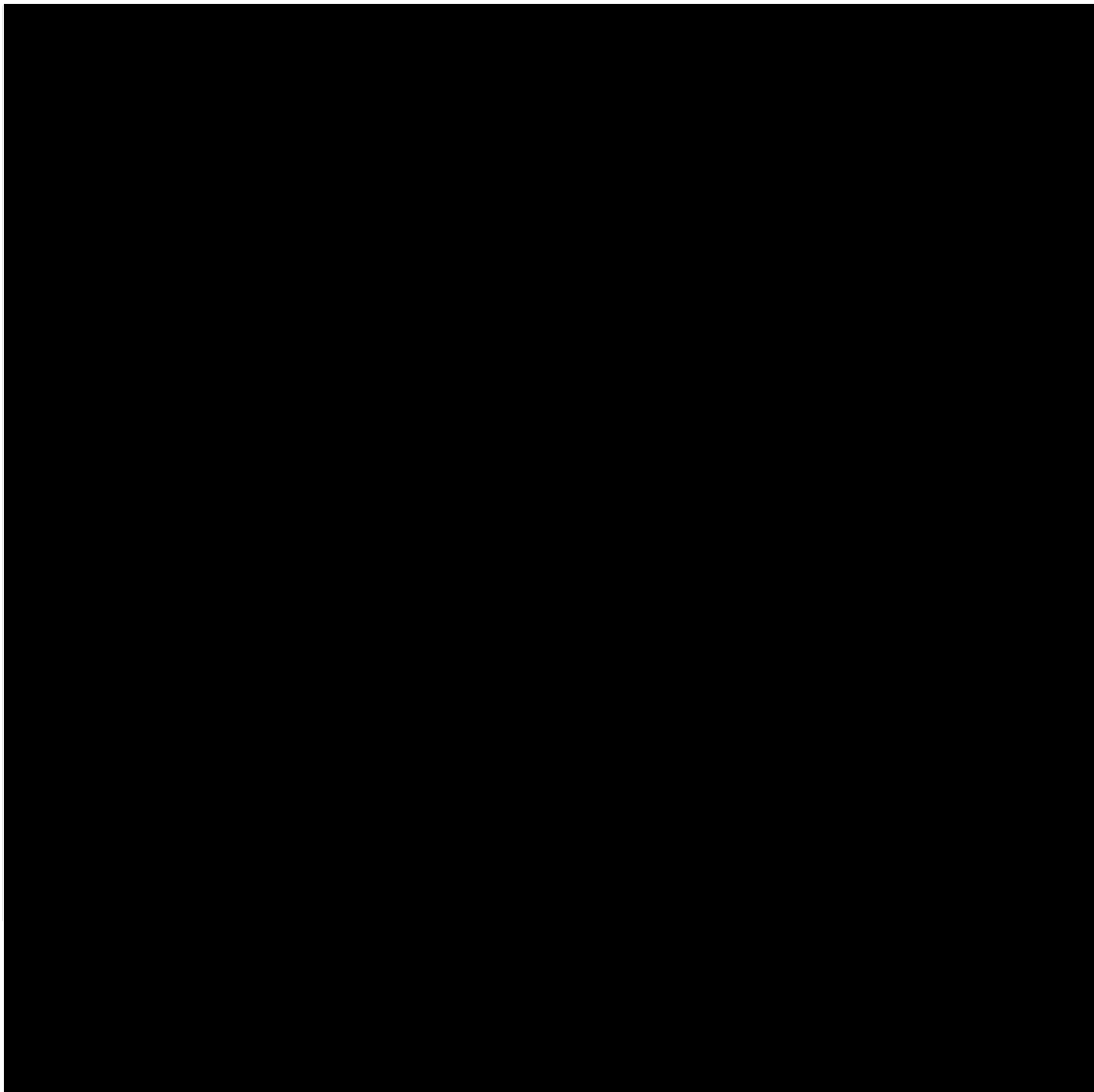
APPENDIX 2 DESNZ LETTER



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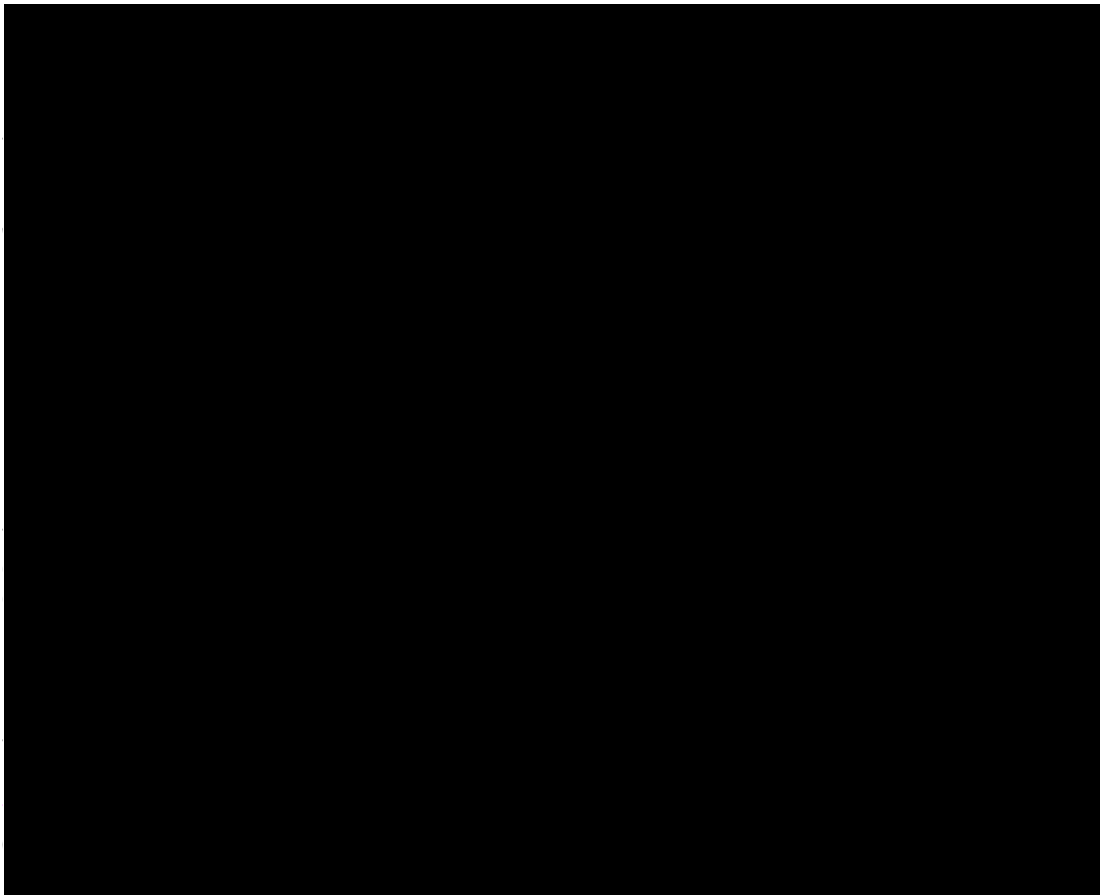


APPENDIX 3 NESO LETTER



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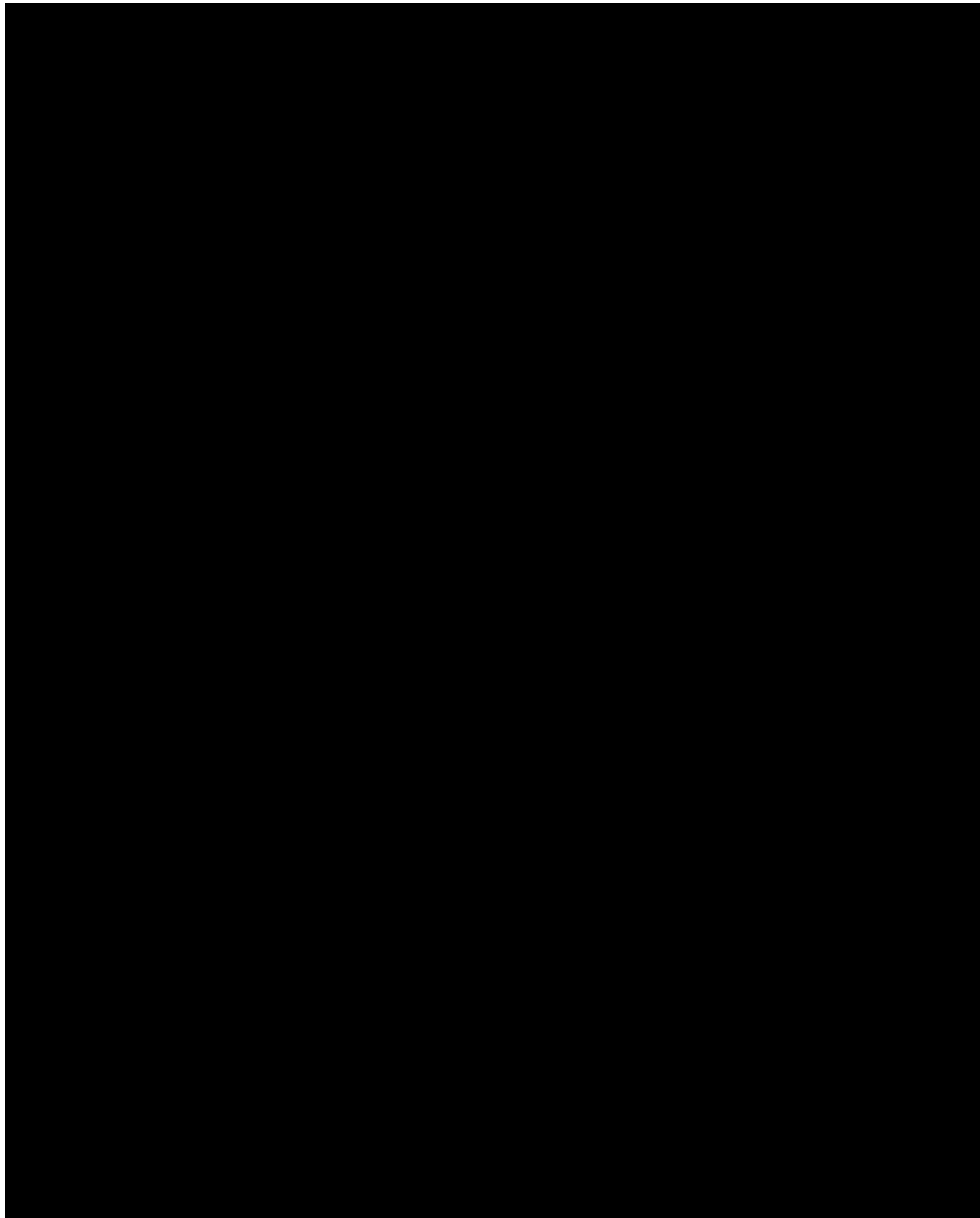


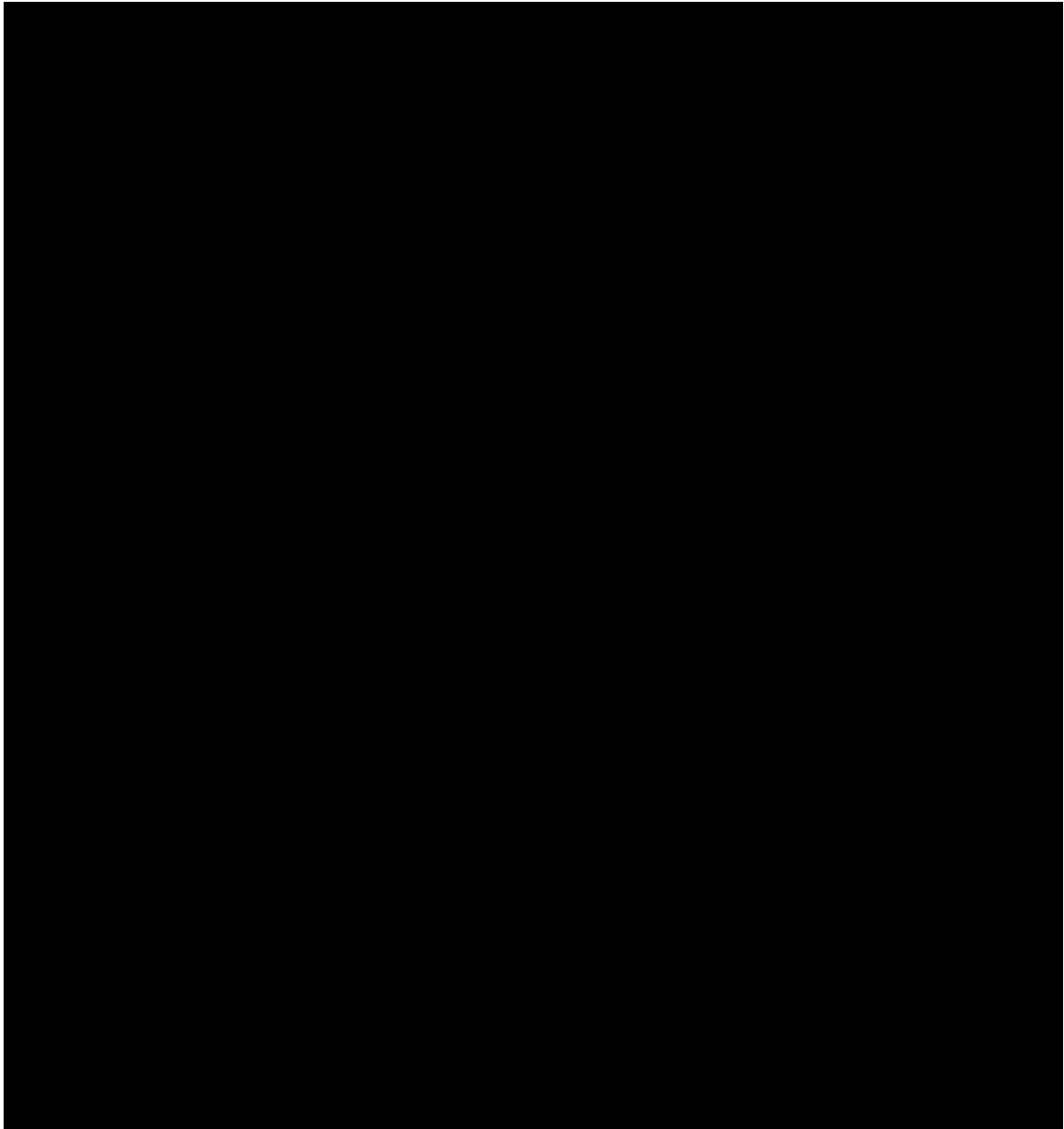
APPENDIX 4



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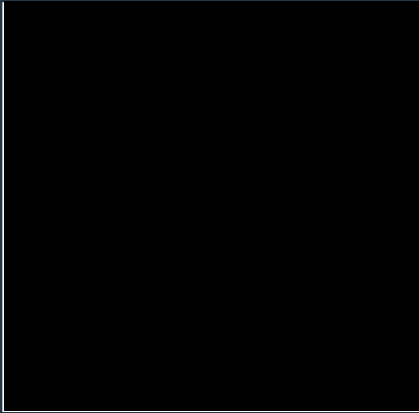






APPENDIX 5 COST WORKBOOK

See external Appendix 5.



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