Consultation

RIIO-2 Re-opener Applications 2025 Draft Determinations – ET Annex

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We are consulting on our Draft Determinations following our assessment of re-opener applications submitted by Electricity Transmission Operators (ETOs) in January 2025. National Grid Electricity Transmission plc (NGET), Scottish Hydro Electric Transmission plc (SHET) and SP Transmission plc (SPT) submitted projects under the Medium Sized Investment Projects (MSIP) re-opener mechanism. SHET also submitted the Gremista Grid Supply Point (GSP) project under the Large Onshore Transmission Investment (LOTI) mechanism. We are proposing to allow £281.939m of the £399.241m requested in the RIIO-ET2 period, which will reduce constraints on the network and increase the capacity for new connections.

We particularly welcome responses from those with an interest in electricity transmission (ET) and distribution networks. We also welcome responses from other stakeholders and the public.

This document outlines the scope and purpose of the consultation, our draft determinations in relation to the MSIP and LOTI applications, the consultation questions, and explains how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential and, if possible, put the confidential material in separate appendices to your response.

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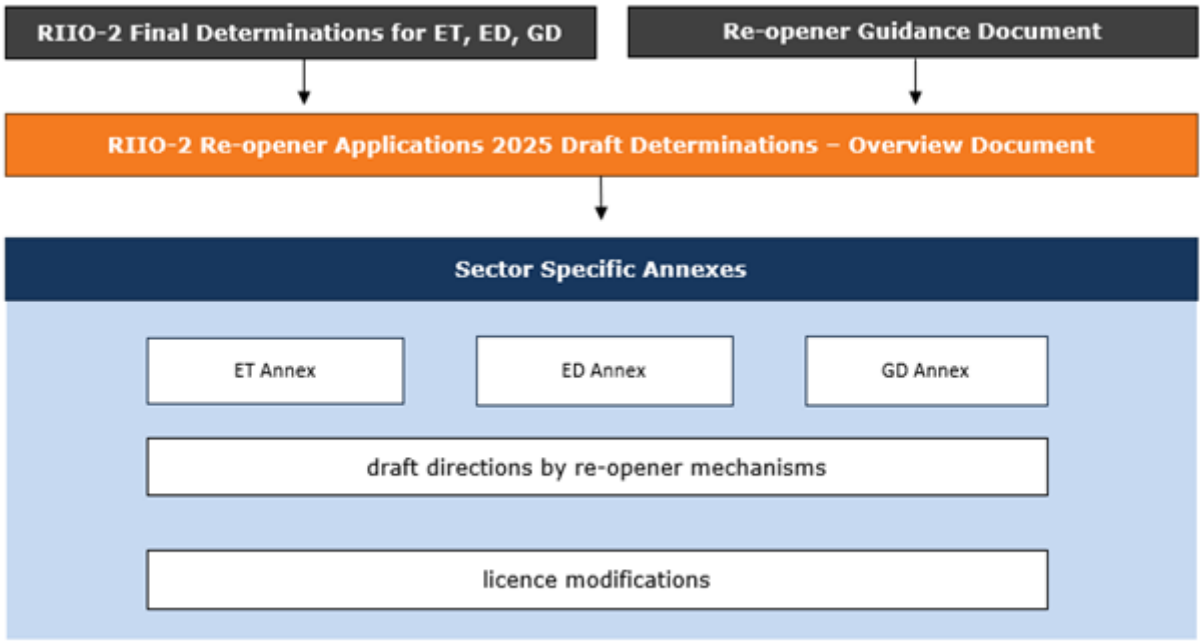
1. Introduction

1.1 This document is one of the Annexes published alongside the RIIO-2 Re-opener Applications 2025 Draft Determinations (DDs). It focuses on the re-opener mechanism and the assessment of projects submitted in the ET sector. For general information including consultation approach, stages, how to respond, etc. Please refer to the RIIO-2 Re-opener Applications 2025 Draft Determinations – Overview Document.

Figure 1 Navigating our Draft Determinations



1.2 The ET sector re-opener mechanisms covered in the RIIO-2 Re-opener Applications 2025 DDs are:

- Medium Sized Investment Project (Special Condition 3.14)
- Large Onshore Transmission Investment (Special Condition 3.13)

Medium Sized Investment Project Re-opener

1.3 The MSIP re-opener provides ETOs with an annual opportunity to request additional funding for sub £100m cost projects, many of which may be critical for achieving Net Zero targets. It was developed to ensure that ETOs are able to undertake

necessary investments in the transmission network, funding for which has not been provided in RIIO-ET2 price control baseline allowances.[1]

1.4 An ETO can submit a request for additional funding via the MSIP re-opener during specific "windows" (between 24 and 30 April 2021 and between 25 and 31 January in each subsequent regulatory year of the price control period up to 2025) where it considers that a project is covered under the 13 activities listed in RIIO-ET2 Final Determinations (RIIO-ET2 FDs), as implemented by Special Condition 3.14.6 (SpC 3.14.6)[2] of its licence (the ETOs' licence is referred to as 'the Licence' in this consultation document). Projects within the scope of that licence condition will be considered and scrutinised by Ofgem[3] to establish the level of efficient costs (if any) to be remunerated. For the ETOs' applications covered in this consultation, we have assessed eligibility, needs cases, optioneering and cost efficiency.

Large Onshore Transmission Investment Re-opener

1.5 Under the RIIO-ET2 price control we also introduced a mechanism for assessing the need for, and efficient cost of, large and uncertain electricity transmission reinforcement projects for projects with a value exceeding £100m. This mechanism is called the 'Large Onshore Transmission Investment' (LOTI) mechanism. Once the need for and the costs of projects have become more certain, the ETOs will submit construction proposals and seek funding for them. As explained in Chapter 9 of the RIIO-2 Final Determinations – Core Document (REVISED), all projects that come forward for assessment via the LOTI re-opener mechanism during the RIIO-ET2 period will be considered for their suitability for delivery through one of the late competition models.

What are we consulting on?

MSIP applications

1.6 We are consulting on our assessment of the eligibility, needs cases, optioneering, and efficient costs for 13 NGET projects, 4 SHET projects and 6 SPT projects

[1] Baseline allowance means the allowance for the Direct Expenditure for ETOs in RIIO-ET2 FDs.
[2] The 13 MSIP activities under SpC 3.14.6 are listed in Appendix 1 for reference.
[3] 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.

submitted in the January 2025 re-opener window. We welcome views from stakeholders on our DDs concerning the projects outlined in Chapter 3.

1.7 Due to the procurement schedules of some projects, NGET requested permission to provide cost updates for eight additional projects at a later date. We agreed to provide flexibility to accommodate cost updates because the scope of these projects is defined and the tendering process has commenced. We will consult on our assessment of these projects separately, at a later date. They are therefore not included in this consultation. NGET considers that all of the proposed projects are within scope for MSIP funding as they relate to one or more of the activities specified in SpC 3.14.6.

LOTI application

1.8 In January 2022 SHET submitted an application under the MSIP mechanism for approval of the initial needs case related to works at Gremista Grid Supply Point (GSP).

1.9 In April 2022, we consulted on SHET's initial needs case for the Gremista GSP project, and on 3 October 2022 published a provisional approval decision for it under the MSIP re-opener process. Since we published the decision, SHET's estimated cost of the project increased above the £100m eligibility threshold for MSIP, and SHET has subsequently requested that we consider the project for funding under the LOTI mechanism.

1.10 In September 2024, we consulted on our assessment of the Final Needs Case (FNC) for this submission under the LOTI reopener mechanism. Between 3 September 2024 and 1 October 2024, we received two non-confidential responses from SHET and Sustainable Shetland regarding the project which are published on our website.

1.11 This consultation now sets out our DDs position on the Project Assessment (PA) of the Gremista GSP project under SpC 3.13 and the main costs' areas of the PA request as submitted by SHET and our DDs position on the funding allowance. Chapter 4 covers the main cost areas of the PA request as submitted by SHET and sets our DDs positions on the funding allowance for each of the cost areas.

1.12 Our PA and DDs set out in this document are subject to our consideration of any consultation responses we receive and for that reason we welcome stakeholders to respond concerning the project outlined in Chapter 4.

Context and related publications

1.13 This document is intended to be read alongside:

MSIP applications

- RIIO-ET2 Re-opener Guidance and Application Requirements Document (Re-opener Guidance)
- Special Conditions (and SpC 3.14 in particular) of the Licence
- MSIP re-opener submission documents on NGET's website
- MSIP re-opener submission documents on SHET's website
- MSIP re-opener submission documents on SPT's website

LOTI application

- Large Onshore Transmission Investments (LOTI) Re-opener Guidance and Submissions Requirements Document (LOTI Guidance)
- Special Conditions (and SpC 3.15 in particular) of the Licence
- LOTI Re-opener submission document on SHET's website

2. Summary of our Draft Determinations

2.1 **Table ET1** below summarises the total RIIO-ET2 allowances for each ETO for the re-openers covered in this annex. We refer to the Draft Determinations within the tables as 'Ofgem's DD'.

Table ET1 Draft Determinations on the ET Re-opener submissions in 2025

Sector Group	Network	Company Requested Number of Projects	Company Requested Forecast costs £m	Ofgem's DD - Projects Approved *	Ofgem's DD - Projects Not Approved	Ofgem's DD - Cost adjustment £m	Ofgem's DD - Allowances £m
National Grid Electricity Transmission	NGET	13	204.765	11	2	-82.099	122.666
Scottish Hydro Electric Transmission	SHET	5	112.993	5	0	-27.984	85.009
SP Transmission	SPT	7	81.457	7	0	-7.193	74.263

**We refer to Draft Determinations as 'Ofgem's DD'. Projects approved also include partial approval.*

2.2 **Table ET2** below summarises our RIIO-ET2 allowances for the individual MSIP projects submitted in January 2025. While the majority of costs fall within ET2, the profile of the requested costs spans ET1, ET2 and ET3. Chapter 3 sets out the details of RIIO-ET2 and RIIO-ET3 allowances and our assessment of each of the projects. The proposed RIIO-ET3 allowances for MSIPs of NGET, SHET and SPT are £83.846m, £5.077m and £39.727m respectively.

Table ET2 Draft Determinations on the MSIP Projects in 2025

Sector Group	Network	Company Requested Project	Company Requested Forecast costs £m	Ofgem's DD - Cost adjustment £m	Ofgem's DD - Allowances £m
National Grid Electricity Transmission	NGET	NGET Central Reactive Voltage - Ironbridge	8.122	-0.225	7.897
National Grid Electricity Transmission	NGET	NGET Central Reactive Voltage - Willington	7.839	-0.442	7.397
National Grid Electricity Transmission	NGET	NGET Heysham OPS scheme for ENWL	1.323	-0.620	0.703
National Grid Electricity Transmission	NGET	NGET Marston Vale (Millbrook)	20.942	-20.942	0.000
National Grid Electricity Transmission	NGET	NGET Necton 400kV site strategy	45.031	-7.389	37.642

Sector Group	Network	Company Requested Project	Company Requested Forecast costs £m	Ofgem's DD - Cost adjustment £m	Ofgem's DD - Allowances £m
National Grid Electricity Transmission	NGET	NGET Norwich 400kV site strategy	28.452	-28.452	0.000
National Grid Electricity Transmission	NGET	NGET OTS - East Anglia	1.606	0.120	1.726
National Grid Electricity Transmission	NGET	NGET OTS - Lackenby	2.854	-0.058	2.796
National Grid Electricity Transmission	NGET	NGET OTS Killingholme	0.848	-0.023	0.825
National Grid Electricity Transmission	NGET	NGET Pathfinder - East Anglia OTS	6.800	-1.642	5.158
National Grid Electricity Transmission	NGET	NGET Pathfinder - Yaxley	6.067	-0.275	5.793
National Grid Electricity Transmission	NGET	NGET Penrhos 132kV site strategy	17.034	-0.814	16.221
National Grid Electricity Transmission	NGET	NGET Wallend	57.848	-21.339	36.510
Scottish Hydro Electric Transmission	SHET	SHET Constraint Management Pathfinder (B6)	0.409	-0.062	0.347
Scottish Hydro Electric Transmission	SHET	SHET Lochluichart and Corriemollie	1.486	-0.467	1.019
Scottish Hydro Electric Transmission	SHET	SHET North of Beauly DLR (stage 2)	1.043	-0.322	0.721
Scottish Hydro Electric Transmission	SHET	SHET Tealing bypass	4.974	-1.402	3.572
SP Transmission	SPT	SPT Branxton 400kV Substation	51.029	-2.862	48.167
SP Transmission	SPT	SPT Extension of Sub-Synchronous Oscillation (SSO) Detection Capabilities	0.236	-0.002	0.234
SP Transmission	SPT	SPT Inch Cape Offshore Wind Farm	3.770	-0.069	3.701
SP Transmission	SPT	SPT SPT-RI-1742 Cockenzie Overload Protection Scheme	0.406	-0.009	0.397

Sector Group	Network	Company Requested Project	Company Requested Forecast costs £m	Ofgem's DD - Cost adjustment £m	Ofgem's DD - Allowances £m
SP Transmission	SPT	SPT-RI 282 Mark Hill SGT4	4.295	0.000	4.295
SP Transmission	SPT	SPT-RI-302 Glenglass 132kV Substation	13.539	-0.526	13.014
SP Transmission	SPT	SPT-TOCO 2201 Kilmarnock South H1	8.181	-3.725	4.456

3. MSIP Re-opener applications

Questions

ET.Q1. Do you agree with our proposal to reject NGET's MSIP funding application on the Norwich project because our view is that it does not meet the eligibility threshold?

ET.Q2. For each eligible project, do you agree with our assessment of the needs case for the 2025 MSIPs?

ET.Q3. For each eligible project, do you agree with the list of options considered to address the need? Are there other realistically viable options that you think should have been considered?

ET.Q4. For each eligible project, do you agree with our assessment of the preferred option for the 2025 MSIPs?

ET.Q5. For each eligible project, do you agree with our assessment of the efficient costs?

Assessment process

3.1 In their January 2025 MSIP Re-opener submissions (2025 MSIPs), the three ETOs set out their plans to deliver the MSIPs outlined in paragraphs 3.2 to 3.4 below. Except for NGET's Norwich project, we consider all the listed projects to be eligible for MSIP applications under SpC 3.14 of the ETOs' Licences as they are related to one or more activities as listed under SpC 3.14.6, meet the specified threshold as shown in paragraphs 3.2 to 3.4, and comply with the Re-opener Guidance and Application Requirements Document, as required under SpC 9.4.

3.2 NGET's 2025 MSIP applications subject to this consultation are:

1. **Central Pathfinders – Yaxley**: adding an additional bay at Yaxley substation to accommodate the connection of a synchronous condenser as part of the National Energy System Operator (NESO) grid stability pathfinder phase 3.
    - £6.357m additional funding requested.
    - Eligible for MSIP under SpC 3.14.6(f), as it is a system operability project requested by the System Operator.
2. **Central Reactive Voltage Compliance – Ironbridge**: NESO driven work to deliver a new 200MVAr 400kV shunt reactor at the Ironbridge substation to improve voltage management on the electricity transmission system and maintain compliance with the Security and Quality of Supply Standards (SQSS).

- £8.122m additional funding requested.
- Eligible for MSIP as a 0MW connection project or substation work, under SpC 3.14.6(f)

3. **Central Reactive Voltage Compliance – Willington**: NESO driven work to deliver a new 200MVAr 400kV shunt reactor at the Willington substation to improve voltage management on the electricity transmission system and minimise potential constraint costs.
    - £7.839m additional funding requested.
    - Eligible for MSIP as a 0MW connection project or substation work, under SpC 3.14.6(f)
4. **Heysham Overload Protection Scheme (OPS)**: Upgrading protection and control systems at the Heysham 132kV Grid Supply Point (GSP) to facilitate 130.5MW of embedded generation connection in Electricity North West Limited's (ENWL's) distribution network.
    - £1.323m additional funding requested.
    - Eligible for MSIP as a constraint management project requested by the System Operator, under SpC 3.14.6(f).
5. **Marston Vale**: constructing a new 4-bay 400kV GIS substation to facilitate the connection of the Millbrook Power's 299MW capacity open-cycle gas turbine (OCGT) generation to the electricity transmission network.
    - £20.942m additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £14.5m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £11.84m.
6. **Necton**: extending the Necton 400kV AIS substation to the east and west to enable the connection of 3.9GW of renewable electricity generation.
    - £55.431m additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £48.2m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £11.84m.

7. **Norwich**: extending the Norwich Main 400 kV substation to the east and west to facilitate 4.75GW of renewable electricity generation.
    - £30.238m additional funding requested.
    - We do not consider Norwich project to be eligible for funding through MSIP. See paragraph 3.5 below for explanation.
8. **Operational Tripping Systems (OTS) – East Anglia**: extending and modifying the East Anglia OTS to across five sites to protect against overload or instability.
    - £1.606m additional funding requested.
    - Eligible for MSIP as a system operability project requested by the System Operator, under SpC 3.14.6(f).
9. **OTS – Lackenby**: deliver a new OTS at Lackenby 275kV substation to receive monitoring signals and relay trip/de-load signals.
    - £2.854m additional funding requested.
    - Eligible for MSIP as a system operability project requested by the System Operator, under SpC 3.14.6(f).
10. **OTS – Killingholme**: extending and modifying the Killingholme OTS to include new circuits resulting from the addition of OCGT generation at Humber Refinery.
    - £0.848m additional funding requested.
    - Eligible for MSIP as a system operability project requested by the System Operator, under SpC 3.14.6(f).
11. **OTS – Pathfinder East Anglia**: delivering upgrades to the East Anglia OTS to trip/de-load generation customers at multiple sites and upgrade monitoring across the region.
    - £9.529m additional funding requested.
    - Eligible for MSIP as a system operability project requested by the System Operator, under SpC 3.14.6(f).
12. **Penrhos**: Constructing a new 132kV substation at Penrhos to facilitate demand and generation connections for Eclipse Power Networks and enable additional capacity at Anglesey freeport.
    - £73.164m additional funding requested.

- Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £52.8m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £11.84m.

13. **Wallend**: constructing a new 400kV SF6-free GIS substation to connect two interconnectors (1.4GW and 1.5GW) and one Battery Energy Storage System (BESS) facility (249MW).
    - £92.011m additional funding requested.
    - Eligible for MSIP as a generation and demand connection project under SpC 3.14.6(a) and (b) with £78.0m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £11.84m.

3.3 SHET's 2025 MSIP applications subject to this consultation are:

1. **B6 constraint management pathfinder**: connection of three generators to the Anglo-Scottish Commercial Intertrip scheme (the "B6 CIS").
    - £0.409m additional funding requested.
    - Eligible for MSIP as a constraint management project requested by the System Operator, under SpC 3.14.6(f).
2. **Lochluichart and Corriemoillie**: undertaking shared use enabling works, including installing a new 33kV circuit breaker feeder bay and 33kV single busbar, required to connect the Lochluichart Extension II windfarm to Corriemoillie 132kV substation.
    - £1.486m additional funding requested.
    - Eligible for MSIP as a protection project following system studies showing a need for changes to protection settings or replacement of protection relay with inadequate range, under SpC 3.14.6(i)i.
3. **North of Beauly Dynamic Line Rating (DLR)**: installing a DLR on the overhead line from Beauly to Loch Buidhe and Loch Buidhe to Dounreay, consisting of line-mounted sensors to alleviate network constraints.
    - £1.043m additional funding requested.
    - Eligible for MSIP as a protection project following system studies showing a need for dynamic line rating, under SpC 3.14.6(i)ii.

4. **Tealing Phase Shifting Transformers (PST) Bypass**: installing two PST bypasses at Tealing substation to ensure continued power flow during instances where parts of the main network infrastructure are unavailable and to meet Electricity System Restoration (ESR) requirements.
    - £11.143m additional funding requested.
    - Eligible for MSIP as an Electricity System Restoration project following establishment of the Electricity System Restoration Standard, under SpC 3.14.6(e).

3.4 SPT's 2025 MSIP applications subject to this consultation are:

1. **Branxton**: constructing a new 400kV GIS substation in the East Lothian area to enable connection of the 2000MW Eastern High Voltage Direct Current (HVDC) Link, to enable several North Sea offshore wind generation and BESS connections and to prepare for the closure of Torness Powers Station and decommissioning of the Torness 400kV substation.
    - £85.214m (including £0.6095m community benefits) additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a). The need case and optioneering of this project was submitted in 2022 and the eligibility was confirmed in our previous decision.
2. **Glenglass**: establishing a new 132kV substation at Glenglass to facilitate the connection of renewable generation capacity at Glenglass or elsewhere in the area.
    - £15.757m (including £0.6095m community benefits) additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £7.849m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £4.24m.
3. **Inch Cape and Cockenzie Load Management Scheme (LMS)**: delivering works at the Cockenzie 275kV substation to facilitate the connection of the Inch Cape offshore windfarm. Alongside these works, it is necessary to establish a LMS to manage network conditions in the Cockenzie area.
    - £4.434m additional funding requested.

- Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with a £4.808m and £5.622m variance between available volume driver funding and the estimated direct cost, for Inch Cape Platforms 1 and 2 respectively, each of which are individually higher than the threshold of £4.24m.

4. **Kilmarnock**: enabling the connection of 350MW of BESS through installation of a new 400kV GIS bay at Kilmarnock South 400kV substation, establishment of the new 400kV Boysdon substation and a 400kV cable circuit from Kilmarnock South to Boysdon substations.
    - £11.131m (including £0.138m community benefits) additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £4.389m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £4.24m.
5. **Mark Hill**: reinforcement work at Mark Hill 275/132kV substation to increase substation capacity to enable the connection of onshore wind generation and co-located BESS.
    - £8.409m additional funding requested.
    - Eligible for MSIP as a generation connection project under SpC 3.14.6(a) with £4.309m variance between available volume driver funding and the estimated direct cost, which is higher than the threshold of £4.24m.
6. **Sub-Synchronous Oscillation (SSO) Detection**: extension of SSO monitoring capabilities in response to a NESO planning request to detect and mitigate SSOs through works at Denny North 400kV, Denny North 275kV, Kincardine 275kV, Westfield 275kV, Glenrothes 275kV and Inverarnan 275kV substations.
    - £0.236m additional funding requested.
    - Eligible for MSIP as a system operability project requested by the System Operator, under SpC 3.14.6(f).

3.5 For NGET's Norwich project, our view is that it should be funded through the Generation Connections Volume Driver (under SpC 3.11). SpC 3.14.6(a) specifies that projects may be eligible for MSIP funding "*where the forecast costs…are at least £11.84m more or less than the level that could be provided for under Special*

Condition 3.11 (Generation Connections volume driver)". NGET's submitted forecast costs are slightly higher than the threshold. However, the forecast costs included a risk allocation at a level that is much higher than we would expect to see; and without the high level of risk allocation the forecast costs would be well below the eligibility threshold. We therefore do not consider this project to be eligible for MSIP funding and propose rejecting NGET's application.

3.6 The rejection of NGET's Norwich project leaves 22 projects eligible for assessment under the MSIP mechanism: 12 NGET projects, 4 SHET projects, and 6 SPT projects.

Needs case assessment

3.7 As part of their submissions, the ETOs set out the following for each project proposal:

- Needs case and preferred option,
- Stakeholder engagement and whole system opportunities,
- Cost information, and (if appropriate)
- Cost benefit analysis (CBA) and engineering justification papers (EJP).

3.8 In accordance with the Re-opener Guidance, the ETOs also set out the detail on how the proposed expenditure aligns with their future business strategy, including consideration of how it relates to their RIIO-2 licence obligations or to other statutory obligations, such as to provide timely connections to new generation or demand customers.

3.9 The EJPs act as a robust decision support tool, open to scrutiny and challenge in conjunction with other appropriate means of justification for investment decisions. They should be transparent about options scope, and which risks, costs and benefits were considered by the ETO as part of the analysis to inform the need for intervention and their proposed solutions.

3.10 The applications have been subjected to bespoke assessment of their needs cases.

3.11 The needs case for the investment is demonstrated by the provision of an explanatory narrative and evidence to support the need for investment. Supporting evidence includes asset condition and performance data, degradation projections, boundary power flow assessments, and references to the outputs of other relevant industry standards, assessments, or requirements (eg the NESO's Network Options Assessment).

Assessment of options and justification for the preferred option

3.12 When we consider that there is a valid need to be addressed, we assess the options development process, including whether all credible options to meet the needs case have been identified. We expect the options considered to include a do nothing or do a minimum option, and where a licensee has rejected an option we expect it to provide adequate justification for the rejection. For most projects the case for the licensee's preferred option should be supported by robust CBA.

3.13 We have undertaken a technical review of the options considered by ETOs on the 22 eligible projects and are satisfied that the ETOs have suitably considered all viable options. The full list of options considered can be found in Appendix 3. The materials we reviewed comprised of ETOs' submissions under the MSIP Re-opener and responses to supplementary questions.

3.14 We have assessed the preferred option from the perspective of efficiency of engineering solutions. This includes whether the preferred option is a proportionate solution to the identified needs case, and that the scope of the preferred option has not expanded beyond meeting the identified need without further justification.

Cost Assessment of the preferred options

3.15 In accordance with the Re-opener Guidance requirements, both ETOs must provide the rationale for the level of expenditure proposed and why this level should be regarded as being efficient.

3.16 We have assessed the cost information from the perspective of maturity of submitted costs, ie how well developed the project costings are, for example, whether they are supported by market tested tenders, or whether they are still at desktop study stage.

3.17 After establishing our view of the justified investment work from each ETO's schemes plus a view on their cost maturity, we then assessed the efficient cost for this work.

3.18 For assessing the asset costs, our primary approach was to apply our benchmark of unit cost for each type of asset, where relevant data is available to us.

3.19 We further assess the delineation of direct and indirect costs in the cost submissions in accordance with the latest Regulatory Instructions and Guidance (RIGs), with details given in paragraphs 3.22 to 3.27 below.

3.20 For risk and contingency costs, our re-opener guidance instructs the companies to separate these out from the asset and activity costs. This is so that we can take a more holistic view of the levels of risk allowance embedded in the network company's submission. Our assessment is detailed in paragraphs 3.28 to 3.32 below.

3.21 Where MSIP submissions have included a projected adjustment for inflation, these have been excluded. Our assessment is detailed on paragraphs 3.33 to 3.34 below.

Closely Associated Indirect (CAI) Costs

3.22 We note that ETO included some CAI costs such as surveys, network policy costs, project management and design costs related to the projects. According to the RIIO-ET2 Final Determinations (FDs), all CAI costs should be funded through the Opex Escalator (OE) mechanism. Details of the OE mechanism are set out in full within the RIIO-ET2 FDs.[4]

3.23 We note SHET requested us not to apply OE in its 2025 MSIP applications and included all project direct and indirect costs in its submissions. We consider dis-application of OE in the mid period of RIIO-ET2 is not viable without relevant licence modifications and it is not in the interest of consumers.

3.24 We have confirmed the application of the OE in the decision on the statutory consultation published on 6 October 2023. In line with our decision on the application of the OE we have adjusted the project cost in ETO's funding request by taking out the CAI costs (such as survey, network policy, project management and design costs) from the direct project cost. These activities will be funded through the OE mechanism, which applies an automatic uplift to the additional allowances awarded to ETOs through MSIP.

3.25 Some MSIP projects included costs for community benefit funds and calculated the costs using recently published government guidance on community funds for transmission infrastructure.[5] We have excluded costs relating to community benefit funds for these projects as they do not relate to activities which involve physical contact with transmission network infrastructure assets. While community benefit

[4] RIIO-ET2 FDs – ET Annex, chapter 4, decisions on OE contained in paragraphs 4.42 – 4.48
[5] Community funds for transmission infrastructure (accessible webpage) - GOV.UK

funds are not specifically categorised in the RIGs, community engagement and consultation activities that are defined are considered to be indirect activities.

3.26 In some MSIP projects ETOs included Biodiversity Net Gain (BNG) costs related to obligations to offset biodiversity losses incurred/leave a measurable improvement to habitats impacted resulting from developments to network infrastructure. Given the information available in the submissions, our assessment is that these costs are unlikely to involve physical contact with transmission network infrastructure assets and the most appropriate cost definition is Network Policy CAI.

3.27 We note in some projects, ETOs included contractor fees which are calculated in proportion to the contractor costs. With the contractor costs adjusted by taking out CAI costs, our initial view is to adjust the fees accordingly by taking out the fees charged on CAI items.

Risk Allowance

3.28 We also note from the cost breakdown that both ETOs have included a risk allocation within their forecast direct costs. NGET and SHET has split risk allowance between its own risks and contractor risks in some projects (which are embedded in the contract value). SPT confirmed that there is no risk allocation within individual contracts and anything over and above the contract values will be treated as a variation to the contract and funded via risk.

3.29 The efficient level of risk and contingency is independent on the party bearing the risk. The allocation of risk between the ETO and its contractors is therefore not relevant to consumers and is a matter for the ETO to manage. We have therefore combined contractor and ETO risks for the purpose of our assessment and in determining cost allowances.

3.30 In the MSIP submissions, all ETOs provided risk registers that included potential extra costs in contract award values, outage delays, winter working (weather risk), design or scope uncertainties and remedy to ecological problems.

3.31 We note the total risk allowance for some projects is higher than the average risk across projects at 7.5% of the direct cost as set out in the RIIO-ET2 FDs, while some of them are lower than 7.5%.

3.32 We explained in the decision on SPT's 2023 MSIP applications[6] that it is appropriate to align the level of risk and contingency allowance in re-opener applications with those provided in the baseline allowances set at RIIO-ET2 FDs, i.e. to set re-opener allowances at the average rate of 7.5%. This ensures that across the whole RIIO-ET2 portfolio that the level of risk allocation remains at 7.5%. We have applied the same approach in these DDs. This has resulted in risk allowances for some projects that are above the level requested by ETOs, and for other projects below the level requested by ETOs.

Adjustment for Inflation

3.33 NGET included inflation adjustments as an additional cost in 10 of the 13 MSIP projects assessed in this Draft Determination. The inflation adjustments applied either a Real Price Effects (RPE) estimate methodology to forecast Direct costs, or applied the contractual indexation term in the Main Works Contract (MWC) where this is defined. In some MSIP projects a combination of RPE forecasts and MWC indexation was applied.

3.34 Our approach to NGET MSIPs with RPE estimates and indexation has been to exclude these inflation adjustments. RPE applies to a subset of Totex that does not include MSIP allowances. There is no provision in the PCFM to apply adjustments to RPEs in future years based on actual index values, once known. In addition, RPE estimates do not relate to specific indexation in a contract.

[6] Licence modification on SPT's Medium Sized Investment Projects (MSIP) Re-opener | Ofgem

Detailed assessment of individual projects

NGET 2025 MSIPs (12 eligible applications)

3.35 We are satisfied that there is a need for all of the eligible projects submitted by NGET in 2025 MSIPs. With the exception of Penrhos, Wallend, and Marston Vale (as explained in paragraphs 3.38 to 3.64), we are satisfied that NGET has appropriately considered all viable options and that, from a consumer perspective, its preferred option is the optimal one in respect of each of the projects. Appendix 3 contains outline explanation of the options considered on each project.

3.36 **Table ET3** summarises our views on the needs case and optioneering on the projects.

Table ET3 Draft Determinations on Needs Case and Optioneering on NGET's 2025 MSIPs

No. of Project assessed	Needs Case approved	Need case rejected or partially rejected	Optioneering approved	Optioneering rejected or partially rejected
12	12	0	9	3

3.37 We are proposing to accept the needs case for the 9 projects listed below and the preferred option presented by NGET in addressing the individual needs cases. We are also proposing to adjust the funding requests to an efficient level by taking out the costs that we consider to be out of scope of the mechanism and calculating the risk allowance as shown in **Table ET4**.

1) Necton
2) Central Pathfinders – Yaxley
3) Central Reactive Voltage Compliance - Ironbridge
4) Central Reactive Voltage Compliance – Willington
5) Operational Tripping Systems – Lackenby
6) Operational Tripping Systems – Killingholme
7) Operational Tripping Systems – East Anglia
8) Operational Tripping Systems – Pathfinder East Anglia
9) Heysham OPS

Wallend

3.38 NGET proposes to construct a new 400kV Gas Insulted Switchgear (GIS) substation at Wallend on the Isle of Grain in Kent. The project is to facilitate a new 1.4GW HVDC interconnector to Germany (NeuConnect), a 1.5GW HVDC interconnector to Belgium (SouthernLink) and a connection to a new 249MW Battery Electric Storage System (BESS) (EcoEnergy).

3.39 We propose to accept the needs case for this project as it fulfils NGET's licence obligation under Section D of its licence to facilitate connection applications made by customers.

3.40 NGET considered a total of 10 high level options across 5 categories. Details can be found in Appendix 3 and are summarised below:

- 3 options categories (doing nothing, market and whole system solutions) could not provide a physical connection and hence have not been taken forward for consideration.
- 3 options to utilise existing substations in the locale, including connecting at Kingsnorth and Grain substations were rejected. These options were rejected due to various issues such as land access, future proofing, technical complexity, planning consenting difficulties, asset health or programme risk.
- 4 options to build a new substation, exploring different combinations of technology configurations (use of Air Insulated Switchgear (AIS) or GIS, different grid connection options and future proofing solutions) were considered. NGET did not consider AIS a viable option (see paragraph 3.41 below for explanation), but the other three options were considered potentially viable and were taken forward for further consideration.

3.41 NGET rejected the AIS option due to the proximity of the site to the coast and land limitations. NGET's view was that likely negative impact of the coastal operating environment on an AIS substation assets, and the limited amount of land made available to them by the developer of the first projects proposing to connect to the new substation, made this option non-viable. NGET did not explore the option of building an indoor AIS substation, which would have mitigated the coastal pollution impacts, and did not provide evidence that it adequately considered the possibility of purchasing additional land or alternative locations.

3.42 We have doubts over NGET's assumptions in relation to the asset impact due to the proximity to the coast and its consequent decision to reject the AIS option. NGET's Grain 400kV substation is an outdoor AIS substation that is in the same locality but

closer to the coast than the proposed Wallend substation. The Grain 400kV substation is over 40 years old. However, NGET's asset health reporting suggests that that the Grain substation is in good operational condition, and that it is expected to have a lifetime approaching 80 years.

3.43 After comparing the 3 options for GIS substations with different configurations, including the number of bays to be installed and the size of the substation building, NGET's preferred option is to build a new 10-bay GIS substation within a building sized for 16-bays to provide the greatest amount of future proofing. However, we do not believe the optioneering is adequate to demonstrate the selected option is in the best interest of consumers as the AIS option has been rejected too early.

3.44 Upon our request, NGET provided supplemental CBA to demonstrate the selected option is more cost effective. However, we consider the results of the supplemental CBA to be inclusive as:

- the cost assumption of AIS is higher than expected, and it is even more expensive than the GIS option,
- the lifespan assumption of the AIS options are shorter than the observed lifespan of existing operational AIS substations, and
- the difference between the Net Present Value (NPV) of various options is marginal (within 1%) with more realistic lifespan assumptions.

3.45 Although we agree with the need to build a new substation, for the reasons outlined above, we are proposing to reject the optioneering for Wallend. In our view the proposed GIS substation is not the efficient solution and propose to allow funding only at the level necessary to deliver the more efficient AIS solution. This does not tie NGET into delivering an AIS solution. However, should it choose a more expensive option then we do not think it would be appropriate for consumers to fully fund the additional associated costs.[7]

3.46 We are therefore proposing to adjust the funding level that we assess would be necessary to deliver the AIS option. Our estimated direct cost for an AIS substation is £57.3m. We have estimated this cost using ET2 re-opener cost benchmarks and

[7] Please note that if NGET chooses an option that costs more than funding provided through the MSIP then consumers will still pay for a proportion of the additional costs through the Totex Incentive Mechanism (TIM).

typical cost comparison between AIS and GIS substations, further detail is set out in Appendix 4.

3.47 We welcome further information from NGET and other stakeholders to addresses our concerns outlined in paragraphs 3.38 to 3.46, to demonstrate that NGET's preferred GIS option for Wallend substation is in the short-term and long-term interests of consumers, and/or that it would be appropriate to increase the allowance award closer to NGET's requested £92.011m.

Penrhos

3.48 This project is to construct a new 132kV 8-bay substation at Penrhos for connecting two customers, namely Eclipse Power Networks (for a 210MW demand and generation connection) and Mentor Mon (for a 180MW generation connection).

3.49 We propose to accept the needs case of this project as it fulfils NGET's obligation to facilitate connection applications made by customers.

3.50 NGET considered a total of 8 high level options across 5 categories. These were:

- 3 options categories (doing nothing, market and whole system solutions) could not provide a physical connection and hence have not been taken forward for consideration.
- 1 option to utilise an existing substation, at Wylfa 400kV substation, would not be able to deliver the required connections in an economically viable manner because it would significantly increase delivery timescales and project costs.
- 4 options to build a new substation in place of the previously demolished Penrhos substation.

3.51 Of those 4 viable options that provide the required customer connections, 2 options were taken forward for detailed analysis:

1) Build a new 132kV 8-bay SF6-free GIS substation at Penrhos and replace cables between Penrhos and Wylfa (NGET's preferred option)
2) Build a new 132kV 8-bay SF6-free GIS Containerised Solution at Penrhos and replace cables between Penrhos and Wylfa

3.52 NGET's preference is for option 1, as it allows a timely connection for its customers. NGET considers it would take longer to provide connections under option 2 as more time would be needed to type-register as it is a novel solution.

3.53 We consider provision of a timely connection will be important to NGET's customers. We propose to accept NGET's preferred option to build a new 8-bay SF6-free GIS 132kV substation.

3.54 However, NGET proposes to construct a 10-bay building only. The substation will have insufficient capacity to accommodate any further firm connections without a third circuit infeed, as the building can only accommodate a single bay firm connection. We do not consider this to be an efficient building design because it is not future proofed, i.e. it does not leave scope for further expansion should additional connections be needed in the future. Although NGET stated that it could extend the GIS building within the land boundary subject to design study, we believe the substation should be built with futureproofing capacity.

3.55 Although we have concerns over whether the proposals are future proofed, delivering a future proofed solution would likely cost more than NGET's proposals. We are reluctant to award allowances higher than proposed by NGET and are therefore proposing to approve the funding requested for the NGET's selected option (with adjustment to an efficient level by taking out the costs and calculating the risk allowance as shown in **Table ET2**). We will mitigate the potential consumer detriment of a installing a potentially inefficient solution through our monitoring and take account of any assessed detriment in any future associated decisions.

Marston Vale

3.56 This project is to build a new 4-bay 400kV GIS substation for a contracted customer (Millbrook Power Ltd), which is constructing a new 299MW open-cycle gas turbine (OCGT) in Millbrook, Bedfordshire.

3.57 We propose to accept the needs case of this project as it fulfils NGET's obligation to facilitate a connection application made by a customer.

3.58 NGET considered a total of 12 high-level options for delivering this customer connection under 5 categories:

- 3 options categories (doing nothing, market and whole system solutions) could not provide a physical connection and hence have not been taken forward for consideration.
- 1 option to utilise existing substation within the vicinity of the customer. This option was rejected as no such substation could be identified.
- 8 options to build a new substation, exploring different combinations of technology configurations (use of Air Insulated Switchgear (AIS) or Gas Insulated Switchgear (GIS), different locations and grid connection options).

3.59 Of the 8 options to build a new substation, NGET rejected 5 of them due to land space requirements, technical complexity or additional works required. NGET shortlisted 3 options to build a new substation for detailed assessment:

(1) AIS substation inside the Rookery Pit and use of the existing overhead line (OHL) tower.

(2) GIS substation next to the OHL tower and use of the existing OHL tower.

(3) GIS substation next to the OHL and installation of a new OHL tower.

3.60 NGET's preference was for option 2 after considering land space, wayleaves, construction time and resource requirements.

3.61 We do not believe the optioneering is adequately demonstrates option 2 is in the best interest of consumers and the CBA is inconclusive because:

- the cost assumption of AIS is higher than expected, and it is even more expensive than the GIS option,
- the lifespan assumption of AIS is shorter than the observed lifespan of existing operational AIS substations, and
- the difference between the NPV of various options is marginal (about 0.1 %) with more realistic lifespan assumptions.

3.62 We consider the optioneering is unjustified because the selected option for a 4-bay building is not future proofed. NGET makes no provisions for future expansion of the proposed substation. This is not in the interest of consumers because any future expansion would require surveys and studies to determine its viability, and further land purchase. We have seen there are significant amount of customer connection applications in the region. Given the Marston Vale site is located on a North to South transmission circuit, a larger or readily expandable site would likely be a more economical and efficient solution accounting for future system needs.

3.63 Although we agree that there is a need to provide a generation connection for Millbrook, NGET has not demonstrated that its preferred option would be in the best interests of existing and future consumers, according to the requirements set out under the CBA and engineering justifications in Chapter 3 of the Re-opener Guidance. We are therefore proposing to reject the optioneering of the Marston Vale project and the current funding request under the MSIP mechanism.

3.64 If NGET proceeds with the project to fulfil its obligation to provide a customer connection, it may seek funding through generation connection volume driver mechanism, in which case NGET would receive additional direct cost allowances of

approximately £6.4m. This position is consistent with our proposed approach in the RIIO-2 Re-opener Applications 2024 Draft Determinations consultation position for NGET's Hylton Castle GSP.[8]

3.65 We welcome further information (or revised proposal) from NGET and other stakeholders to addresses our concerns outlined in paragraphs 3.56 to 3.64, to demonstrate that NGET's preferred option for Marston Vale substation is in the short-term and long term interests of consumers, and/or that it would be appropriate to be included under MSIP mechanism.

Summary of Adjustments

3.66 **Table ET4** summarises the proposed ET2 adjustments on NGET's 2025 MSIPs as discussed above.

Table ET4 Summary of Proposed ET2 Adjustments on NGET's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – RPE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Adjustment – Low cost confidence items £m	Adjustment – Eligibility £m	Ofgem's DD* £m
NGET Central Reactive Voltage - Ironbridge	8.122	-0.257	-0.009	0.041	0.000	0.000	0.000	7.897
NGET Central Reactive Voltage - Willington	7.839	-0.063	-0.158	-0.221	0.000	0.000	0.000	7.397
NGET Heysham OPS scheme for ENWL	1.323	0.000	0.000	-0.255	0.000	-0.365	0.000	0.703
NGET Marston Vale (Millbrook)	20.942	0.000	0.000	0.000	-20.942	0.000	0.000	0.000
NGET Necton 400kV site strategy	45.031	-0.155	-0.118	-7.116	0.000	0.000	0.000	37.642
NGET Norwich 400kV site strategy	28.452	0.000	0.000	0.000	0.000	0.000	-28.452	0.000

[8] The Hylton Castle application was subsequently withdrawn due to the customer cancelling the connection request.

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – RPE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Adjustment – Low cost confidence items £m	Adjustment – Eligibility £m	Ofgem's DD* £m
NGET OTS - East Anglia	1.606	0.000	0.000	0.120	0.000	0.000	0.000	1.726
NGET OTS – Lackenby	2.854	-0.002	-0.018	-0.038	0.000	0.000	0.000	2.796
NGET OTS Killingholme	0.848	-0.002	0.000	-0.021	0.000	0.000	0.000	0.825
NGET Pathfinder - East Anglia OTS	6.800	-0.024	-0.014	-1.603	0.000	0.000	0.000	5.158
NGET Pathfinder - Yaxley	6.067	0.000	-0.037	-0.237	0.000	0.000	0.000	5.793
NGET Penrhos 132kV site strategy	17.034	-0.485	-0.140	-0.188	0.000	0.000	0.000	16.221
NGET Wallend**	57.848	0.000	0.000	-3.077	-18.262	0.000	0.000	36.510
Total	204.765	-0.988	-0.495	-12.595	-39.204	-0.365	-28.452	122.666

**We refer to draft determinations as 'Ofgem's DD'.*

*** £0.04m of T1 costs also excluded.*

3.67 **Table ET5** summarises the proposed adjustments to ET3 funding on NGET's 2025 MSIPs as discussed above.

Table ET5 Summary of Proposed ET3 Adjustments on NGET's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – RPE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Adjustment – Eligibility £m	Ofgem's DD* £m
NGET Central Reactive Voltage - Ironbridge	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET Central Reactive Voltage - Willington	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET Heysham OPS scheme for ENWL	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET Marston Vale (Millbrook)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET Necton 400kV site strategy	10.400	-0.020	-0.151	-3.419	0.000	0.000	6.810

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – RPE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Adjustment – Eligibility £m	Ofgem's DD* £m
NGET Norwich 400kV site strategy	1.787	0.000	0.000	0.000	0.000	-1.787	0.000
NGET OTS - East Anglia	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET OTS - Lackenby	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET OTS Killingholme	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NGET Pathfinder - East Anglia OTS	2.729	0.000	-0.017	-0.661	0.000	0.000	2.052
NGET Pathfinder - Yaxley	0.290	0.000	-0.004	0.000	0.000	0.000	0.285
NGET Penrhos 132kV site strategy	56.130	-0.625	-0.900	-0.722	0.000	0.000	53.883
NGET Wallend	34.163	0.000	0.000	-2.537	-10.773	0.000	20.816
Total	105.499	-0.645	-1.073	-7.338	-10.773	-1.787	83.846

SHET 2025 MSIPs (4 applications)

3.68 We are satisfied that there is a need for the four projects submitted by SHET in 2025 MSIPs, that SHET has considered all viable options (details in Appendix 3), and that SHET has correctly rejected the less optimal options. Appendix 3 contains an outline explanation of the options considered on each project. The following **Table ET6** summarises our draft views on the needs case and optioneering for these projects.

Table ET6 Draft Determinations on Needs Case and Optioneering on SHET's 2025 MSIPs

No. of Project assessed	Needs Case approved	Need case rejected or partially rejected	Optioneering approved	Optioneering rejected or partially rejected
4	4	0	4	0

3.69 We are proposing to accept the needs case for the following projects and the preferred option presented by SHET in addressing the needs case for each individual project, because the preferred option is the only identified option that addresses the

system operation requirement. We are also proposing to adjust the funding requests to an efficient level by taking out indirect costs and adjusting the risk allowance as shown in **Table ET2** above.

1) B6 constraint management pathfinder
2) Lochluichart and Corriemoillie
3) North of Beauly DLR
4) Tealing Bypass

Summary of Adjustments

3.70 **Table ET7** summarises the proposed ET2 adjustments on SHET's 2025 MSIPs as discussed above.

Table ET7 Summary of Proposed ET2 Adjustments on SHET's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SHET Constraint Management Pathfinder (B6)	0.409	-0.078	0.016	0.000	0.347
SHET Lochluichart and Corriemollie	1.486	-0.472	0.005	0.000	1.019
SHET North of Beauly DLR (stage 2)	1.043	-0.294	-0.028	0.000	0.721
SHET Tealing bypass	4.974	-1.373	-0.029	0.000	3.572
Total	7.912	-2.217	-0.036	0.000	5.659

**We refer to draft determinations as 'Ofgem's DD'.*

3.71 **Table ET8** summarises the proposed adjustments to ET3 funding on SHET's 2025 MSIPs as discussed above.

Table ET8 Summary of Proposed ET3 Adjustments on SHET's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SHET Constraint Management Pathfinder (B6)	0.000	0.000	0.000	0.000	0.000
SHET Lochluichart and Corriemollie	0.000	0.000	0.000	0.000	0.000
SHET North of Beauly DLR (stage 2)	0.000	0.000	0.000	0.000	0.000

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SHET Tealing bypass	6.169	-1.065	-0.028	0.000	5.077
Total	6.169	-1.065	-0.028	0.000	5.077

SPT 2025 MSIPs (6 applications)

3.72 We are satisfied that there is a need for the individual projects submitted by SPT in 2025 MSIPs, that SPT has considered all viable options, and that SPT has correctly rejected the less optimal options (except for Kilmarnock project as explained in paragraphs 3.74 to 3.79). Appendix 3 contains outline explanation of the options considered on each project.

3.73 **Table ET9** summarises our views on the needs case and optioneering on the projects.

Table ET9 Draft Determinations on Needs Case and Optioneering on SPT's 2025 MSIPs

No. of Project assessed	Needs Case approved	Need case rejected or partially rejected	Optioneering approved	Optioneering rejected or partially rejected
6	6	0	5	1

3.74 We are proposing to accept the needs case for the 5 projects listed below and the preferred option presented by SPT in addressing the individual needs case, because it is either the lowest cost option or assessed to be the best option in our previous decisions.[9] We are also proposing to adjust the funding requests to an efficient level by taking out the costs and calculating the risk allowance as shown in **Table ET10**.

1) Branxton
2) Glenglass
3) Inch Cape and Cockenzie LMS

[9] Previous decisions on needs case and optioneering were made for Glenglass, Branxton and Inch Cape Wind Farm.

4) Mark Hill

5) SSO Detection

Kilmarnock

3.75 SPT proposed to connect a single 350MW BESS connection to Kilmarnock South 400kV substation via a single bay and underground cable to the user's point of connection.

3.76 We consider the needs case valid as the project fulfils SPT's obligation to facilitate a connection application made by a customer.

3.77 SPT considered several options for delivering this customer connection as listed in Appendix 3, including turning in an existing circuit, via an OHL, and via an underground cable. SPT's preferred option is to provide the connection via underground cable as it provides the necessary capacity and achieves the earliest possible completion date, at lowest capital cost.

3.78 We agree with SPT that underground cable is the better option. However, the proposed underground cable route is greater than 2km in length, meaning that as a result it would be classified as an infrastructure asset rather than a connection asset.[10] Infrastructure assets benefit wider consumers and not just the party requesting the connection and are therefore usually funded by energy consumers through their bills. SPT explored a number of underground cable routes, including a direct route with shorter cable length (less than 2km) which would be classed as a connection asset to be paid for by the connecting customer. SPT rejected the direct route option as it was not able to secure landowner agreements for a timely connection, and selected its preferred option in order to accelerate the connection to the customer. Should the customer require accelerated connection then in our view the cost should not be borne by energy bill payers but should be at the cost of the connecting customer.

[10] Connection and Use of System Code (CUSC) - paragraph 14.2.6

3.79 We are proposing to partially accept the optioneering of this project by taking out the cost associated with the underground cable, which we considered should not be borne by the consumers.

Summary of Adjustments

3.80 **Table ET10** summarises the ET2 adjustments on SPT's 2025 MSIPs as discussed above.

Table ET10 Summary of Proposed ET2 Adjustments on SPT's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SPT Branxton 400kV Substation**	51.029	-2.058	-0.804	0.000	48.167
SPT Extension of Sub-Synchronous Oscillation (SSO) Detection Capabilities	0.236	0.000	-0.002	0.000	0.234
SPT Inch Cape Offshore Wind Farm	3.770	0.000	-0.069	0.000	3.701
SPT SPT-RI-1742 Cockenzie Overload Protection Scheme	0.406	0.000	-0.009	0.000	0.397
SPT-RI 282 Mark Hill SGT4	4.295	0.000	0.000	0.000	4.295
SPT-RI-302 Glenglass 132kV Substation**	13.539	-0.520	-0.005	0.000	13.014
SPT-TOCO 2201 Kilmarnock South** H1	8.181	0.000	-0.210	-3.515	4.456
Total	81.457	-2.579	-1.099	-3.515	74.263

** We refer to Draft Determinations as 'Ofgem's DD'.*
*** Funding request does not include community benefit funds*

3.81 **Table ET11** summarises the proposed adjustments to ET3 funding on SPT's 2025 MSIPs as discussed above.

Table ET11 Summary of Proposed ET3 Adjustments on SPT's 2025 MSIPs

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SPT Branxton 400kV Substation**	33.575	-0.375	-0.906	0.000	32.294

Project Name	Funding Request £m	Adjustment – OE £m	Adjustment – Risk £m	Adjustment – Optioneering £m	Ofgem's DD* £m
SPT Extension of Sub-Synchronous Oscillation (SSO) Detection Capabilities	0.000	0.000	0.000	0.000	0.000
SPT Inch Cape Offshore Wind Farm	0.000	0.000	0.000	0.000	0.000
SPT SPT-RI-1742 Cockenzie Overload Protection Scheme	0.258	0.000	0.000	0.000	0.258
SPT-RI 282 Mark Hill SGT4	4.114	0.000	-0.038	0.000	4.076
SPT-RI-302 Glenglass 132kV Substation**	1.608	0.000	-0.028	0.000	1.580
SPT-TOCO 2201 Kilmarnock South H1**	2.812	0.000	-0.206	-1.087	1.519
Total	42.367	-0.375	-1.178	-1.087	39.727

** We refer to Draft Determinations as 'Ofgem's DD'.*

*** Funding request does not include community benefit funds*

4. SHET Gremista GSP Project under LOTI Re-opener

Questions

ET.Q6. Do you agree with the principle that SHET should not financially benefit from its decision to move the Gremista GSP project from the MSIP mechanism to LOTI?

ET.Q7. Do you agree with Draft Determinations position on pre-construction costs for Gremista GSP project?

ET.Q8. Do you agree with our Draft Determinations on direct construction costs for Gremista GSP project?

ET.Q9. Do you agree with our Draft Determinations on indirect costs for the Gremista GSP project?

ET.Q10. Do you agree with our Draft Determination on risk for Gremista GSP project?

ET.Q11. Do you agree with our Draft Determinations on the COAE threshold adjustment for Gremista GSP project?

ET.Q12. Do you agree with our Draft Determinations view on the implementation of the Large Project Delivery (LPD) mechanisms: Re-profiling and Project Delay Charge for Gremista GSP project?

The Gremista GSP Project

4.1 Shetland is currently served by an isolated distribution network, which uses diesel generation and a small wind generation station as main generation source. Enabled by the new Transmission HVDC link, the Gremista GSP project will provide Shetland consumers with a connection to the transmission system. This will allow the local electricity demand to be met primarily from renewable generation and will allow Shetland to import from mainland (Great Britain) GB grid via the HVDC link, providing security of supply to Shetland.

4.2 The Gremista GSP project will allow Lerwick Power Station to transition to standby mode (avoiding significant additional investment that would be needed to maintain the existing Lerwick Power Station by procuring a new enduring solution).

4.3 The project will offer energy diversification and decarbonisation of the Shetland's network to support both local and national Net Zero goals. This will reduce reliance on Lerwick Power Station, leading to substantial decrease in diesel fuel consumption.

The LOTI process

4.4 For transmission projects over £100m, an ETO may seek approval of eligibility for LOTI applications under SpC 3.13.10 of the Licence.

4.5 The LOTI process for eligible projects has more stages to it than the MSIP process does. The LOTI process stages are:

1. Initial Needs Case submission (INC);
2. Final Needs Case submission (FNC); and
3. Project Assessment (PA).

4.6 Each of the stages require the ETO to make an application, for Ofgem to assess the application, and for Ofgem to carry out public consultation ahead of a decision.

4.7 Under SpC 3.13.23, an ETO must comply with the LOTI Guidance when making a submission of an INC, seeking approval of a FNC, and making an application for a PA.

Our assessment of the project's needs case

4.8 We initially approved the need for the Gremista GSP project in our Decision on SHET's 2022 MSIP submission through the MSIP mechanism, agreeing with SHET's proposal to replace the aging Lerwick Power Station as the best solution for Shetland's energy needs.

4.9 SHET updated the project cost to £105.081m, exceeding the £100m threshold for eligibility under the LOTI mechanism. Due to the differing treatment of indirect costs between MSIP and LOTI mechanisms, the Gremista GSP project was eligible for consideration under both, and in June 2024, SHET requested that it be moved to LOTI. We agreed to SHET's request on the basis that the overall funding outcome would be the same regardless of any procedural differences between the two mechanisms.

4.10 During our engagement with SHET, we informed it that should it choose to resubmit the application as a LOTI then the overall funding outcome would be the same as if it had remained within MSIP. We have applied the principle that SHET should not financially benefit from its decision to move the Gremista GSP project from the MSIP mechanism to LOTI to the relevant areas of our assessment.

4.11 In 2024 we reviewed the original MSIP submission and considered it to be equivalent to a LOTI Initial Needs Case (INC). This permitted SHET to proceed directly to Final Needs Case (FNC) approval. We issued a direction in June 2024 relieving SHET of the requirement to formally submit an INC. The direction also permitted SHET to apply for pre-construction funding under Special Condition 3.15.7 of the Licence.

4.12 In our Draft Determinations on RIIO-2 re-opener applications 2024 we proposed to approve the FNC for the Gremista GSP project as we believed that SHET's preferred option is reasonable in terms of technical design and provides the most appropriate solution given the project's drivers and background generation projections.

4.13 SHET's FNC did not materially change from the needs case assessment under the MSIP submission. The key drivers for the project, to deliver security of supply to the island, are unchanged and we are satisfied that the preferred option will help deliver the necessary security of supply.

4.14 We consider the technical design proposed by SHET for the Gremista GSP project remains the most cost-effective solution.

4.15 Within our Draft Determinations on RIIO-2 re-opener applications 2024 we proposed to set a Project Delivery Charge (PDC) for each date a project is delivered late and, in the PA stage will look to understand the impact of any delay in terms of costs to consumers.

4.16 According to RIIO-ET2 FD, there are various mechanisms available for large (£100m+) projects to minimise consumer's detriment from project delays. Which Large Project Delivery (LPD) mechanism or mechanisms will be applied to a project will be decided on a project-by-project basis.

Requested cost allowances for the Gremista GSP Project

This section details the funding request received by SHET for the Gremista GSP project.

4.17 When the FNC for Gremista GSP was assessed under LOTI in 2024, the estimated capital costs were £105.081m (2018/19 prices). This cost has not changed for the PA.

4.18 SHET has requested funding for pre-construction costs, construction costs, indirect costs, and risk for Gremista GSP.

4.19 The details of the total request of £105.081m (including the pre-construction costs of £2.705m) are in **Table ET12** below:

Table ET12 Summary of SHET's Gremista GSP Total Project Costs

Categories Cost Breakdown	Total Project Cost (£m)
Project Management	5.465
Regulatory and Consent	2.105
Engineering	10.386
Equipment Procurement	0.471
Construction – Main and Ancillary Contracts	78.034
Commissioning and Operations	0.425
Risk and Contingency	7.037
Other Direct Costs	0.692
RIIO-ET2 Total	**104.615**
RIIO-ET1 Costs	0.465
Total	**105.081**

4.20 For the purpose of our assessment, we have re-classified SHET's submitted costs into the following categories:

- £2.705m pre-construction costs (including £0.465m incurred in RIIO-ET1);
- £78.506m direct costs;
- £7.037m risk allowance; and
- £16.832m indirect costs.

Pre-construction costs

4.21 Under LOTI, pre-construction costs are recovered separately through SpC 3.15. SHET requested £2.705m pre-construction funding under SpC 3.15.

4.22 The pre-construction funding covers activities such as environmental and engineering surveys, assessments and studies for the overhead line (OHL) and underground cable (UGC) circuits, project design costs (i.e. layouts for substation and routing design to both OHL and UGC), planning applications and securing of wayleaves for both OHL and UGC. The costs also cover engagement with landowners and the community, as well as general event costs to secure planning consent for the OHL section.

Direct construction costs

4.23 SHET requested £78.506m to fund direct construction works for Gremista GSP project. The high-level scope of the project involves the creation of a 132/33kV GSP at Gremista and a combination of 132kV trident wood pole OHL and UGC circuits connecting to Kergord substation.

4.24 The project is split into three main work packages:

- Work Package A includes substation works at both the Kergord substation and the new Gremista GSP;
- Work Package B relates to the overhead lines which form the middle section between Gremista GSP and Kergord substation; and
- Work Package C entails the installation of three sections of underground cable.

4.25 The project's design and construction strategy has been adapted to address challenges specific to its location and have selected contracting partners with significant experience and a proven track record working in remote locations under difficult conditions. Construction in remote location presents challenges in travel and accommodation of the workforce as well as delivery of required materials and equipment. The location of the island in the North Sea, especially during winter months, restricts working hours due to limited daylight and adverse weather with high rainfall and high wind speeds which necessitate special preparation. Lastly, the project's strategy had to consider the poor ground conditions, with areas of deep peat and rocky outcrops, as well as cable routing challenges.

4.26 SHET has created the Gremista GSP project using SSE's process for managing large capital projects, Large Capital Projects (LCP) Governance Framework Manual (MA-COR-LCP-001) and the Gate Keeping Procedure (PR-COR-LCP-020).

4.27 A hybrid multi-contract approach to procurement has been adopted, with contracts awarded under competitive tendered framework agreements. SHET has used lessons learned through the delivery of other projects with similar requirements such as the Shetland HVDC link.

4.28 For Work Packages A and C, SHET has used target cost contracts, this accounts for 88% of the activities schedule, with the remaining 12% contracted at fixed prices (Work Package B). For Work Package B, the contractor had experience working in remote locations and agreed to a fixed price type of contract. Whereas for Work Package A and C, the contractor was not willing to accept the high level of risk

associated with the adverse island conditions. Because of that, a target cost contract was agreed, where the financial risks are shared between the company and the contractor. Target cost contracts are common with large scale projects where the scope of work is not fully defined or there are great anticipated risks. Furthermore, the shared risks element act as a motive for the contractor to deliver the project work in the most cost-efficient way possible.

4.29 In SHET's view, there is a lack of capacity and capability in the local supply chain which led to a limited number of responses. As a result, many subcontracts have been arranged to be delivered by off-island contractors which has increased costs.

4.30 Other factors impacting costs are driven by escalating costs of raw material for UGCs and OHLs and longer lead times due to global demand on the supply chain. Advance financial commitments to secure manufacturing slots for those critical assets are required to mitigate the risk of delivery delay.

4.31 SHET has requested funding for necessary alteration works in collaboration with Scottish Hydro Electric Power Distribution (SHEPD). The diversion activities include undergrounding existing sections of 11kV and 33kV OHL on the DNO's network to make way for the construction of the 132kV OHL. To avoid the risk of delays, the diversion works will work in parallel with the installation of the OHLs.

Risk and contingency

4.32 SHET requested funding of £7.037m to cover for risk allowances based on a quantified risk assessment on a P50 basis. In SHET's view the figure reflects the regional challenges and the fact that construction is already underway with several risks already being mitigated.

4.33 For the Gremista GSP project, a Quantitative Cost Risk Analysis (QCRA) has been undertaken based on risks identified from the project initiation phase. The QRCA model is a Monte Carlo probabilistic model, which estimates a range of possible outcomes for each risk. The costs associated with each input scenario are informed by previous projects, industry benchmark cost information and contractor's submissions. The requested P50 allowance covers risks and challenges related to the remote location, material procurement, routes design, planning permission and diversions.

Indirect costs

4.34 SHET requested funding related to internal and contractor indirect costs, commissioning, operating and insurance costs. As part of the PA submission, SHET requested £0.337m of funding for insurance costs and £0.425m for commissioning and operations.

4.35 To deliver community benefits, SHET requested £0.355m. The allowance is calculated as 0.35% of capital costs and the additional funding will be apportioned to two types of funds:

- A Regional North of Scotland Fund (70%), which will fund initiatives that focus on skills development, education and employment; and
- Local Community Benefit Fund (30%), which will provide funding for non-profit community initiatives within the geographical area of the project.

4.36 Within the work package costs are added indirect costs associated with welfare and accommodation costs for the workers and on-site supervision.

Cost and Output Adjusting Events

4.37 Cost and Output Adjusting Events (COAE) refers to an unforeseen extreme event related to weather or environmental conditions. The mechanism has been created to offer protection in cases when an event, categorised as COAE, impacts the project's expenditure to increase or decrease by a set threshold. Detailed supporting information can be found in Large Onshore Transmission Investments Reopener Guidance.

4.38 In SHET's submission, it requested a 2% threshold of the total project cost (£2.102m) for the COAE mechanism instead of the current LOTI COAE materiality threshold of 20% (£21.016m). SHET's argument is that Gremista GSP project is well under construction, and a single risk event that would exceed the 20% cost threshold is unlikely to happen.

Our Draft Determinations

4.39 This section covers our DDs positions on the PA submission for the Gremista GSP project.

4.40 It sets out our views on the efficient allowances for the project regarding direct construction costs, indirect costs, and risk. It also sets out our views on the

requested COAE materiality threshold. Finally, it provides a table that summarises the requested allowance and the total sum of funding we propose to allow.

4.41 In summary, we propose to allow £79.350m for the overall delivery of Gremista GSP project and to set the COAE threshold for the project at 10%.

Pre-construction costs

4.42 Costs incurred prior to the start of RIIO-ET2 are out of scope of the MSIP mechanism. On the principle that SHET should not financially benefit from its decision to move the Gremista GSP project from the MSIP mechanism to LOTI (as explained above), we are proposing to disallow the element of pre-construction costs incurred in RIIO-ET1.

4.43 Additionally, activities such as project management, planning and consents are all CAI activities that fall under the scope of the indirect costs. The costs for undertaking these CAI activities should not be included in the direct capex of the project.

4.44 Our DDs is therefore to disallow all pre-construction costs.

Direct construction costs

4.45 SHET has detailed the key challenges and risks that the Gremista GSP project is facing. Among them are the remote geographical location of Shetland and the nature of works to be carried out. SHET has faced those challenges from the development and planning phase, and they are expected to persist through construction and operational phase.

4.46 In our review of the project's direct construction costs, we consider the approach to procurement and contracting taken by the project team to be acceptable in the circumstances for managing the challenges above. As mentioned earlier, 88% of the activities scheduled are contracted as a target cost contract which we consider to be an acceptable method of managing risk in the supply chain and to incentivise contractors to work collaboratively with SHET to meet the project timelines.

4.47 We recognise that the project faced island-specific issues in contracting strategy due to the finite local resource pool on Shetland, the local market conditions, and existing working relationships that led to increased costs as mainland contractors were a necessity.

4.48 However, as the construction works for Gremista GSP have been disaggregated into three distinct work packages, some components of direct construction costs exhibit substantial variability among them. A range of costs between £0.417m to £4.326m were provided for welfare and accommodation costs. We propose to apply the most efficient figure (£0.417m) across the three packages.

4.49 Similarly, a range of costs between £0.344m to £6.161m were provided for supervision and administration costs. We propose to apply the most efficient figure (£0.344m) across the three packages.

4.50 According to the definition of direct activities and in accordance with the latest Regulatory Instructions and Guidance (RIGs), preparation and enabling works on site are considered indirect activities and we have therefore removed £1.227m associated with these activities from the construction costs. For the same reason, we have removed overhead and fee costs of £0.282m embedded in the direct construction costs.

4.51 In total, our Draft Determination is to award additional allowances of £67.069m for direct construction costs.

Risk and contingency

4.52 We explain above that the Gremista GSP project was previously submitted under the MSIP mechanism and that it was moved to LOTI under the understanding that the funding outcome would be the same. This means that SHET should not benefit from its decision to move the project from MSIP to LOTI. We are therefore proposing to apply the same assessment to this risk and contingency as applied to MSIP projects.

4.53 We have explained in previous decisions for MSIP applications that it is appropriate to align the level of risk and contingency allowance in re-opener applications with those provided the baseline allowances set at RIIO-ET2 FDs, i.e. to set reopener allowances at the average rate of 7.5%. This ensures that across the whole RIIO-ET2 portfolio that the level of risk allocation remains at 7.5%. We have applied the same approach in our assessment for Gremista GSP, so we are proposing to approve a total of £5.030m (7.5% of £67.069m direct allowance) for risk and contingency.

Indirect costs

4.54 As with the proposed risk and contingency allowances, our aim is for the same funding outcome as would have been the case had the project remained within the MSIP mechanism. Indirect costs are not awarded directly though the MSIP

mechanism. Instead, the Opex Escalator (OE) mechanism automatically awards additional indirect allowances at a fixed percentage of the direct allowances. For SHET the OE provides additional indirect allowance at a rate of 10.81% of direct allowances (including any allowances for risk and contingency).

4.55 As per our decision of November 2021, the OE no longer applies to LOTI projects. Consequently, it is necessary to calculate appropriate level of indirect allowances through the LOTI mechanism. In accordance with the principle that SHET should not benefit from its decision to move the project from MSIP to LOTI, we are proposing to award indirect allowances at the OE rate of 10.81%. Our Draft Determination is therefore to award indirect allowances of £7.250m (10.81% of £67.069m direct allowances).

Cost and Output Adjusting Events

4.56 We consider SHET's proposed COAE threshold of 2% (£2.102m) to be too low a figure for a threshold that is intended to be for very low probability, very high impact events. We are proposing a COAE threshold of 10%, equivalent to £10.508m.

4.57 We believe that £10.508m represents a single risk of significant magnitude, protecting the interests of consumers while providing SHET with the confidence that low probability, high value risks will be funded. This is consistent with the 10% COAE threshold we set on other LOTI projects (i.e. SSEN Transmission's Shetland HVDC link project) following project assessment.

Large Project Delivery mechanisms

4.58 Taking into account the response received by SHET to our RIIO-ET2 DDs, the new PDC mechanism creates uncertainty for both the project and the licensee because of its timing of application, arguing that there is no established calibration policy currently guiding our approach.

4.59 Based on the available mechanisms to protect consumers according to RIIO-ET2 FDs, we consider that a delay beyond the proposed delivery date for the Gremista GSP project would result in little to no detriment to consumers.

4.60 Therefore, we are proposing to not use the PDC mechanism for Gremista GSP project and instead apply the Re-profiling of allowances. As explained in the RIIO-ET2 FD, we will re-profile allowances to match actual spend which would ensure that

SHET do not have any financial benefit from delayed expenditure in case of the project delivered later than its original schedule.

Summary of proposed allowances

4.61 In summary, we are proposing to allow £79.350m of costs for the overall delivery of Gremista GSP. This includes £67.069m on construction and procurement costs, £7.250m on indirect costs and £5.030m on risk.

4.62 The above level of funding on indirect costs and risk includes our Draft Determination positions to remove £25.731m costs as explained in the previous section of the chapter.

4.63 We are proposing a COAE threshold at 10% (£10.508m).

4.64 Table 13 below summarises the proposed cost allowances under the LOTI Re-opener for Gremista GSP project.

Table ET13 Summary of Proposed ET2 Adjustments on SHET's Gremista GSP

Cost Category	Submitted Cost £m	Proposed Adjustment £m	Proposed DD* Allowance £m
Project management	5.465	-5.465	-
Regulatory and consent	2.105	-2.105	-
Engineering	10.386	-3.136	7.250
Equipment Procurement	0.471	-	0.471
Construction – Main and Ancillary Contracts	78.034	-11.436	66.598
Commissioning and Operations	0.425	-0.425	-
Risk and Contingency	7.037	-2.007	5.030
Other Direct Costs	0.692	-0.692	-
RIIO-ET2 Total	**104.615**	**-25.266**	**79.350**
RIIO-ET1 Costs	0.465	-0.465	-
Project Total	**105.081**	**-25.376**	**79.350**
COAE	2%	+8%	10%

**We refer to Draft Determinations as 'Ofgem's DD'.*

5. Conclusion and next steps

Next steps

5.1 We welcome your responses to this consultation, both generally, and in particular on the specific questions in Chapters 3 (for MSIP applications) and Chapters 4 (for LOTI application). Please send your response to: ReopenerConsultations@ofgem.gov.uk. The deadline for response is 26 August 2025.

5.2 We will carefully consider all consultation responses and endeavour to conclude our assessment of the 2025 MSIPs and the Gremista project under LOTI re-opener with a decision by end 2025.

5.3 To implement our decision on the 2025 MSIPs, we will also publish a statutory consultation proposing relevant modifications to NGET, SHET and SPT's electricity transmission licences in accordance with section 11A of the Electricity Act 1989. We have included the current proposed modifications (subject to our final determinations) in Appendix 50.

5.4 As part of the publication of our decision for Gremista GSP project, we will publish our decision on how the allowances will be implemented into the Licensees' licence via a direction, as required by Special Conditions 3.13 and 3.15 of SHET's licence.

Appendices

Appendix 1 List of Activities under MSIP re-opener

The activities listed under MSIP re-opener in SpC 3.14.6 are:

(a) a Generation Connection project, including all infrastructure related to that project, the forecast costs of which are at least £4.24m more or less than the level that could be provided for under Special Condition 3.11 (Generation Connections volume driver);

(b) a Demand Connection project, including all infrastructure related to that project, the forecast costs of which are at least £4.24m more or less than the level that could be provided for under Special Condition 3.12 (Demand Connection volume driver);

(c) a Boundary Reinforcement Project that has received a NOA Proceed Signal in the most recent NOA;

(d) a Flooding Defence Project, the purpose of which is to follow:

i. updates to the Energy Networks Association's report titled 'Engineering Technical Report (ETR138)' guidance on flooding; or

ii. a request from government, or a body which has responsibility for flood prevention, to protect sites from flooding;

(e) an Electricity System Restoration Project following the establishment of an Electricity System Restoration Standard;

(f) a system operability or constraint management project that has been requested by the System Operator;

(g) projects that are needed in order to meet NETS SQSS requirements regarding security, or system operability;

(h) Harmonic Filtering projects that are needed following:

i. requests from the licensee's customers to aggregate and deliver Harmonic Filtering requirements; or

ii. system studies by the System Operator or the licensee showing a need for additional Harmonic Filtering on the National Electricity Transmission System;

(i) protection projects that are needed following:

i. system studies by the System Operator or the licensee showing a need for changes to the protection settings or replacement of protection relay with inadequate range;

ii. system studies by the System Operator or the licensee showing a need for dynamic line ratings; or

iii. system studies by the System Operator or the licensee showing a need for an operational intertrip;

(j) data transformation and improvement projects, to implement recommendations regarding specific outputs required to meet principles developed by industry data working groups;

(k) SF6 asset interventions, where the licensee can demonstrate a well-justified SF6 Intervention Plan;

(l) a project identified by NGESO as required to be delivered by 2030; and

(m) a project required to enable delivery of an ASTI project.

Appendix 2 Consultation Questions

ET.Q13.	ET.Q1 Do you agree with our proposal to reject NGET's MSIP funding application on the Norwich Do you agree with our proposal to reject NGET's MSIP funding application on the Norwich project because our view is that it does not meet the eligibility threshold?

For each eligible project, do you agree with our assessment of the needs case for the 2025 MSIPs?

ET.Q2 For each eligible project, do you agree with our assessment of the needs case for the 2025 MSIPs?

ET.Q3 For each eligible project, do you agree with the list of options considered to address the need? Are there other realistically viable options that you think should have been considered?

ET.Q4 For each eligible project, do you agree with our assessment of the preferred option for the 2025 MSIPs?

ET.Q5 For each eligible project, do you agree with our assessment of the efficient costs?

ET.Q6 Do you agree with the principle that SHET should not financially benefit from its decision to move the Gremista GSP project from the MSIP mechanism to LOTI?

ET.Q7 Do you agree with Draft Determinations position on pre-construction costs for Gremista GSP project?

ET.Q8 Do you agree with our Draft Determinations on direct construction costs for Gremista GSP project?

ET.Q9 Do you agree with our Draft Determinations on indirect costs for the Gremista GSP project?

ET.Q10 Do you agree with our Draft Determination on risk for Gremista GSP project?

ET.Q11 Do you agree with our Draft Determinations on the COAE threshold adjustment for Gremista GSP project?

ET.Q12 Do you agree with our Draft Determinations view on the implementation of the Large Project Delivery (LPD) mechanisms: Re-profiling and Project Delay Charge for Gremista GSP project?

Appendix 3 MSIP Optioneering

NGET outlined the following options within its re-opener application:[11]

Central Pathfinders - Yaxley

1. Do nothing
2. Build new or use alternative substations - Construct entirely new substations or consider an alternative site to connect the Pathfinder solutions.
3. Use existing substations - Extend and utilise the existing infrastructure at Yaxley substation to connect the Pathfinder solutions. [preferred option]

Central Reactive Voltage Compliance - Ironbridge

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Options which make use of existing assets
5. Construction of new assets - Install new a new 400kV 200MVAr shunt reactor unit at Ironbridge Generator 1 Bay [preferred option]
6. Construction of new assets - Install new a new 400kV 200MVAr shunt reactor unit at Ironbridge Generator 2 Bay
7. Construction of new assets - Construct a new asset at Hams Hall

Central Reactive Voltage Compliance - Willington

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Options which make use of existing assets

[11] Our RIIO-2 business plan | National Grid

5. Construction of new assets - Reuse the vacated mechanically-switched static capacitor 1 (MSC1) bay at Willington East for shunt reactor. [preferred option]
6. Construction of new assets - Install the shunt reactor at an eastern extension of the Willington substation.

Heysham OPS

1. Do nothing
2. Install a fourth SGT at Heysham 400kV substation
3. Modification and extension to existing protection and control systems at Heysham 400kV substation [preferred option]
4. Install additional SGT at Heysham 400kV substation to feed into a new Heysham B 132kV substation
5. New SGTs at Middleton substation - Construct a new GSP at Middleton with dedicated 132kV embedded generation bar and scalable infrastructure for future capacity.
6. Reinforce Heysham and create a dedicated 132kV bar at Middleton substation - Reinforce existing Heysham 132kV infrastructure with an SGT and build a new dedicated 132kV bar for embedded generation at Middleton.

Marston Vale

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Make use of existing NGET substations
5. Construction of new assets - AIS substation near OHL, existing tower
6. Construction of new assets - AIS substation near OHL, new tower
7. Construction of new assets - AIS substation inside Rookery Pit, existing tower
8. Construction of new assets - AIS substation inside Rookery Pit, new tower

9. Construction of new assets - GIS substation near OHL, existing tower [preferred option]
10. Construction of new assets - GIS substation near OHL, new tower
11. Construction of new assets - GIS substation inside Rookery Pit, existing tower
12. Construction of new assets - GIS substation inside Rookery Pit, new tower

Necton

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Make use of existing NGET substations - Extend the Necton 400kV substation, defer cable transposition works and disconnect the Cable Sealing End Compound (CSEC). Amend the OHL connections to a double turn-in arrangement from Norwich Main and Walpole 1&2 circuits. [preferred option]
5. Make use of existing NGET substations - Extend the Necton 400kV substation, defer cable transposition works and re-use the existing CSEC. Amend the OHL connections to a double turn-in arrangement from Norwich Main and Walpole 1&2 circuits.
6. Make use of existing NGET substations - Extend the Necton 400kV substation, complete cable transposition works and re-use the existing CSEC. Amend the OHL connections to a double turn-in arrangement from Norwich Main and Walpole 1&2 circuits.
7. Construction of new assets - Construct a new substation to facilitate the connection

Norwich

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Make use of existing NGET substations - Eastern and western AIS extension of Norwich with [Equinor] connection in western bay. [preferred option]

5. Make use of existing NGET substations - Eastern and western Hybrid Insulated Switchgear (HIS) extension of Norwich with [Equinor] connection in western bay.
6. Make use of existing NGET substations - Eastern and western AIS extension with [Equinor] connection in eastern bay.
7. Construction of new assets - Construction of new substation adjacent to customer connection landing point.

OTS East Anglia

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Network reinforcements (build/uprate the network)
4. Extend / upgrade existing OTS [preferred option]
5. Install new OTS

OTS Lackenby

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Network reinforcements (build/uprate the network)
4. Extend / upgrade existing OTS
5. Install new OTS [preferred option]

OTS Killingholme

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Network reinforcements (build/uprate the network)
4. Extend / upgrade existing OTS [preferred option]
5. Install new OTS

OTS Pathfinder East Anglia

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Network reinforcements (build/uprate the network)
4. Extend / upgrade existing OTS [preferred option]
5. Install new OTS

Penrhos

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Make use of existing NGET substations - Connect at existing Wylfa 400kV substation
5. Construction of new assets - Build a new 8-bay 132kV SF6-free GIS substation at Penrhos and replace cables between Penrhos – tower EV86 and Wylfa – tower EV09 [preferred option]
6. Construction of new assets - Build a new 8-bay 132kV SF6-free GIS Containerised Solution at Penrhos and replace cables between Penrhos - tower EV86 and Wylfa – tower EV09
7. Construction of new assets - Build a new 132kV AIS substation at Penrhos and replace cables between Penrhos - tower EV86 and Wylfa – tower EV09
8. Construction of new assets - Build a new 400kV substation at Penrhos

Wallend

1. Do nothing
2. Market-based solution through procurement and use of ancillary services
3. Non-transmission, whole system solution
4. Make use of existing NGET substations - Extension at Grain substation using SF6-free GIS switchgear.

5. Make use of existing NGET substations - Extension at Grain substation, construction of new substation, both using SF6-free GIS switchgear.
6. Make use of existing NGET substations - Extension at Kingsnorth substation using SF6-free switchgear.
7. Construction of new assets - Build a new 5-bay substation at Wallend using AIS switchgear.
8. Construction of new assets - Build a new 5-bay substation at Wallend with non-SF6 GIS switchgear, housed in a 5-bay building.
9. Construction of new assets - Build a new 10-bay substation at Wallend with a 10-bay building using non-SF6 GIS switchgear.
10. Construction of new assets - Build a new 10-bay substation at Wallend with a 16-bay building using non-SF6 GIS switchgear. [preferred option]
11. Construction of new assets - Build a new 10-indoor bay AIS substation with a 16-bay building
12. Construction of new assets - Build a new 10-outdoor bay AIS substation with a 16-bay building

SHET outlined the following options within their re-opener application:[12]

B6 Constraint Management Pathfinder

1. Installation of new Intelligent Electronic Device (IEDs) for substation automation and new intertrip panel at substation, including upgrading RTUs and communications equipment (Dorenell, Corriemoillie, Peterhead). [Preferred option - Dorenell, Corriemoillie]
2. Commissioning checks and provision for upgrading remote termina units (RTUs) and communications equipment - already connected to B6 OTS (Griffin). [Preferred option]
3. Installation of new IEDs and new intertip panel at connection substation (Aberdeen Bay).

[12] Medium Sized Investment Projects (MSIP) - SSEN Transmission

4. Installation of new IEDs and new intertrip panel at Tealing 275kV substation (Seagreen).

Lochluichart and Corriemoillie

1. Connecting the windfarm directly to the existing Corriemoillie windfarm 132/33kV transformer (GT2) via 33kV cable through and metering circuit breaker bay.
2. Connecting the windfarm to the existing Corriemoillie windfarm 132/33kV transformer (GT2) via a new 33kV circuit breaker feeder bay and a new 33kV single busbar [preferred option]
3. Connecting the windfarm to the network via a dedicated grid transformer (GT) connection onto the Corriemoillie substation busbar.

North of Beauly DLR

1. Do nothing
2. Re-profiling Beauly to Loch Buidhe 275kV OHL [preferred option]
3. Application of DLR along the Beauly to Dounreay 275kV OHL corridor
4. Application of DLR and re-profiling Beauly to Loch Buidhe

Tealing PST Bypass

1. Do nothing
2. Manual busbar installation
3. Tele-controlled switched bypass

SPT outlined the following options within its re-opener application:[13]

Branxton

1. Do Nothing or Delay

[13] MSIP Reopeners - SP Energy Networks

2. Extension of Torness 400kV GIS substation
3. New Air Insulated Switchgear (AIS) substation at Branxton
4. New 14-bay GIS substation at Branxton
5. New 23-bay GIS substation at Branxton
6. New 21-bay GIS substation at Branxton, subsequently amended to 22 bays with space for up to 8 additional bays [preferred option]

Glenglass

1. Do Nothing or Delay
2. New 132kV AIS Substation at Glenglass
3. New 132kV AIS/GIS Substation at Alternative location between Blackhill and Glenglass 132kV substations
4. New 132kV AIS/GIS Substation at Alternative location to Glenglass between Glenglass and the future Glenmuckloch 132kV substation
5. New 132kV GIS Substation at Glenglass[14] (preferred option)

Inch Cape and Cockenzie LMS

1. Do nothing or delay
2. Population of the Spare Bay at Cockenzie substation
3. Repurpose Former Cockenzie Power Station Bays [preferred option]

Kilmarnock

1. Do nothing or delay
2. New substation to turn in the existing Kilmarnock South to Coylton 275kV double circuit OHL

[14] The Stage 1 submission Cloud Hill Wind Farm was indicated to connect via a single dedicated bay, this bay will now serve the Rowancraig Collector, which will connect Rowancraig, Cloud Hill and Appin Wind Farms.

3. Achieve a 400kV Connection via OHL circuit between Kilmarnock South substation and the Kilmarnock BESS site
4. Achieve a 400kV Connection via Underground Cable [preferred option]

Mark Hill

1. Do nothing or delay
2. Uprate Mark Hill SGT2 and SGT3 with higher capacity 360MVA transformers
3. Provide a connection at Newton Stewart Substation
4. Install Mark Hill SGT4 [preferred option]

SSO Detection

1. Do nothing or delay
2. Extension of Existing SSO Detection Facilities [preferred option]

Appendix 4 Cost Estimate for Wallend

1. To produce a cost estimate for the Wallend substation that meets the same requirements while using AIS, we used a bottom-up asset level approach with adjustments described below.
2. We have adjusted the following asset unit costs of the Wallend GIS preferred option in NGET's submission with the available benchmarks of an AIS substation in RIIO-ET2 re-opener submissions. This unit cost adjustment is the largest component of the reduction in costs compared to the NGET GIS preferred option.
    - Circuit breaker
    - Switchgear – other
    - Current transformer
    - Voltage transformer
    - Busbar
    - Disconnector
    - Earth Switch
3. As the land footprint for an AIS substation with the same capacity is expected to be larger than that of the GIS substation, we have added an allowance for land costs. This is calculated as a multiple of the land costs required for the NeuConnect site, as determined in NeuConnect interconnector Project Assessment[15], scaled by the proportion of the site made available for the GIS substation. The cost of the existing footprint for the GIS substation has not been included in NGET's cost model for its GIS preferred option, therefore the estimated cost of this land has been netted off from this adjustment.
4. The NGET cost submission included a small amount of ET1 direct costs within its cost model, which have been deducted from the DD allowances.
5. A 7.5% risk allowance has been applied to the resulting adjusted costs, consistent with other MSIP projects.
6. The estimated total project cost is £57.325m.
7. We have further compared it with high level estimates (ranged from circa £47m to £54m) using top-down approach by typical cost difference between AIS and GIS substations.

[15] Decision on the Final Project Assessment of the NeuConnect interconnector to Germany

Appendix 5 Draft Notice of Licence Modification

To: National Grid Electricity Transmission plc
Scottish Hydro Electric Transmission plc
SP Transmission plc

Electricity Act 1989

Section 11A(2)

Notice of statutory consultation on a proposal to modify the special conditions of the electricity licences held by National Grid Electricity Transmission plc, Scottish Hydro Electric Transmission plc and SP Transmission plc

1. The Gas and Electricity Markets Authority ('the Authority')[16] proposes to modify the special conditions ('SpC') of the electricity licences (the 'Licences') held by National Grid Electricity Transmission plc ('NGET'), Scottish Hydro Electric Transmission plc ('SHET') and SP Transmission plc ('SPT') granted or treated as granted under section 6(1)(b) of the Electricity Act 1989 by amending Appendix 1 of SpC 3.14 (Medium Sized Investment Projects ('MSIP') Re-opener and Price Control Deliverable ('MSIPREt')) of the Licences.

2. We are proposing these modifications to the Licences because adding the Price Control Deliverables ('PCDs') into Appendix 1 of SpC 3.14 of the Licences gives effect to the decision of the Authority dated [to be inserted] to approve funding for NGET's twelve MSIP projects, SHET's four MSIP projects and SPT's seven MSIP projects.

3. The effect of the proposed modifications is to set PCDs related to NGET's twelve MSIP projects, SHET's four MSIP projects and SPT's seven MSIP projects and the allowances for their delivery. If NGET, SHET or SPT does not deliver its PCDs during the RIIO-ET2 price control, then the price control framework provides for the relevant PCD allowances to be clawed back.

4. The full text of the proposed modifications to SpC 3.14 is set out in Annex 1 (for NGET), Annex 2 (for SHET) and Annex 3 (for SPT) to this notice, with the text to be

[16] The terms "the Authority", "we" and "us" are used interchangeably in this document.

deleted marked with double strikethrough and new text to be inserted shown double underscored. A copy of the proposed modifications and other documents referred to in this notice have been published on our website (www.ofgem.gov.uk). Alternatively, they are available from information.rights@ofgem.gov.uk.

5. Any representations with respect to the proposed modifications to the Licence must be made on or before [date to be inserted] to: Sai Wing Lo, Office of Gas and Electricity Markets, 10 South Colonnade, Canary Wharf, London, E14 4PU or by email to ReopenerConsultations@ofgem.gov.uk.

6. We normally publish all responses on our website. However, if you do not wish your response to be made public then please clearly mark it as not for publication. We prefer to receive responses in an electronic form so they can be placed easily on our website.

7. If we decide to make the proposed modifications, they will take effect not less than 56 days after the decision is published.

.....
Pete Wightman
Duly authorised on behalf of the
Gas and Electricity Markets Authority **[Date]**

Annex 1

National Grid Electricity Transmission plc

Electricity transmission licence

Special Conditions

We have set out the proposed changes to Appendix 1 in SpC 3.14. Text proposed to be added is double underscored and text removed is double struck through.

Appendix 1
Medium Sized Investment Project Price Control Deliverable (£m)

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
Sulphur hexafluoride (SF6) Asset Intervention	a) Refurbishment at Barking 400kV Substation	By 31 March 2026		0.058	0.956	1.449	2.005	4.468
	b) Refurbishment at Seabank 400kV Substation		-	0.391	1.904	2.03	1.777	6.102
	c) Refurbishment at Sellindge 400kV I Substation		-	0.405	0.762	1.344	0.034	2.545
	d) Refurbishment at West Ham 400kV Substation		-	0.286	1.06	2.755	2.966	7.067
	e) Replacement with HV cable at Monk Fryston 275kV GIB		-	0.034	0.093	4.662	0.018	4.807

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
	f) Replacement of 427 SF6 filled current transformer listed in the NGET Redacted Information Document		-	-	6.467	7.831	9.544	23.842
Extreme Weather Resilience	Complete flood protections at 33 sites listed in the NGET Redacted Information Document	By 31 March 2026	0.0	0.5	0.8	0.9	0.8266	3.0266
Cellarhead Customer Connection	Complete Cellarhead Customer Connection	By 31 March 2023	0.1858	0.2494	0.0062	-	-	0.4414
Frodsham Customer Connection	Complete Frodsham Customer Connection	By 31 March 2023	0.3385	0.1051	-	-	-	0.4436
Lister Drive Customer Connection	Complete Lister Drive Customer Connection	By 31 March 2023	0.6056	0.0905	-	-	-	0.6961
Melksham Operational Tripping Scheme Phase 2 Project	Complete Melksham Operational Tripping Scheme Phase 2 Project	By 31 March 2025	0.1145	1.612	4.174	1.259	1.647	8.8065

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
Pennine Pathfinders	(a) complete 200MVAr shunt reactor project at Stalybridge 400kV substation	(a) By 31 August 2024	0.0	1.368	3.343	0.391	0.0	5.102
	(b) complete 200MVAr shunt reactor project at Stocksbridge 400kV substation	(b) By 31 August 2024	0.0	1.621	3.294	0.721	0.0	5.636
	(c) complete 100MVAr shunt reactor project at Bradford West 275kV substation	(c) By 31 August 2024	0.0	0.806	3.543	0.389	0.0	4.739
Leiston 132kV Substation Connection	Complete demand connection for Sizewell C at Leiston 132kV Substation	By 30 June 2026	0.0	0.0	0.0	3.526	1.557	5.083
Elland 132kV Substation Connection	Complete connection to Northern Powergrid at Elland 132kV Substation	By 24 October 2023	0.0	0.036	0.041	0.0	0.0	0.077
Willesden 66kV SEPD Connection	Complete demand connection to SEPD at Willesden 66kV substation	By 30 November 2024	2.169	0.503	1.464	0.095	0.0	4.231
Willesden Microsoft Data Centre Connection	Complete demand connection to Microsoft Data Centre at Kensal Green 400kV and Willesden 400kV and 66kV substations	By 30 August 2027	0.0	0.0	0.811	0.845	0.0	1.656

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
Central Pathfinders – Yaxley	Installation of a substation bay and associated works at Yaxley to connect Conrad Energy's NESO Pathfinder solutions	By 30 November 2026	0.000	0.454	0.750	0.654	3.935	5.793
Central Reactive Voltage Compliance – Ironbridge	Installation of a new 200MVAr shunt reactor unit at Ironbridge	By 31 July 2025	0.000	0.000	0.467	5.754	1.676	7.897
Central Reactive Voltage Compliance – Willington	Installation of a new 200MVAr shunt reactor unit at Willington	By 28 February 2026	0.000	0.000	0.448	3.428	3.521	7.397
Heysham Overload Protection Scheme	Deliver upgrades at Heysham GSP to facilitate the connection of 130.5MW of embedded generation via ENWL's network	By 31 August 2026	0.000	0.000	0.082	0.208	0.413	0.703
Necton 400kV Substation Connection	Extend the existing 400kV Necton substation by 12 bays and amend the OHL from a double-tee to double turn-in arrangement to connect three offshore windfarms	By 30 April 2027	0.001	2.983	9.288	17.876	7.494	37.642
East Anglia Operational Tripping System	Deliver upgrades to the East Anglia OTS to facilitate tripping of Viking Link interconnector	By 31 December 2024	0.000	0.532	0.961	0.233	0.000	1.726
Lackenby Operational Tripping System	Deliver a new OTS in the area to facilitate tripping of Dogger Bank C and Sofia windfarms	By 31 January 2026	0.000	0.037	0.045	0.721	1.993	2.796

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
Killingholme Operational Tripping System	Deliver upgrades to the Killingholme OTS to trip the Open Cycle Gas Turbine (OCGT) at VPI Immingham	By 31 October 2025	0.000	0.000	0.000	0.411	0.414	0.825
Pathfinder East Anglia Operational Tripping System	Deliver upgrades to East Anglia OTS to trip/de-load generation customers at multiple sites as well as upgrade monitoring across the region	By 31 June 2026	0.000	0.000	0.078	2.029	3.051	5.158
Penrhos 132kV Substation Connection	Construct a new 132kV 8-bay substation for installing at Penrhos for connecting both Eclipse Power Networks and Mentor Mon	By 31 June 2028	0.000	0.000	0.076	0.894	15.251	16.221
Wallend 400kV Substation Connection	Construct a new 10-bay 400kV substation and a double circuit turn in off the 4TK OHL route via two new towers to connect two interconnector customers and one BESS facility	By 21 November 2027	0.000	0.000	0.344	18.563	17.603	36.510

Annex 2

Scottish Hydro Electric Transmission plc

Electricity transmission licence

Special Conditions

We have set out the proposed changes to Appendix 1 in SpC 3.14. Text proposed to be added is double underscored and text removed is double struck through.

Appendix 1

Medium Sized Investment Project Price Control Deliverable (£m)

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2024 /25	2025 /26	Total
B6 constraint management pathfinder	Connection of Corriemoillie, Griffin and Dorenell sites to the B6 Operational Tripping Scheme.	31 March 2026	0.000	0.000	0.136	0.173	0.038	0.347
Lochluichart and Corriemoillie Connection	Completion of shared works required to connect Lochluichart Extension II Windfarm	31 March 2026	0.000	0.000	0.000	0.015	1.003	1.019
North of Beauly Dynamic Line Rating	Completion of the DLR system on the 275kV overhead line circuits from Beauly to Loch Buidhe to Dounreay	31 March 2026	0.000	0.000	0.000	0.418	0.303	0.721
Tealing Phase Shifting Transformers Bypass	Installation of a bypass around the Phase Shifting Transformers (PST) on the XT1 feeder and XT2 feeder at Tealing substation	30 June 2027	0.000	0.000	0.000	0.000	3.572	3.572

Annex 3

SP Transmission plc

Electricity transmission licence

Special Conditions

We have set out the proposed changes to Appendix 1 in SpC 3.14. Text proposed to be added is double underscored and text removed is double struck through.

Appendix 1

Medium Sized Investment Project Price Control Deliverable (£m)

MSIP project	Output	Delivery date	2021 /22	2022 /23	2023 /24	2025 /25	2025 /26	Total
Coalburn SGT4	Installation of Coalburn SGT4 (360MVA) and associated works at Coalburn 400/132kV Substation	31 Dec 2025	2.124	4.314	5.147	2.090	0	13.675
Constraint Management Pathfinder – Line End Open (LEO) Modifications and Operational Tripping Scheme (OTS) Modifications	Completion of the extension of the LEO and OTS systems.	31 Dec 2023	0	0.298	1.003	0	0	1.301
Wishaw-Eccles-Torness-Smeaton Operational Intertrip Scheme (WETSS Scheme)	Completion of the WETSS Scheme, including the associated LEO Scheme extension.	31 Dec 2023	0.412	0.087	0.184	0	0	0.683

Constraint Management OTS	Completion of the OTS at Strathaven 400kV Substation, Middlemuir 132kV Substation, Linnmill 132kV Substation, Moffat 132kV Substation and Arecleoch 132kV Substation	31 March 2025	0.0	0.0	0.245	0.755	0.0	1.000
Enoch Hill Collector Substation and associated 132kV circuit	Completion of the Enoch Hill 132/33kV Collector Substation and associated 132kV circuit	31 March 2026	0.041	0.718	5.352	4.271	0.146	10.529
Branxton 400kV Substation Connection	Installation of Branxton 400kV Substation and provision of connection to Eastern HVDC Link	28 February 2032	0.043	0.013	5.166	6.517	36.428	48.167
Glenglass 132kV Substation Connection	Delivery of the works required to facilitate the GIS Extension to the existing Glenglass 132/33kV Substation	31 July 2026	0.000	0.052	0.734	3.811	8.417	13.014
Inch Cape Offshore Wind Farm Connection	Delivery of the works required to facilitate the Inch Cape Offshore Wind Farm connections	31 December 2025	0.000	0.000	0.200	0.780	2.720	3.700
Cockenzie Load Management Scheme	Installation of Load Management Scheme to manage network conditions in the Cockenzie area	31 December 2026	0.000	0.000	0.000	0.000	0.397	0.397

Kilmarnock 400kV substation Connection	Commissioning of Kilmarnock South GIS Bay to feed TOCO-2201 Kilmarnock BESS facility	31 March 2027	0.000	0.000	0.360	1.755	2.341	4.456
Mark Hill 275kV Substation Connection	Installation of Mark Hill SGT4 (240MVA) and associated works at Mark Hill 275/132kV Substation	31 December 2027	0.000	0.000	0.026	2.061	2.208	4.295
Sub-Synchronous Oscillation Detection	Completion of the extension of Sub-Synchronous Oscillation (SSO) detection facilities	31 December 2025	0.000	0.000	0.000	0.112	0.122	0.234

Appendix 6 Draft Direction for SHET's Gremista Grid Supply Point (GSP) project

Introductory note

Following our assessment of re-opener submissions, we have set out our Draft Determinations. Any decision, for example to add additional allowances for a project, will be implemented into the Licensees' licence via a direction. This Appendix provides a draft of the direction that will implement our Final Determinations, as required by SpC 3.13. Upon consultation, and proper consideration of consultation responses, we intend to confirm the direction at the same time as setting out our Final Determinations.

This draft direction is subject to responses to our Draft Determinations. Any representations with respect to the Draft Determinations or associated draft direction below must be made on or before 26 August 2025 to: Dimitra Kalosynaki, Office of Gas and Electricity Markets, 10 S Colonnade, London, E14 4PU or by email to ReopenerConsultations@ofgem.gov.uk.

Draft Direction

To: Scottish Hydro Electric Transmission Plc

Proposed direction issued by the Gas and Electricity Markets Authority ("the Authority") under Part G Special Condition ("SpC") 3.13 (Large onshore transmission investment Re-opener) of the electricity transmission licence held by Scottish Hydro Electric Power Distribution Plc ("the Licensee") for the Gremista Grid Supply Point project (the "Project")

1. Scottish Hydro Electric Transmission plc ('the Licensee') is the holder of an electricity transmission licence granted or treated as granted under s.6(1)(b) of the Electricity Act 1989 (the 'Act').

2. Special Condition (SpC) 3.13 of the Licensee's electricity transmission licence provide for a re-opener mechanism whereby the Licensee may apply for additional funding during the RIIO-2 price control period for large onshore transmission investment projects and for associated pre-construction works respectively.

3. The Licensee applied under SpC 3.13 for additional funding in respect of its proposed Gremista GSP project in [November 2024]. The Authority publicly consulted on its Draft Determinations between 18 July 2025 and 26 August 2025. The consultation document included a draft of this direction, as required by Part F of SpC 3.13.

4. We received [x] responses and have placed all non-confidential responses on our website. Having considered those responses, we have decided to proceed with making this direction.

5. This direction is issued pursuant to Special Condition 3.13 and sets out approved funding, adjustments to the relevant term (LOTIREt), the associated Price Control Deliverables (PCD), and the applicable Cost and Output Adjusting Event (COAE) threshold percentage referred to in SpC 3.13.16. These are set out in Annex A below.

6. This direction will take effect immediately and constitutes notice stating the reason for the purposes of section 49A(2) of the Act.

Yours sincerely,

Pete Wightman
Deputy Director, Price Control Operations
Duly authorised on behalf of the Gas and Electricity Markets Authority

Annex A: Scottish Hydro Electric Transmission plc, Electricity transmission licence, Special Condition values and tables modified by this direction

Approved amounts of [£79.350m] and a COAE threshold value for Gremista GSP project is [10%]. New text is double underscored and text removed is double struck through.

Appendix 2 of Special Condition 3.13 Large onshore transmission investment Re-opener ($LOTIA_t$ and $LOTIRE_t$)

LOTI Outputs, delivery dates and allowances (£m)

		Regulatory Year					
LOTI Output	Delivery date	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Construct, energise and make freely and fully available to the ISOP the Shetland HVDC Link	31-Dec-24	109.3	203.5	170.2	105.1	24.2	5.7
~~N/A~~ Delivery of a demand connection to Gremista GSP from Kergord. The connection will be capable of delivering 49.3MW of demand.	~~N/A~~ 31-Mar-26		~~N/A~~ 0.2	~~N/A~~ 2.3	~~N/A~~ 24.6	~~N/A~~ 35.2	~~N/A~~ 17.1
N/A	N/A		N/A	N/A	N/A	N/A	N/A

Appendix 3 of Special Condition 3.13 Large onshore transmission investment Re-opener (LOTIAt and LOTIREt)

Gremista GSP Cost and Output Adjusting Event Table

Risk	**Definition**	**Proposed Treatment**
Individual and/or cumulative risk events	A LOTI COAE threshold to cover the unique project's circumstances and the fact that construction is already underway.	10% COAE Cost And Output Adjusting Event threshold

Appendix 7 Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

4. With whom we will be sharing your personal data

No external agencies.

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for twelve months after the consultation is closed.

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data

- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas.

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system.

10. More information For more information on how Ofgem processes your data, click on the link to our "ofgem privacy promise".