

Decision

Decision on NGET's 2022 MSIP re-opener applications

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This document sets out our¹ decision on National Grid Electricity Transmission plc's (NGET's) application to enable five projects under the Medium Sized Investment Projects (MSIP) re-opener mechanism.

We published consultations on our initial assessment of each of the following MSIP projects on:

- 1) Sulphur hexafluoride (SF6) Asset Intervention: 9 August 2022
- 2) Extreme Weather Resilience: 18 May 2022
- 3) Cellarhead Customer Connection: 30 May 2022
- 4) Frodsham Customer Connection and Lister Drive Customer Connection: 30 May 2022
- 5) Melksham Operational Tripping Scheme Phase 2 Project: 30 May 2022.

Consultations have now closed. We have published the non-confidential responses to each consultation alongside this document.

¹ The terms 'we', 'us', 'our' refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

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Executive Summary

National Grid Electricity Transmission plc (NGET), who owns and operates the transmission network in England and Wales, is the holder of a licence granted or treated as granted under section 6(1)(b) of the Electricity Act 1989 (the Licence).

Special Condition (SpC) 3.14 Medium Sized Investment Projects Re-opener (MSIP re-opener) of the Licence is a mechanism that provides Electricity Transmission Owners (ETOs), such as NGET, with an opportunity to request additional funding, which has not been provided in their RIIO baseline allowances, for sub-£100m projects.

In line with SpC 3.14 and the provisions set out in the associated RIIO-ET2 Re-opener Guidance and Application Requirements Document,² NGET submitted a needs case, optioneering of the chosen design and cost proposal relating to five projects for our consideration under the MSIP re-opener mechanism.

We published consultations on each of these submissions (the NGET MSIP consultations):

- 1) Sulphur hexafluoride (SF6) Asset Intervention: 9 August 2022³
- 2) Extreme Weather Resilience: 18 May 2022⁴
- 3) Cellarhead Customer Connection: 30 May 2022⁵
- 4) Frodsham Customer Connection and Lister Drive Customer Connection: 30 May 2022⁶
- 5) Melksham Operational Tripping Scheme (OTS) Phase 2 Project: 30 May 2022.⁷

This document sets out for each project: a summary of the consultation responses received and our views on them; any changes to our minded-to position since the

² [National Grid Electricity Transmission plc - Special Conditions Consolidated - Current Version.pdf \(ofgem.gov.uk\)](#); and [RIIO2 Re-opener Guidance And Application Requirements Version 2 | Ofgem](#)

³ <https://www.ofgem.gov.uk/publications/consultation-sulphur-hexafluoride-sf6-asset-intervention-medium-sized-investment-project-national-grid-electricity-transmission>

⁴ <https://www.ofgem.gov.uk/publications/consultation-extreme-weather-resilience-medium-sized-investment-project-national-grid-electricity-transmission>

⁵ <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

⁶ <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

⁷ <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

consultation; our decisions in relation to the needs case, optioneering and efficient costs; and next steps.

Our decisions for each project are summarised below:

- 1) Sulphur hexafluoride (SF6) Asset Intervention: we have decided to **approve** the needs case and the funding for the proposed interventions except those for Gas Circuit Breaker (GCBs) repair which we consider overlaps with existing funding mechanisms under RIIO-ET2. This work may instead be funded via Network Asset Risk Metric (NARM) mechanism (SpCs 3.1).
- 2) Extreme Weather Resilience: we have decided to **approve** the needs case and the preferred solution that was consulted on, ie the localised protection option that NGET has proposed for all 33 sites. We have also assessed the responses regarding efficient costs and consider our minded-to view that NGET’s funding request was not at the efficient level remains appropriate. We have decided to approve funding for the proposed interventions, with an adjustment to reduce NGET’s funding request to our view of efficient costs as explained in detail in Chapter 3.
- 3) Cellarhead Customer Connection: we have decided to **approve** the needs case and the preferred solution that was consulted on, ie to provide bus bar connection and protection equipment to National Grid Electricity Distribution (NGED)⁸ within Cellarhead site. We have also assessed the responses regarding efficient costs and consider our minded-to view that NGET’s funding request was not at the efficient level remains appropriate. We have decided to approve funding for the proposed interventions, with an adjustment to reduce NGET’s funding request to our view of efficient costs as explained in detail in Chapter 4.
- 4) Frodsham Customer Connection and Lister Drive Customer Connection: we have decided to **approve** the needs case and the preferred solution that was consulted on, ie to use an existing bay for Frodsham connection and to use a tee’d connection for Lister Drive project. We have also assessed the responses regarding efficient costs and consider our minded-to view that NGET’s funding request was not at the efficient level remains appropriate. We have decided to approve funding for the proposed interventions, with an adjustment to reduce

⁸ Western Power Distribution (WPD) was renamed NGED on 21 September 2022, following the acquisition of WPD by the National Grid Group in 2021.

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NGET’s funding request to our view of efficient costs as explained in detail in Chapter 5.

- 5) Melksham OTS Phase 2 Project: we have decided to **approve** the needs case and the preferred solution that was consulted on, ie to extend the existing Melksham OTS. We have also assessed the responses regarding efficient costs and consider our minded-to view that NGET’s funding request was not at the efficient level remains appropriate. We have decided to approve funding for the proposed interventions, with an adjustment to reduce NGET’s funding request to our view of efficient costs as explained in detail in Chapter 6.

Below is a summary of the NGET’s funding request, the proposed adjustments and total allowance for the five MSIP projects.

Project	NGET Request (£m)	Consultation		Decision	
		Adjustments to requested (£m)	Draft allowances (£m)	Adjustments to draft allowances (£m)	Final allowances (£m)
SF6 interventions	53.949	-5.119 to -28.961	24.989 to 48.831	Confirmed -5.119 to NGET request	48.831
Extreme Weather Resilience	4.0558	-1.0292	3.0266	-	3.0266
Cellarhead	0.5177	-0.0763	0.4414	-	0.4414
Frodsham and Lister Drive	1.4878	-0.3481	1.1397	-	1.1397
Melksham	10.6911	-1.8846	8.8065	-	8.8065
Totals	70.7014	-8.4572 to -32.2992	38.4022 to 62.2452	-	62.2452

1. Introduction

Background

1.1. The RIIO-ET2⁹ price control period (running from 1 April 2021 until 31 March 2026) includes a range of Uncertainty Mechanisms (UMs) that will allow us to assess further funding during RIIO-ET2 as the need, cost or timing of works becomes clearer.

1.2. Where possible, we have set automatic UMs, such as the Generation and Demand Connection Volume Drivers, which provide ETOs, such as NGET, with immediate funding when they are required to undertake new customer connection works. In other areas, where the degree of uncertainty is too great to allow for an automatic mechanism, we set “re-openers” which will allow us to robustly assess ETOs’ proposals once information with sufficient accuracy is made available.

1.3. The MSIP re-opener (which is in Special Condition (SpC) 3.14 of the ETOs’ licences) provides ETOs with an annual opportunity to request additional funding for sub-£100m 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 baseline allowances.

1.4. An ETO can submit a request for additional funding via the MSIP re-opener during specific “windows” (each regulatory year between 25 January and 31 January) where it considers a project to be atypical in scope and where the forecast costs are expected to be outside the range for typical projects provided through the Connections Volume Driver mechanisms. Projects that meet these criteria will be eligible for consideration and scrutiny by Ofgem to establish the level of efficient costs to be remunerated.

1.5. In the MSIP re-opener submission in January 2022, NGET provided Ofgem with evidence of the needs case, optioneering and costs for five MSIP projects (further details are in Chapters 3 – 7):

- 1) Sulphur hexafluoride (SF6) Asset Intervention (see Chapter 3) for interventions works to abate SF6 emissions at 5 sites, 427 current transformer replacements and 167 leak repairs of SF6 gas circuit breakers
- 2) Extreme Weather Resilience (see Chapter 4) to install surface water flood defence interventions at 33 sites

⁹ RIIO stands for “Revenue = Incentives + Innovation + Outputs”.

- 3) Cellarhead Customer Connection (see Chapter 5)
- 4) Frodsham Customer Connection and Lister Drive Customer Connection (see Chapter 6) and
- 5) Melksham OTS Phase 2 Project (see Chapter 7).

NGET considered that these projects meet criterion SpC 3.14.6 which sets out the various MSIP activities.

Context and related publications

1.6. This document is intended to be read alongside:

- 1) Consultation on a SF6 Asset Intervention MSIP re-opener application¹⁰
- 2) Consultation on an Extreme Weather Resilience MSIP re-opener¹¹
- 3) Consultation on the Cellarhead Customer Connection MSIP re-opener application¹²
- 4) Consultation on the Frodsham Customer Connection and Lister Drive Customer Connection MSIP re-opener application¹³
- 5) Consultation on the Melksham OTS Phase 2 MSIP re-opener application¹⁴
- 6) NGET’s SF6 asset intervention MSIP re-opener application document¹⁵
- 7) NGET’s Extreme weather MSIP re-opener application document¹⁶
- 8) NGET’s Cellarhead Customer Connection MSIP re-opener application document¹⁷
- 9) NGET’s Frodsham Customer Connection and Lister Drive Customer Connection MSIP re-opener application document¹⁸
- 10) NGET’s Melksham OTS Phase 2 MSIP re-opener application document¹⁹.

¹⁰ <https://www.ofgem.gov.uk/publications/consultation-sulphur-hexafluoride-sf6-asset-intervention-medium-sized-investment-project-national-grid-electricity-transmission>

¹¹ <https://www.ofgem.gov.uk/publications/consultation-extreme-weather-resilience-medium-sized-investment-project-national-grid-electricity-transmission>

¹² <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

¹³ <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

¹⁴ <https://www.ofgem.gov.uk/publications/riio-2-medium-sized-investment-project-msip-re-opener-consultation>

¹⁵ <https://www.nationalgrid.com/electricity-transmission/document/140901/download>

¹⁶ <https://www.nationalgrid.com/electricity-transmission/document/140911/download>

¹⁷ <https://www.nationalgrid.com/electricity-transmission/document/140876/download>

¹⁸ <https://www.nationalgrid.com/electricity-transmission/document/140871/download> and <https://www.nationalgrid.com/electricity-transmission/document/140866/download>

¹⁹ <https://www.nationalgrid.com/electricity-transmission/document/140881/download>

Our decision-making process

MSIP submission process

1.7. The ETOs have a duty to provide connections to users and to develop and maintain an efficient, co-ordinated and economical system of electricity transmission. It is for an ETO to decide when it is the right time to initiate a new project that may be needed during the RIIO-ET2 price control period. Electricity transmission projects sometimes contain works that are dependent on factors outside the direct control of the ETOs, including the impact on customer-driven requirements, or involve issues where project timescales do not necessarily align with the submission windows of MSIP submissions set out in the licence. The MSIP framework enables us to apply proportionate scrutiny, on a case-by-case basis, of works proposed by the ETOs. This helps to manage uncertainty and helps ensure the timely and efficient progress of preparatory works. For further information on the MSIP re-opener mechanism see Chapter 4 of Final Determinations (FDs) Annex.²⁰

1.8. In NGET’s submissions, it provided Ofgem with information to justify its proposed option for meeting the needs case, the optioneering and costs for the proposed projects.

Responses to the MSIP re-opener consultations

1.9. We received sixteen responses in total to the consultations: three for SF6 Asset Intervention; four for Weather Resilience; three for Cellarhead Customer Connection; three for Frodsham and Lister Drive Customer Connection; and three for Melksham OTS. We have carefully considered all of these responses and taken them into account when coming to our decision.

1.10. The majority of the responses related to project specific issues. However, three respondents (NGET, SP Transmission (SPT) and Scottish & Southern Electricity Networks Transmission (SSENT)) commented on our application of the Opex Escalator (OE) (as set out in SpC 3.36 of the ETO’s Licence), which applied to four projects (Extreme Weather Resilience, Cellarhead Customer Connection, Frodsham and Lister Drive Customer Connection and Melksham OTS). As the responses were similar in nature, we discuss our view regarding OE application in:

- Chapter 2 – Opex Escalator: Responses and decision regarding the application of the Opex Escalator

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https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_annex_revise_d.pdf

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1.11. A summary of the responses on needs case, proposed works and cost efficiency to each MSIP project is provided in the relevant chapters of this document:

- Chapter 3 – SF6 Asset Intervention
- Chapter 4 – Extreme Weather Resilience
- Chapter 5 – Cellarhead Customer Connection
- Chapter 6 – Frodsham and Lister Drive Customer Connection
- Chapter 7 – Melksham OTS Phase 2 Project.

Our decision-making

1.12. The decision-making stages for the five MSIP projects are detailed below, with projects three to five being consulted at the same time:

- 1) Sulphur hexafluoride (SF6) Asset Intervention

Date	Stage description
09/08/2022	Stage 1: Consultation open
07/09/2022	Stage 2: Consultation closes (awaiting decision), Deadline for responses
From 7/9/2022	Stage 3: Responses reviewed and published
19/04/2023	Stage 4: Consultation decision/policy statement

- 2) Extreme Weather Resilience

Date	Stage description
18/05/2022	Stage 1: Consultation open
18/06/2022	Stage 2: Consultation closes (awaiting decision), Deadline for responses
From 18/06/2022	Stage 3: Responses reviewed and published
19/04/2023	Stage 4: Consultation decision/policy statement

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- 3) Cellarhead Customer Connection
- 4) Frodsham Customer Connection and Lister Drive Customer Connection and
- 5) Melksham OTS Phase 2 Project.

Date	Stage description
30/05/2022	Stage 1: Consultation open
28/06/2022	Stage 2: Consultation closes (awaiting decision), Deadline for responses
From 28/06/2022	Stage 3: Responses reviewed and published
19/04/2023	Stage 4: Consultation decision/policy statement

1.13. In reaching a decision on NGET’s five MSIP projects, we have considered in the round our principal objective to protect the interests of existing and future consumers and wider statutory duties, as detailed in the section 4AA of the Gas Act 1986 and section 3A of the Electricity Act 1989. Among other reasons, we wish to highlight that the decision in the SF6 Asset Intervention project enables NGET to meet established emissions reduction targets. The Extreme Weather Resilience project improves security of electricity supply by removing the threat of pluvial flooding to substation sites. The Melksham Operational Tripping Scheme Phase 2 project also improves security of electricity supply by addressing thermal, voltage and stability issues of the network in the Southwest region. The other two MSIP projects are both facilitating customer connections.

General feedback

1.14. We believe that consultation is at the heart of good policy development. We are keen to receive your comments about this report. We’d also like to get your answers to these questions:

1. Do you have any comments about the overall quality of this document?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Are its conclusions balanced?
5. Did it make reasoned recommendations?
6. Any further comments

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Please send any general feedback comments to stakeholders@Ofgem.gov.uk.

2. Responses and decision regarding the application of Opex Escalator (OE) in MSIP projects

Section summary

This section summarises responses regarding the application of the Opex Escalator (OE) in MSIP projects. As the responses related to the application of the OE are similar in nature, this section summarises all of the relevant responses and sets out our decision, which applies to the following projects:

- Extreme Weather Resilience;
- Cellarhead Customer Connection;
- Frodsham Customer Connection and Lister Drive Customer Connection; and
- Melksham OTS Phase 2 Project.

Background

2.1. ETO’s costs are broadly categorised as two types:

- Direct Costs – associated with installing new long-life assets or running/maintaining/upgrading existing assets. The RIIO-ET2 Business Plan Data Template (BPDT) Guidance v1.4 defines Direct Costs as “*expenditure incurred undertaking Direct Activities.*” Direct Activities are defined as “*those activities which involve physical contact with high voltage network assets.*”²¹
- Indirect costs – relate to the Indirect Activities undertaken in support of direct costs. Indirect costs are not themselves defined in the RIIO-ET2 BPDT Guidance v1.4, but Indirect Activities are described as “*activities... which in most cases support work being physically carried out on high voltage network assets that could not, on their own, be classed as a direct network activity.*”²² Indirect Activities include Closely Associated Indirects (CAI),²³ which are defined as “*costs that support the operational activities. CAI activities include network policy (including research and development), network design and*

²¹ RIIO-ET2 BPDT Guidance v1.4, p47 and p110-111; accessible via: <https://www.ofgem.gov.uk/publications/riio-2-final-data-templates-and-associated-instructions-and-guidance>

²² RIIO-ET2 BPDT Guidance v1.4, p48

²³ RIIO-ET2 BPDT Guidance v1.4, p48

engineering, engineering management and clerical, wayleaves administration, control centre, system mapping and health and safety functions.”²⁴ Each of these CAI activities are defined within the RIGs, which provide the types of activities which sit within each sub-category.

2.2. The requirement for delineation of direct and indirect costs is essential in Ofgem’s approach to monitoring performance and cost assessment and is applicable irrespective of which party undertakes the activity. It is the direct or indirect nature of the activity as described in 2.1 and its conformity with the cost category definitions provided within Ofgem’s Regulatory Instructions and Guidance (the RIGs) that determines the reporting requirements.

The OE mechanism

2.3. As part of RIIO-ET2, we introduced the OE. The chronology for the development and implementation of the OE is detailed below:

- The policy for the OE was consulted on within the RIIO-ET2 Draft Determinations (published on 9 July 2020).²⁵
- After considering consultation responses, the policy for the OE was decided within the FDs (originally published on 8 December 2020, with a revised version correcting some errors published on 3 February 2021).²⁶
- The OE was introduced into each ETO’s licence via SpC 3.36, following the statutory licence modification consultation published on 17 December 2020²⁷

²⁴ RIIO-ET2 BPDT Guidance v1.4, p110

²⁵ Our proposal for the OE mechanism was set out within paragraph 4.62-4.66 of the ET Sector Annex of the RIIO-ET2 Draft Determinations;
https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/draft_determinations_-_et_sector_0.pdf

²⁶ Our decision on the OE mechanism was set out within paragraphs 4.43 – 4.48 of the ET Sector Annex of the FDs;
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_an_nex_revised.pdf

²⁷ Statutory consultation for RIIO-ET2 licences, 17 December 2020:
<https://www.ofgem.gov.uk/publications/statutory-consultation-riio-2-transmission-gas-distribution-and-electricity-system-operator-licences>

and decided on 3 February 2021.²⁸ These licence modifications then came into effect at the start of the RIIO-ET2 period, on 1 April 2021.²⁹

- The RIGs, containing detailed reporting rules, for use in year 1 of the RIIO-ET2 price control were then consulted on in April 2022,³⁰ with a decision made on 1 June 2022.³¹ These came into effect ahead of the submission of Regulatory Reporting Pack (RRP) on 31 July 2022.

2.4. The purpose of the OE is to fund the additional indirect costs incurred by a network when it takes on additional investments on top of the baseline allowance via the re-openers and uncertainty mechanisms (UMs). It is a mechanistic calculation which provides efficient CAI allowances across a licensee’s full RIIO-ET2 capital programme.³²

2.5. The OE allowance for each of the projects awarded funding via re-openers consists of a percentage uplift on the total efficient direct cost allowance assessed. The percentage uplift for each ETO is different because of the differing relationship for each ETO’s cost (CAI) to cost driver (capex) employed in the regression analysis used in setting baseline allowances. Details of the OE approach, the applicable UM and the calculation methodology is set out in full within FDs.³³ We have also described our approach in paragraph 2.6 and 2.7 below. In summary, through the regression analysis employed in determining the economic and efficient indirect costs required to support

²⁸ Decision on modifications to RIIO-ET2 licences, 3 February 2021:
<https://www.ofgem.gov.uk/publications/decision-proposed-modifications-riio-2-transmission-gas-distribution-and-electricity-system-operator-licences>

²⁹ NGET’s licence can be accessed via the Electronic Public Register (EPR):
<https://epr.ofgem.gov.uk//Content/Documents/National%20Grid%20Electricity%20Transmission%20plc%20-%20Special%20Conditions%20Consolidated%20-%20Current%20Version.pdf>

³⁰ Notice of proposed modification to the RIGs and RRP, 14 April 2022:
<https://www.ofgem.gov.uk/publications/notice-proposed-modifications-regulatory-instructions-and-guidance-and-regulatory-reporting-packs-riio-2>

³¹ Decision on modification to the RIGs and RRP, 1 June 2022:
<https://www.ofgem.gov.uk/publications/decision-modifications-regulatory-instructions-and-guidance-rigs-regulatory-reporting-packs-rpps-and-pcfm-guidance-riio-2>

³² The OE also provides for an uplift for Network Operating Costs (NOC); however, no issues with the NOC uplift have been identified in these MSIP projects and are therefore the uplift for NOC is not discussed further. For further detail on NOCs, see paragraph 3.39 of the FDs – ET Annex:
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_annex_revised.pdf

³³ RIIO-ET2 FDs – ET Annex, chapter 4, decisions on OE contained in paragraphs 4.42 – 4.48:
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_annex_revised.pdf

the capital programme allowed for by Ofgem in each of the ETO’s RIIO-ET2 baseline settlement, an algebraic formulae was derived and replicated for the OE. This ensured that indirect funding levels were consistent whether applied to baseline capital programmes or any subsequent awards derived from applicable re-openers.

2.6. This OE calculation for CAI allowances uses a formula³⁴ which is predicated on the assessed, efficient CAI baseline allowances established at FDs. This reflects the relationship established at FDs between direct activity and CAI using econometric analysis. The OE formula is applied to any direct activity allowances agreed under UMs including the MSIP re-openers.

2.7. Full information on our cost assessment approach for RIIO-ET2 can be found within FDs.³⁵ In setting indirect allowances for RIIO-ET2, we used the historical data provided by ETOs (based on the BPDT guidance)³⁶ to establish the relationship between directs and indirect costs through econometric analysis. The econometric analysis consisted of a mathematical model with multiple variables (known as multivariate regression model), which included total capex as an explanatory variable, was designed to be intuitively appropriate, and verified using statistical testing. Once set, this relationship could then be applied to future forecasts, as was the case in setting RIIO-ET2 baseline indirect allowances. This relationship and the mathematical formulae were subsequently used in the OE mechanism to set efficient indirect costs for applicable UMs by replicating the relationship established between direct and indirect costs used in setting RIIO-ET2 efficient indirect allowances. This relationship is set out in the licence algebra within the OE licence condition, SpC 3.36 of the ETO licence. The reporting rules have remained consistent between setting allowances in RIIO-ET2 FDs and within the

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<https://epr.ofgem.gov.uk//Content/Documents/National%20Grid%20Electricity%20Transmission%20plc%20-%20Special%20Conditions%20Consolidated%20-%20Current%20Version.pdf> (3.36.5 contains the value of CAIAt)

³⁵ RIIO-ET2 FDs – ET Annex, chapter 3:

https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_an_nex_revised.pdf

³⁶ RIIO-ET2 BPDT guidance v1.4 published here:

<https://www.ofgem.gov.uk/publications/rrio-2-final-data-templates-and-associated-instructions-and-guidance>

The BPDT was consulted on 29 March 2019 and was published on 20 September 2019.

<https://www.ofgem.gov.uk/publications/rrio-2-final-data-templates-and-associated-instructions-and-guidance>

subsequent MSIP application process, ie there has been a need for ETOs to delineate between direct and indirect costs as defined within the RIGs.

2.8. A product of the OE is consistency between all applicable UM indirect allowances and baseline indirect allowances, by using an automated formulaic mechanism to determine the uplifts. This also enables a fair and proportionate assessment of individual re-opener projects as Ofgem does not need to individually assess indirect costs on projects and ensures consistent and appropriate funding of indirect costs across a licensee’s RIIO-ET2 portfolio.³⁷

Our minded-to view applying the OE

2.9. In NGET’s January 2022 MSIP re-opener submissions, NGET included costs for activities that fall within the definition of CAI activities, namely:

- NGET’s Extreme Weather Resilience funding requests included an amount for Site Management and Supervision
- Cellarhead, Frodsham and Lister Drive Customer Connection and Melksham OTS Phase 2 Projects included an amount for Site Management and Detailed Design subcategories, which was included in Contractor costs and/or contractors’ preliminary activities. We understand from the supporting information that these preliminary activities comprise site set up, site civils, as well as site management and supervision.

2.10. Our minded-to view was to reduce these categories in NGET’s funding request for the four relevant projects because under the RIIO-ET2 arrangements, these CAI activities fall under the scope of the costs covered by the OE as the appropriate funding mechanism for these costs. Additionally, removing CAI costs from the funding awarded via the MSIP re-opener prevents the double recovery of funds from both the OE and via the MSIP re-opener funding.

³⁷ Note that although the OE was originally intended to apply to Large Onshore Transmission Investment (LOTI) projects, a decision was made that LOTI projects were typically unsuited to a mechanistic CAI/NOC uplift and therefore the LOTI was removed from scope of the OE.

2.11. Although OE applies to all projects under the MSIP re-opener mechanism, there are no disputed CAI costs submitted within the Sulphur Hexafluoride (SF6) Asset Intervention project. Hence, the responses on the application of OE do not apply to this project.

Consultation responses

2.12. Three respondents (NGET, SSENT and SPT) responded to the MSIP consultations regarding the application of the OE in MSIP projects.

2.13. These three respondents disagreed with our proposed application of the OE. They expressed concerns that Ofgem could apply definitions of direct and indirect costs that are inconsistent with the definitions used by the ETOs when the OE rates were set as part of the RIIO-ET2 settlement. The respondents claim that within the RIIO-ET2 FDs, Site Management and Supervision and Detailed Design were included in the baseline capex allowance and not the baseline CAI allowance. They claimed to have followed a specific allowance provided for in our RIGs guidelines: *"where contractors have recharged the licensee for the primary purpose of performing direct activities which include costs for indirect activities, but these are not explicitly costed in their invoice, all costs will be treated as direct"*.³⁸

2.14. SSEN also submitted a worked example showing the impact of Ofgem’s application of the OE on their application for funding. It would include a reduction in project cost allowance after taking out the contractor indirect cost and, as a result, a reduction in the uplift from OE mechanism.

2.15. NGET argues that all contractor costs in the Extreme Weather Resilience project are onsite work relating directly to the assets on the transmission system, dedicated for the period of delivery to assets and cannot be classed as indirect or support roles.

2.16. The respondents proposed two alternative solutions:

- 1) Ofgem should top up the allowances provided through the OE to the assessed efficient level for each individual project, or

³⁸RIIO-ET2 RIGs version 1.0, page 123: https://www.ofgem.gov.uk/sites/default/files/2022-03/ET%20RIGs_Version1.0.pdf

2) Ofgem could recalibrate the coefficient on which the OE relies.

2.17. During the course of our normal engagement with the ETOs, after the consultations closed and individual responses were received, the three ETOs submitted a joint letter to us on 2 March 2023 on the OE. The letter reiterates the comments made in their individual responses to the consultations. Primarily, that *"the interpretation of 'indirects' is applied in a manner that is consistent with how the OE was calculated and set, ie for contractor 'indirects' to be treated as direct costs"*. Points were also repeated about the Extreme Weather Resilience Project and the margin of error in the regression analysis. They also re-submitted the worked example as mentioned in paragraph 2.14.

Our decision and rationale for it

2.18. Following due consideration of all of the consultation responses and the ETO letter dated 2 March 2023, we have decided that our initial proposal, to reduce an amount for Site Management and Supervision and Detailed Design categories in NGET’s funding request for the four relevant projects, remains appropriate. We remain of the view that, under the RIIO-ET2 arrangements as established in RIIO-ET2 FDs and as described in detail in paragraphs 2.1 to 2.8 above, these cost areas are CAI activities which fall under the scope of the costs covered by the OE.

2.19. As outlined in paragraphs 2.3 to 2.8 above, which set out how we introduced the OE. We acted in a procedurally proper way by consulting extensively on the OE before FDs, covering the delineation between direct and indirect costs, and the application of the OE mechanism. Our decisions on the OE mechanism were further to our principal objective to protect the interests of existing and future electricity consumers.³⁹ As stated in FDs, we sought to ensure network companies received an efficient cost of service and efficient financing.⁴⁰ Given the longstanding reporting rules in relation to the disaggregation of indirect and direct costs, it is not reasonable to infer any intended application of the OE other than the one we are now applying.

³⁹ As set out in s.3A Electricity Act 1989

⁴⁰ RIIO-ET2 FDs – Core Document, para 2.19-22.23;

https://www.ofgem.gov.uk/sites/default/files/docs/2020/12/final_determinations_-_core_document.pdf

2.20. We are applying the OE as previously decided in RIIO-ET2 FDs. Within FDs, we shared the relevant baseline capex and CAI allowances that are relevant for the OE.⁴¹ These values were not disputed by the companies at the time.

2.21. Econometric analysis and a resultant multivariate regression model were used to establish our view of efficient costs. This modelling used the data sets available at the time of the Business Plan submissions and we considered our principal objective and statutory duties. Once the relationship between direct and indirect costs had been established through the modelling, the resultant mathematical formula for adjusting indirect cost allowances was defined in the licence through the statutory licence modification process. It was our view of efficient costs delineated between the two broader categories of direct and indirect costs at a portfolio level.

2.22. Given the differing approaches taken by licensees in their reporting regimes and contracting strategies, some projects may have indirect expenditure greater than the uplift provided by the OE, while other projects may have an uplift provided by the OE greater than the indirect expenditure incurred. In totality across a number of projects in the price control, the OE uplift provides an efficient allowance for indirect costs.

2.23. The OE therefore should not be revisited without strong evidence and justification to suggest that it is not operating as intended, which is not the case here. The direct and indirect allowances we awarded NGET and OE mechanism were decided upon following consultation and have been set out in the licence, as explained in paragraph 2.3 above. Hence, we do not consider that the proposed solution 2) in paragraph 2.16 for us to recalibrate the OE coefficient is appropriate.

2.24. The line in the RIGs on which NGET, SSENT and SPT are relying (as mentioned in paragraph 2.13) does not refer to estimating future costs and allowances. It has been taken out of context and should be considered as part of the full definition of Direct Activities in Appendix 1 of the RIGs, which includes:

*“where contractors have **recharged** the licensee for the primary purpose of performing direct activities which include costs for indirect activities, but these are **not explicitly costed in their invoice**, all costs will be treated as direct. **However, where the indirect activity is explicitly costed and detailed in***

⁴¹ RIIO-ET2 FDs – ET Annex, Table 6;
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_et_an nex_revised.pdf

their invoice this should be recorded against the relevant indirect activity”.⁴² [emphasis added]

2.25. We acknowledge the historical cost base on which our allowance assessment methodology, due to the reporting rules, may have had an unquantified indirect value included. This arose from the invoicing arrangements of third parties and the ETOs’ inability to delineate between these activities on projects where their contractors didn’t split them out. For example, where an ETO is recharged by a third party for the primary purpose of undertaking a direct activity (such as when installing an electrical asset) that contracted cost may have included some supporting indirect activity. That indirect cost could be included in the direct activity cost ONLY where the ETO is unable to distinguish the individual cost components. It is important to note, that this was a specific derogation to assist the ETOs in circumstances where they were unable to properly delineate between direct and indirect costs. However, this does not alter the requirement to make this distinction going forwards or to allow known indirect costs to be included in the direct activity cost. There should be sufficient time for licensees to ensure that the derogation in the definition is the exception rather than the rule for their reporting of project costs from RIIO-ET2.

2.26. Furthermore, the extent of any potential impact of not delineating between direct and indirect costs on either the direct unit cost or indirect allowances has not been evidenced or substantiated by any respondent. The ETOs mentioned in their joint letter (in paragraph 2.17) that the potential impact does not fall within the “margin of error” regression analysis and the OE factor could be more than double. Given the reporting derogation is specifically due to an ETO’s inability to distinguish costs in their historical reporting, the validity and/or accuracy of its impact is unverifiable.

2.27. In the 2022 MSIP applications, NGET has submitted a forecast cost for these MSIP projects (i.e. contractors have not charged for the project and have yet to be contracted), and NGET can, and is obliged under the reporting rules,⁴³ to identify and provide cost estimations for indirect costs whether these will be undertaken by internal staff or subsequently contracted to a 3rd party. Given that the indirect activity is explicitly costed and detailed in NGET’s submission this should be recorded against the

⁴² RIIO-ET2 RIGs version 1.0, p123; https://www.ofgem.gov.uk/sites/default/files/2022-03/ET%20RIGs_Version1.0.pdf

⁴³ RIIO-ET2 Re-opener Guidance and Application Requirements version 2, paragraph 3.20: <https://www.ofgem.gov.uk/publications/riio2-re-opener-guidance-and-application-requirements-version-2>

relevant indirect activity (not direct activity). The cost submission is not done after the event for reporting purposes and therefore should not be allowed to rely on the derogation for recharging the licensee.

2.28. As part of the RIIO-ET2 price control, and consistent with that applied in the RIIO ET2 business plan submissions, we set out a clear distinction between direct and indirect costs in the RIIO-ET2 BPDT and our RIGs. The ETOs were required to follow these guidelines, providing the basis for which the OE rates were set within RIIO-ET2 FDs. The definitions in the RIGs remained unchanged, and we do not consider our application of the OE to be inconsistent. There has been no change in the categorisation of costs and/or the definition of direct/indirect costs established for the RIIO-ET2 Business Plan submission and the subsequent T2 reporting, including at the time of the MSIP applications.

2.29. We also do not consider it to be consistent with the original intent of the OE to award additional funding for CAI on individual re-opener projects. The OE is intended to provide the sole funding for CAI costs and it is not appropriate to include additional funding with the direct funding awarded to re-opener projects. This would amount to inefficient funding of CAI activities, and would be inconsistent with the funding methodology employed at FDs, potentially awarding higher allowances for re-openers than that which was awarded for baseline projects. Hence, we do not consider that the proposed solution 1) in paragraph 2.16 for us to top up the allowances provided through the OE to the assessed efficient level for each individual project is appropriate.

2.30. We have been clear throughout the development and implementation of the OE that that the relevant CAI costs would not be recoverable as direct costs, as the OE mechanism clearly categorises them as indirect. The ETOs did not raise concerns as part of their response to our consultations on the OE to the effect that the statement in the RIGs on which they seek to rely would allow them to change the categorisation of the costs from indirect to direct. We are not looking to revisit decisions on the use of the OE made in the RIIO-ET2 FDs. To change the categorisation now we would be to deviate from RIIO-ET2 FDs and the RIGs and not apply the mechanism in the way that was intended. Additionally, it would not now be in consumers’ interests to reopen previously decided policies.

2.31. In response to the Extreme Weather Resilience consultation, NGET argued that including Site Management and Supervision in the baseline capex allowance in the funding request was in line with the definitions of direct and indirect costs in the RIIO-

ET2 BPDT Guidance. In the joint ETOs letter dated 2 March 2023, the three ETOs reiterated their disagreement with our proposal to remove these costs from the project on the basis that these are CAI activities which fall under the scope of the costs covered by the OE. In their view, our position is contrary to the basis on which the OE was agreed, as these costs would not be covered by the current OE rate. According to NGET, Site Supervision would sit in direct costs as it is based on-site with assets. However, our RIGs clearly stated that CAI costs include those costs associated with “*on-site supervision and technical guidance*”.⁴⁴ Additionally, the RIGs set out that CAI costs include Engineering Management and Clerical Support, which includes costs associated with “*Compliance checks on staff and contractors work carried out, Site safety inspections, Operational safety checks*”.⁴⁵ By their very nature, we consider that it is clear that compliance checks are carried out on-site to verify work done. Throughout the process, we used the RIIO-ET2 Uncertainty Mechanism Cost Template⁴⁶ consistently and did not move away from the original definitions of direct and indirect costs. We disagree that our proposal to remove Site Management and Supervision from NGET’s funding request is an error and disagree that it is fundamentally at odds with the CAI and OE framework designed for RIIO-ET2.

2.32. Tables 2 to 5 set out at paragraphs 4.15, 5.12, 6.10, and 7.10 quantify the cost adjustments we have made for each project as a result of our reclassification of some of NGET’s costs as indirect. Over the four applicable projects this amounts to a £2.87m reduction to NGET’s funding request. The adjusted costs will then be at the efficient direct cost that is then uplifted by the OE. Based on the level of direct funding we are awarding, we estimate (using the calculations set out in SpC 3.14, based on the information we have now) that the OE uplift for NGET’s four MSIP projects would be approximately £2.27m. This uplift is £0.49m less than the OE uplift based on NGET’s funding request, before we reclassified the costs as indirect. We estimate that the impact of properly accounting for the indirect costs through the OE rather than under the MSIP re-opener to be of the value of approximately £3.36m (ie £2.87m + £0.49m). We have given due regard and consideration to the impact of our decision and we consider the approach of calculation by ETO’s as mentioned in 2.14 aligns to our calculations. It is

⁴⁴ RIIO-ET2 regulatory instructions and guidance (RIGs) v1.1), p.92;
https://www.ofgem.gov.uk/sites/default/files/2022-03/ET%20RIGs_Version1.0.pdf

⁴⁵ RIIO-ET2 regulatory instructions and guidance (RIGs) v1.1), p.102;
https://www.ofgem.gov.uk/sites/default/files/2022-03/ET%20RIGs_Version1.0.pdf

⁴⁶ <https://www.ofgem.gov.uk/sites/default/files/2022-02/Re-opener%20Guidance%20And%20Application%20Requirements%20Document%20Version%202.pdf> (paragraph 3.20)

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important to note that the ETO impact assessment is predicated on the ETO inclusion of CAI in the direct cost allowances, and that the MSIP re-opener decision is therefore a material change to the application of direct and indirect. As noted above, we disagree with this interpretation and are of the opinion that this MSIP re-opener decision does not represent a change (material or otherwise) in the proper application of the term indirect or the OE mechanism.

2.33. Finally, NGET has submitted cost forecasts for these MSIP projects to us and we recognise that NGET will have commercial flexibility when taking forward projects. NGET can choose who performs each activity within a project, if possible (ie whether or not they employ a contractor to do indirect activities). Accordingly, NGET should have the flexibility to adapt its strategy for delivering indirect activities within these MSIP projects or future projects to mitigate any impact from the use of the OE. Applying the OE as ETOs have asked would be incentivising one delivery and contracting model over others.

3. Needs case, proposed works and cost efficiency of SF6 asset intervention

Background

3.1. NGET’s MSIP application is for the delivery of interventions to reduce Sulphur Hexafluoride (SF6) leakage at a number of grid substations and to facilitate progress towards its greenhouse gas reduction targets. SF6 is an extremely harmful greenhouse gas with a global warming potential 23,500 times that of Carbon Dioxide (CO2). It is in consumers’ interests that use and leakage of SF6 is reduced from electricity transmission equipment. NGET committed to be Net Zero by 2050, and to halve SF6 emissions from transmission network equipment by 2030.⁴⁷

3.2. In the January 2022 MSIP re-opener submission, NGET carried out a cost benefit analysis (CBA) of its option shortlist, detailing the difference between its previous business plan submission for RIIO-ET2 and its updated submission for this MSIP. NGET also completed a CBA of gas circuit breakers (GCBs) and current transformers (CTs), with the different replacement and refurbishment options presented. These CBAs were supported by Engineering Justification reports, showcasing the preferred option for each site/asset type. NGET’s preferred option is for a combination of the following short-listed options, with an additional trial intervention of cable replacement at Monk Fryston:

- Remaining RIIO-1 high leaking sites from RIIO-ET2 Asset Group Strategy (AGS) submission
- CT replacements only and
- GCB repairs only.

This will see interventions at five substation sites, 427 current transformer replacements and 167 leak repairs of SF6 gas circuit breakers, to be delivered from 2023-26.

3.3. Our minded-to view was that the needs case to carry out SF6 asset interventions was well justified. We recognise the overarching need for NGET to reduce leakage of SF6, as well as SF6 assets, with the potential for future leakage. We considered that

⁴⁷ <https://www.nationalgrid.com/electricity-transmission/environment-and-net-zero>

NGET’s proposed MSIP is aligned to its 2026 SF6 emissions target of a 34% reduction,⁴⁸ a key milestone in NGET’s pathway to meet its long-term Net Zero target.

3.4. Our minded-to view was that we disagreed with the selection of two options which we consider overlaps with existing funding mechanisms under RIIO-ET2. We considered the existing Instrument Transformer Price Control Deliverable (PCD) (as set out in SpC 3.22 of the Licence) to be more suitable for a proportion of funding for transformer replacement, with the remaining funding coming through the MSIP. We also considered the NARM (as set out in SpC 3.1 of the Licence) to be a more appropriate mechanism for NGET to recover any justified and efficiently incurred expenditure associated with gas circuit breaker repairs. We were minded-to accept the justification for the final proposed interventions of the five key substation sites as we considered these proposed solutions to be in the interests of consumers.

3.5. Regarding efficient costs, our minded-to view was that proposed intervention costs for the five key substations were reasonable and represented efficient costs, providing value to consumers. Overall, we were minded-to accept the costs for these proposed interventions. However, we proposed to remove all the funding requested for gas circuit breaker repair and to reduce the funding for transformer replacement, as we considered NARM and the existing Instrument Transformer PCD to be more suitable funding mechanisms for these interventions.

Consultation responses

3.6. In total we received sixteen responses to the NGET MSIP consultations, of which three respondents (NGET, SPT and Siemens Energy) responded to the consultation on NGET’s submission to carry out SF6 asset intervention.

3.7. NGET agrees with the approved funding at the 5 substation sites (Barking, Monk Fryston, Seabank, Sellindge and West Ham) where SF6 replacement or refurbishment intervention works have been identified. The respondent does not agree with the proposed reduction in costs that Ofgem has set out in the SF6 Consultation against the CTs and GCBs. The respondent’s view is that:

⁴⁸ <https://www.nationalgrid.com/electricity-transmission/environment-and-net-zero>

- CTs do not fall within the NARM methodology because they are non-lead assets and therefore within the RIIO-ET2 FDs, a PCD (for PCB and SF6 drivers) was awarded to fund replacement of a specific list of current transformers. This PCD is funding a different set of SF6 CT assets for which NGET confirm there is no overlap with those requested in the SF6 MSIP submission.
- The works proposed to be undertaken on the GCB assets are repair works. NGET’s argues that, under the definition of NARM, repair works cannot be funded, because repairs do not improve the monetised risk of an asset. NGET support this assertion by stating that half of the assets in question report a zero score according to the condition scoring system in NARM as no leakage has been reported yet. Therefore, NGET’s view is that the repair has no impact on monetised risk and cannot be funded mechanistically under NARM. As such, the proposed repair works for the GCBs continue to require additional funding under the SF6 MSIP.

3.8. SPT also disagrees with our minded-to view to remove all the funding requested for GCBs repair. The respondent’s view is that the NARM mechanism would not be an appropriate mechanism for SPT to recover any justified and efficiently incurred expenditure associated with gas circuit breaker repairs. It argues that the SPT NARM methodology does not attribute any monetised risk reduction to repair activities. A repair is considered a reactive activity to return the asset to its pre-fault condition, as defined in the current version of the NARM Common Methodology.

3.9. Siemens Energy agrees with the needs case proposed by NGET and Ofgem’s minded-to view thereof. The respondent does not agree with the decision to discount option 9 and 10 (ie, SF6 alternative options only and Gas Insulated Switchgear site replacement respectively) as presented in NGET’s submission. The respondent notes that future portfolios for SF6-free alternatives are very dynamic, which may become viable for some of the asset replacement programmes, depending on the actual timeline of these projects. The respondent’s view is that that discounting option 9 and 10 at this stage squeezes the timeframe available to NGET to review the emergent technologies and develop their strategy for evaluating these options with a long-term, sustainable view.

Our views

3.10. We maintain our views on the needs case for this project as described in 3.3.

3.11. In response to the issues raised by NGET, we recognise that the existing Instrument Transformer PCDs⁴⁹ provides funding for the replacement of 364 CTs. We agree that where the volume of current transformers replacements exceeds 364, funding additional CT replacements under MSIP is reasonable. Following engagement with NGET, NGET did provide sufficient information that the existing Instrument Transformer PCD funding will be fully utilised by the end of the price control and insufficient for additional SF6 filled CT replacements. We therefore accept the funding for the 427 current transformers and approve the SF6 CT replacements. We will accordingly update the existing list of CT replacements to confirm which CT replacements are funded via the Instrument Transformer PCD and which are funded via this MSIP project. Due to the confidential nature of this information, this list has been redacted and not included in this public decision document. It will instead go into the NGET Redacted Information Document (as defined in SpC 1.1 of NGETs Licence).

3.12. Regarding the GCB repair, we still consider that our minded-to position to remove all the funding requested for GCBs repair remains appropriate as we consider that NARM provides a more appropriate mechanism for NGET to recover any justified and efficiently incurred expenditure associated with the GCB repairs interventions. NGET mentioned that half of the assets do not provide benefit on monetised risk and cannot be funded mechanistically under NARM. NGET is correct in stating that repair is not a NARM intervention. However, classification of interventions under NARM is not dependent on whether the specific assets to which the intervention applies deliver a risk benefit or not, but rather on whether the interventions are of a type that would be expected to yield a risk benefit when applied to a deteriorated asset. Although some of the specific assets planned for intervention under the GCB programme will not yield an immediate risk benefit, the types of planned interventions deliver risk benefit and therefore, under NARM, should be classified as refurbishment rather than repair. NGET explains in its response that the reason for which half of the GCBs planned for intervention will not yield an immediate monetised risk benefit is due to the specific condition scoring of those assets. The proposed GCB intervention programme as a whole is expected to deliver monetised risk benefit. Our view remains that the NARM would be a more suitable mechanism as this already allows for additional funding if the licensee can justify delivery of additional monetised risk benefit on the GCB intervention programme.

⁴⁹ Special Condition 3.22.4(b)

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Submission of these assets through NARM would also remove any potential risk of double-counting allowances between the NARM and MSIP.

3.13. Regarding the issues raised by Siemens Energy in paragraph 3.9 above, these options were discounted by NGET from the short-list of options as alternative technology was not considered to be commercially available at the voltages and assets required for the intervention period. We note that there are a range of SF6 alternatives at 400kV voltages which may be available in the ET2 period. We will review the market capability in ET2 and consider this in our future determinations.

3.14. Following consideration of the consultation responses, we have decided to approve the needs case. We have also decided to accept the cost submission for the five site specific interventions, in addition to the transformer replacements. However, we have decided to remove all the funding requested for the interventions that NGET refers to as GCBs repair in its submissions. These will instead be funded via NARM mechanism.

Summary of project allowance

3.15. The table below summarises NGET’s funding request, our adjustments, minded-to position and our allowances against each of the components for the SF6 Asset Intervention MSIP project.

Table 1: Project allowances – SF6 Asset Intervention

Site/Asset	Activity	NGET request (£m)	Ofgem Adjustments (£m)	Ofgem minded-to position (£m)	Ofgem allowances (£m)
Barking 400kV	Refurbishment	4.468	0	4.468	4.468
Monk Fryston 275kV GIB	Replacement with HV Cable	4.807	0	4.807	4.807
Seabank 400kV	Refurbishment	6.102	0	6.102	6.102
Sellindge 400kV I	Refurbishment	2.545	0	2.545	2.545
West Ham 400kV	Refurbishment	7.067	0	7.076	7.067
SF6 filled CT replacements	Replacement	23.842	0	0-23.842	23.842

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275kV & 400kV AIS GCBs	Refurbishment (referred to as Repair in submission)	5.119	5.119	0.00	0.00*
Total		53.949	5.119	24.989 – 48.831	48.831

* The value of zero reflects funding under MSIP only. Funding may still be provided via NARM if the licensee can justify delivery of the additional monetised risk outputs. Please see the NARM Handbook, for details of the NARM Funding Adjustment and Penalty Mechanism that was published alongside our RIIO-ET2 licence decision on 3 February 2022:

<https://www.ofgem.gov.uk/publications/decision-proposed-modifications-riio-2-transmission-gas-distribution-and-electricity-system-operator-licence-conditions-1-april-2022>.

4. Needs case, proposed works and cost efficiency of Extreme Weather Resilience

Background

4.1. The Secretary of State for Business, Energy and Industrial Strategy has requested that NGET’s transmission network comply with the flood resilience standard set out in the Engineering Technical Report 138 (ETR138) by the end of RIIO-ET2.⁵⁰ Using an approach aligned with the ETR138 principles to assess flood risks, NGET has identified the need for surface water (also known as pluvial) flood defences at 59 of its sites. NGET’s MSIP application is to install flood protections at 33 sites, by end 2026, out of the 59 for which it has developed cost estimates. NGET plans to submit another MSIP application for the remaining sites in the future. In the January 2022 MSIP re-opener submission, NGET provided Ofgem with evidence of the needs case, optioneering and cost efficiency for the project.

4.2. In the January 2022 MSIP re-opener submission, NGET explained the need for NGET to comply with the flood resilience standard in ETR138 by the end of RIIO-ET2 and that this will require the installation of flood protection at significant community sites that do not meet the standard. NGET submitted evidence to show the link between the sites’ particular vulnerabilities, and the site-specific interventions it is proposing to install. To select the preferred interventions at each site NGET has applied the ETR138 risk-based methodology and a CBA. Following its analysis and investigations, NGET considers that the best option for surface water flood defence is the localised protection option.

4.3. Our minded-to view was that the need case to install surface water flood defence interventions at 33 sites was justified. NGET has made a clear link between the relevant sites’ particular vulnerabilities, and the site-specific interventions it is proposing to install. Our initial view was that NGET’s preferred option, the localised protection option that NGET has proposed for all 33 sites, represented the preferred solution. We considered that the combination of NGET’s analysis on flood risk and CBA had identified the appropriate level of interventions to address the site-specific vulnerabilities. It appeared to be the most cost-effective solution for NGET to meet the ETR138 resilience

⁵⁰ https://www.ena-eng.org/ena-docs/D0C3XTRACT/ENA_ET_138_-_Annex_Extract_180902050351.pdf

standard and to mitigate the risk and costly impact of site shutdowns and flood damage at critical sites.

4.4. Regarding NGET’s proposed costs, our minded-to view was that some adjustments to costs were needed:

- Calculation error: Ofgem corrected for a double count of costs for one site in NGET’s cost breakdown spreadsheet that was re-submitted in March 2022.
- Standardise unit cost: Ofgem standardised the unit cost of some works where no rationale was given for using a different unit cost for the same activity.
- OE: Ofgem proposed to remove a proportion of the preliminary works costs as we consider some of the activities are CAI activities and are covered by the OE.
- Risk contingency: Ofgem proposed to reduce the amount of risk contingency in the allowance from 11% of total contractors’ costs to 7.5% of direct activity costs. This is in line with our RIIO-ET2 determinations to cap average risk across projects at this level.⁵¹
- Real Price Effects (RPEs): Ofgem proposed to remove the additional funding (ie, 9% of contractor costs) for RPEs on the basis that it was not sufficiently detailed or justified in the MSIP application.

Consultation responses

4.5. In total we received sixteen responses to the NGET MSIP consultations, of which four respondents (Environment Agency, National Grid Electricity Systems Operator (NGESO), SSENT and NGET) responded to the consultation on NGET’s submission to install surface water flood defence interventions at 33 sites. All respondents supported our initial view of the need case and that the localised protection option that NGET has proposed for all 33 sites is the most appropriate solution.

⁵¹ Para. 3.20 to 3.28 of FDs - NGET Annex REVISED
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determination_nget_annex_revised.pdf

4.6. Two respondents (SSENT and NGET) disagreed with our proposed application of the OE. They expressed concerns that Ofgem could apply definitions of direct and indirect costs that are inconsistent with the definitions used by the ETOs when the OE rates were set as part of the RIIO-ET2 settlement.

4.7. EA recommends Ofgem to review all sources of flooding available and to consider the impacts of coastal erosion on the infrastructure when deciding on the need case for flooding defence.

4.8. NGET disagreed with some of our proposed adjustments to NGET’s efficient costs, specifically regarding RPEs and contingency risk. NGET is of the view that the average price of steel and concrete since 2018/2019 has risen by 51% and 13% respectively. Over the same period, the Consumer Prices Index including owner occupiers' housing costs (CPIH) has risen by 13% and therefore RPEs are required to make up the difference between CPIH and these commodity rises. NGET has submitted additional RPE analysis alongside its response to show the impact of steel and concrete RPEs on costs. NGET proposes a mechanism for this project that replicates the RPE mechanism included for all baseline allowances in the RIIO-ET2 price control.⁵² This mechanism would be based on a true-up assessment at the end of the T2 period, using actual commodity price increases for steel and concrete.⁵³

4.9. Additionally, NGET claims a standard value of 7.5% to risk across all projects is not appropriate and suggests this needs to be assessed on a case-by-case basis. In its response, NGET provided a project specific risk register which has been assessed using the Monte Carlo simulation to determine the P50 risk outcome.⁵⁴ NGET considers that its initial proposal of 11% contingency risk remains appropriate.

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https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determination_nget_a_nnex_revised.pdf (chapter 3)

⁵³ The final allowance true-up would be based on the steel and concrete components of the submission and be linked to the published indices – ‘70/12 Fabricated Structural Steel’ (BCIS) and ‘BCIS Concrete Framed Construction Cost Index’

⁵⁴ Monte-Carlo simulation is a statistical technique by which a quantity is calculated repeatedly, using randomly selected "what-if" scenarios for each calculation. This technique is used to estimate the possible outcomes of an uncertain event.

Our views

4.10. We maintain our views on the need case for this project and on the optioneering as described in 4.3.

4.11. Following consideration of the consultation responses regarding the OE, we have decided that our initial proposal, to reduce an amount for Site Management and Supervision categories in NGET’s funding request for the Extreme Weather Resilience project, remains appropriate (further details are in Chapter 2).

4.12. In response to the issues raised by NGET regarding RPEs in paragraph 4.8 above, we consider that an RPE mechanism based on a true-up assessment at the end of the RIIO-ET2 period is not appropriate for the level of uncertainty TOs face in the MSIP re-opener projects. This mechanism aims to de-risk TOs for long-term RPE increases above inflation during the price control. The mechanism is not for projects with a shorter time span and are of lower value because external cost fluctuations will be less material in such projects. Additionally, as part of the responses to our enquiries alongside the consultation response, NGET explained that the estimated prices in the re-opener were based on June 2021 costs and the majority of the material prices have increased significantly between June 2021 and June 2022. Although we acknowledge these prices may have risen significantly since NGET’s cost estimation, NGET did not quantify the costs it faced due to the increase of material prices to date. For all the above reasons, we consider NGET did not provide sufficient proof to allow for an RPE adjustment.

4.13. In response to the issues raised by NGET regarding risk contingency in paragraph 4.9 above, we consider that our consultation position to reduce the amount of risk contingency in the allowance from 11% of total contractors’ costs to 7.5% of direct activity costs remains appropriate. This is consistent with our FDs – as we set out in the consultation, our RIIO-ET2 determinations capped average risk across projects at 7.5% of our assessed efficient project costs, following a review of outturn risk on a number of RIIO-1 projects. We do not believe we have seen sufficient reason to apply a different approach in this case.⁵⁵

⁵⁵ Para. 3.20 to 3.28 of FDs - NGET Annex REVISED
https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determination_nget_annex_revised.pdf

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4.14. Following consideration of the consultation responses, we have decided to approve the needs case and the preferred solution that was consulted on, ie, the localised protection option that NGET has proposed for all 33 sites.

Summary of project allowance

4.15. The table below summarises NGET’s funding request, our adjustments, minded-to position and our allowances against each of the components for the Extreme Weather Resilience MSIP project.

4.16. NGET will also receive an automatic uplift of approximately £511k from the OE for CAI activities on the project based on the total Ofgem proposed allowances.

Table 2: Project allowances - Extreme Weather Resilience

Cost category	NGET request (£k)	Ofgem adjustment – cost efficiency (£k)	Ofgem adjustment – cost reclassified as indirect (£k)	Ofgem minded-to position (£k)	Ofgem allowances (£k)
Contractor costs	3,379.8		-564.4 *	2,815.4	2,815.4
Risk Contingency	371.8	-160.6	0	211.2	211.2
RPE contingency	304.2	-304.2	0	0	0
Total	4,055.8	-464.8	-564.4 *	3,026.6	3,026.6

* There was a minor typo in the consultation document. This is the correct figure of the adjustment.

5. Needs case, proposed works and cost efficiency of Cellarhead Customer Connection

Background

5.1. Due to the increasing embedded renewable generation from the consumers on the distribution side of the network, Distribution Network Operators (DNOs) seek greater flexibility of their connections to accommodate multi directional power flows. National Grid Electricity Distribution (NGED)⁵⁶ has made an application to NGET for a new connection point within the Cellarhead Grid Supply Point to increase capacity within its distribution network. NGED considers that this is the most efficient way to reinforce its distribution network and to manage upcoming reliability risks.

5.2. In the January 2022 MSIP re-opener submission, NGET provided analysis of the current and future challenges between the transmission and the distribution networks’ connection and argued that an intervention is needed to maintain DNOs’ required levels of system stability. NGET is required by statute, and its licence, to provide connections for customers.⁵⁷ NGET has shortlisted viable options for the new connection point but has not conducted and included in its re-opener submission a CBA analysis on the possible options which could meet the needs case. Instead, it has followed Ofgem’s Guidance⁵⁸ to develop MSIP submissions with proportionality related to scale and cost of the proposed projects. Following its investigations, NGET considers that the most appropriate option for the Cellarhead connection is to provide bus bar connection and protection equipment within the existing site by end 2023.

5.3. Our initial view was that the need for the Cellarhead Connection is valid and that an intervention is needed to maintain DNOs’ required levels of system stability. Our minded-to view was that the option of NGET providing bus bar connection and protection equipment to NGED within Cellarhead site may be more cost efficient compared to other alternatives. We agreed with NGET’s preferred solution as the use of existing civil structures within site for building a new bay will have significantly smaller impact on

⁵⁶ Western Power Distribution (WPD) was renamed NGED on 21 September 2022, following the acquisition of WPD by the National Grid Group in 2021.

⁵⁷ s.16 Electricity Act 1989 (Duty to connect on request) and Transmission Licence Standard Condition D4A (Obligations in relation to offers for connection etc)

⁵⁸ <https://www.ofgem.gov.uk/publications/rrio2-re-opener-guidance-and-application-requirements-version-2>

consumers and customer both on cost and on connection timescale compared to the solution of constructing a new bay by extending Cellarhead substation.

5.4. Regarding NGET’s proposed costs, our initial view was to accept NGET’s proposed direct activity costs. We were minded-to adjust NGET’s price control allowances for these. However, we proposed to remove a proportion of the preliminary works costs as we consider some of the activities are closely associated indirect activities and are covered by the OE.

Consultation responses

5.5. In total we received sixteen responses to the NGET MSIP consultations, of which three respondents (NGET, NGESO and SPT) responded to the consultation on NGET’s submission to enable the Cellarhead Customer Connection. All respondents supported our initial view of the needs case.

5.6. NGESO suggested that the proposal for a whole system/market-based solution has been discounted too early. NGESO recommends that a CBA should be conducted to determine whole system solutions that weigh up the cost of build vs. non-build solution before progressing.

5.7. Two respondents (NGET and SPT) disagreed with our proposed application of the OE. They expressed concerns that Ofgem could apply definitions of direct and indirect costs that are inconsistent with the definitions used by the ETOs when the OE rates were set as part of the RIIO-ET2 settlement.

Our views

5.8. We maintain our views on the need case for this project and on the optioneering as described in 5.3.

5.9. Following consideration of the consultation responses regarding the OE, we have decided that our initial proposal, to reduce an amount for Site Management and Detailed Design in NGET’s funding request the Cellarhead customer connection, remains appropriate (further details are in Chapter 2).

5.10. In response to the issues raised by NGESO summarised in paragraph 5.6 above, we consider that our consultation position to discount the whole system/market-based

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solution remains appropriate based on representations from NGET. In the re-opener submission, NGET was of the view that there are no present market solutions (eg existing generators or assets) capable of providing the requested physical connection to the transmission network. As these works are required at transmission level, it is also unlikely that a DNO solution would be possible or economic and efficient. Additionally, NGET involved stakeholders, including ESO and others, in the decision-making process relating to the consideration of these options. We believe our consultation position that the whole system option is not applicable in this project remains appropriate.

5.11. Following consideration of the consultation responses, we have decided to approve the needs case and the preferred solution that was consulted on, ie, to provide bus bar connection and protection equipment to NGED within Cellarhead site.

Summary of project allowance

5.12. The table below summarises NGET’s funding request, our adjustments, and our allowances against each of the components for the of Cellarhead customer connection MSIP project.

5.13. NGET will also receive an automatic uplift of approximately £75k from the OE for CAI activities on the project based on the total proposed allowances.

Table 3: Project allowances - Cellarhead customer connection

Cost category	NGET request (£k)	Ofgem adjustment – cost reclassified as indirect (£k)	Ofgem minded-to position	Ofgem allowances (£k)
Contractor costs	407	-76.3	330.7	330.7
NG Commissioning Costs	32.3	0	32.3	32.3
Contingency Value	32.9	0	32.9	32.9
NG Closeout Costs	3.9	0	3.9	3.9
NG Site Costs	41.6	0	41.6	41.6
Total	517.7	-76.3	441.4	441.4

6. Needs case, proposed works and cost efficiency of Frodsham and Lister Drive Customer Connection

Background

6.1. In response to the loss in grid inertia,⁵⁹ the NGESO runs ‘pathfinder’ tender rounds to procure market solutions to manage network conditions and maintain system stability through long term reactive power services.⁶⁰ Through this pathfinder process, NGESO selected Mersey Reactive Power Limited’s (MRPL) connection proposal at Frodsham substation and Statkraft’s connection⁶¹ to Lister Drive substation as the most cost-effective solutions to provide ancillary services. MRPL and Statkraft have made an application to NGET for these new connections and NGET is required by its licence to provide connections for customers.

6.2. In the January 2022 MSIP re-opener submission, NGET submitted analysis of the current and future challenges for the NGESO’s Net Zero transition and how the proposed intervention would contribute to system stability. NGET is required by statute, and its licence to provide connections for customers.⁶² To select the preferred option, NGET has not conducted and included a CBA analysis on the options to meet the needs case. Instead, it has followed Ofgem’s Guidance⁶³ to develop MSIP submissions with proportionality related to scale and cost of the proposed projects. Following its investigations, NGET considered that using an existing bay for Frodsham connection and using a tee’d connection for Lister Drive project by end 2023 are likely to be more cost efficient compared to other alternatives.

6.3. Our initial view was that NGET’s analysis of the current and future challenges for NGESO’s Net Zero transition was well justified and that the proposed intervention would contribute to system stability. We also considered that NGET’s proposals to use an

⁵⁹ Grid inertia is the ability to respond quickly to changes in demand.

⁶⁰ <https://www.nationalgrideso.com/future-energy/projects/pathfinders/high-voltage>

⁶¹ Synchronous Compensators provide grid inertia services, they can also provide a range of other functions including voltage control

⁶² s.16 Electricity Act 1989 (Duty to connect on request) and Transmission Licence Standard Condition D4A (Obligations in relation to offers for connection etc)

⁶³ <https://www.ofgem.gov.uk/publications/rrio2-re-opener-guidance-and-application-requirements-version-2>

existing bay for Frodsham connection and to use a tee’d connection for Lister Drive project would likely to be more cost efficient compared to other alternatives.

6.4. Regarding NGET’s proposed costs, our initial view was to accept NGET’s proposed direct activity costs. We were minded-to adjust NGET’s price control allowances for these. However, we proposed to remove a proportion of the preliminary works costs as we consider some of the activities are closely associated indirect activities and are covered by the OE.

Consultation responses

6.5. In total we received sixteen responses to the NGET MSIP consultations, of which three respondents (NGET, NGESO and SPT) responded to the consultation on NGET’s submission to enable the Frodsham and Lister Drive connection. NGESO supported our view of the needs case and the preferred option.

6.6. Two respondents (NGET and SPT) disagreed with our application of the OE. They expressed concerns that Ofgem could apply definitions of direct and indirect costs that are inconsistent with the definitions used by the ETOs when the OE rates were set as part of the RIIO-ET2 settlement.

Our views

6.7. We maintain our views on the need case for this project and on the optioneering as described in 6.3.

6.8. Following consideration of the consultation responses regarding the OE, we have decided that our initial view, proposing to reduce an amount for Site Management and Detailed Design categories in NGET’s funding request the Frodsham and Lister Drive connection project, remains appropriate (further details are in Chapter 2).

6.9. Consistent with support from consultation responses, we have decided to approve the needs case and the optimal solution that was consulted on, ie, to use an existing bay for Frodsham connection and to use a tee’d connection for Lister Drive project.

Summary of project allowance

6.10. The table below summarises NGET’s funding request, our adjustments, and our minded-to position and allowances against each of the components for the of Frodsham and Lister Drive connection MSIP project.

6.11. NGET will also receive an automatic uplift of approximately £192k from the OE for CAI activities on the project based on the total proposed allowances.

Table 4: Project allowances - Frodsham and Lister Drive connection

Cost category	NGET request (£k)	Ofgem adjustment – cost reclassified as indirect (£k)	Ofgem minded-to position (£k)	Ofgem allowances (£k)
Contractor costs	1199.8	-348.1	851.7	851.7
NG Commissioning Costs	122.5	0	122.5	122.5
Contingency Value	133.8	0	133.8	133.8
NG Closeout Costs	31.7	0	31.7	31.7
Total	1487.8	-348.1	1139.7	1139.7

7. Needs case, proposed works and cost efficiency of Melksham operational tripping scheme phase 2

Background

7.1. NGET expects that new interconnectors and generation connecting in the South West of England by 2024 will result in operational issues if a double circuit unplanned outage occurs during planned outages. Although such an outage is relatively uncommon, the impact could be significant. NGET contends that the most efficient way to manage these issues is to install phase 2 of an Operational Tripping Scheme (OTS) at its Melksham substation. The OTS would monitor circuits and automatically switch or disconnect generation in the event of a fault to avoid instability or unacceptable thermal or voltage conditions on the transmission system.

7.2. In the January 2022 re-opener submission and subsequent responses to our enquiries, NGET submitted engineering justification papers, network system studies and CBAs to set out the range of options. In the CBA, NGET assessed the costs associated with each option up to the end of life of NGET’s and customer’s physical assets, starting from 2024 (last customer connection) and running for 20 years. Following its analysis, NGET considered that the extension of the existing Melksham OTS system by end 2025 represented the most appropriate solution.

7.3. Our initial view was that we were satisfied that NGET’s analysis of the current and future system stability issues in the South West of England is valid and that an intervention is needed to avoid significant costs from constraining generation in future. We also considered NGET’s proposal of the preferred option to extend the existing Melksham OTS to be more cost efficient compared to other alternatives.

7.4. Regarding NGET’s proposed costs, our initial view was to accept NGET’s proposed direct activity costs. We were minded to adjust NGET’s price control allowances for these. However, we proposed to remove a proportion of the preliminary works costs as we consider some of the activities are closely associated indirect activities and are covered by the OE.

Consultation responses

7.5. In total we received sixteen responses to the NGET MSIP consultations, of which three respondents (NGET, NGESO and SPT) responded to the consultation on NGET’s submission to enable the Melksham OTS Phase 2 Project. NGESO supported our view of the needs case and the preferred option.

7.6. Two respondents (NGET and SPT) disagreed with our application of the OE. SPT only commented on the application of the OE, while NGET agreed with our minded-to view of the needs case and the optioneering, while it disagreed with the proposed application of the OE. Both respondents expressed concerns that Ofgem could apply definitions of direct and indirect costs that are inconsistent with the definitions used by the ETOs when the OE rates were set as part of the RIIO-ET2 settlement.

Our views

7.7. We maintain our views on the need case for this project and on the optioneering as described in 7.3.

7.8. Following consideration of the consultation responses regarding the OE, we have decided that our initial proposal, to reduce an amount for Site Management and Detailed Design categories in NGET’s funding request for the Melksham OTS Phase 2 Project, remains appropriate (further details are in Chapter 2).

7.9. Following consideration of the consultation responses, we have decided to approve the needs case and the preferred solution that was consulted on, ie, to extend the existing Melksham OTS.

Summary of project allowance

7.10. The table below summarises NGET’s funding request, our adjustments, and our minded-to position and allowances against each of the components for the of Melksham OTS Phase 2 Project.

7.11. NGET will also receive an automatic uplift of approximately £1,487k from the OE for CAI activities on the project based on the total proposed allowances.

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Table 5: Project allowances - Melksham OTS phase 2

Cost category	NGET request (£k)	Ofgem adjustment (£k)	Ofgem minded-to position (£k)	Ofgem allowances (£k)
Contractor costs	9,088.0	-1,884.6	7,203.4	7,203.4
NG Commissioning Costs	669.9	0	669.9	669.9
Contingency Value	822.9	0	822.9	822.9
NG Closeout Costs	110.3	0	110.3	110.3
Total	10,691.1	-1884.6	8,806.5	8,806.5

8. Next Steps

8.1. As confirmed in earlier chapters, our decision is to award funding to NGET for the five MSIP projects it submitted.

8.2. We will give effect to our decision to award funding and hold NGET account for delivery of these five projects via the creation of five separate Price Control Deliverables (PCDs) within NGET’s licence. The outputs, delivery dates and allowances for these five PCDs reflects our decisions in this decision document.

8.3. Alongside this decision document, we have published a statutory consultation to update the defined term “NGET Redacted Information Document” and add as Price Control Deliverable (PCD) in Appendix 1 to SpC 3.14 of NGET’s Licence.

8.4. Our planned timeline for making these licence changes is as follows:

- Publication of statutory consultation to amend NGET’s licence – 19 April 2023
- Deadline for receipt of responses to consultation – 17 May 2023 (28 days after publication of consultation)
- Decision to modify NGET’s licence – approximately May/June 2023
- Licence modifications will come into effect – 56 days after our decision to modify NGET’s licence.