



High Value Projects (HVP) Re-opener submission

30/01/2026

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Acronyms and Abbreviations

AIS	Air Insulated Switchgear
BSP	Bulk Supply Point
CB	Circuit Breaker
CI	Customer Interruption
CML	Customer Minutes Lost
CNAIM	Common Network Asset Indices Methodology
CUSC	Connection and Use of Service Charge
DIN	Dangerous Incident Notice
EA	Environment Agency
EJP	Engineering Justification Paper
EPR	Ethylene-Propylene Rubber
GIS	Gas Insulated Switchgear
GM	Ground Mounted
GSP	Grid Supply Point
GT	Grid Transformer
HI	Health Index
ID	Indoor
MVA	Megavolt Amperes
NESO	National Electricity System Operator
NGET	National Grid Electricity Transmission
OCB	Oil Circuit Breaker
OEM	Original Equipment Manufacturer
SF ₆	Sulphur Hexafluoride
SGT	Super Grid Transformer
SP ENW	SP Electricity North West
XLPE	Cross-Linked Polyethylene

1. Introduction

1.1. Executive Summary

This document and its supporting annexes are submitted under the provisions of the ED2 Special Licence Condition 3.2 (Uncertain Costs Re-opener). This application is a modification to allowances to be made available in the RIIO ED2 (2023-2028) period to deliver High Value Projects over £25m across our electricity network. As both projects included in the submission are over the £25m threshold the costs have not and will not be funded by other Special Conditions.

The submission comprises two proposals that deliver substantial and sustained improvements in network reliability, security and environmental responsibility in the North West of England. Together, they comprise a £90m package, in 2020/21 price base, which will also provide the basis for future improvement works in ED3 and beyond. As both projects span the ED2 and ED3 periods, we are providing complete project information whilst seeking funding for the ED2 elements of the projects in this re-opener application. We are proposing an adjustment of £17.52m

ED2 with the ED3 costs being submitted and considered as part of the ED3 business plan. The cost split between price control periods is set out in table 1.

Included in this document is an assessment against the re-opener minimum requirements specified by Ofgem, along with a summary of the assurance process that our submission has been through. We also detail the engagement we have undertaken with customers and stakeholders in the development of this submission. Their input has been invaluable in the development of these proposals. Much of the project specific details and considerations are evidenced and set out in the two supporting Engineering Justification Papers (EJPs).

All values in this document are expressed in 2020/21 prices.

Driver	Project/programme	Total (£m)	ED2 (£m)	ED3 (£m)
End of life assets, network resilience and flood risk	South Manchester GSP	62.08	10.48	51.60
End of life assets, environmental risk and storm resilience	Bredbury - Longsight Cables	27.98	7.04	20.94
TOTAL		90.06	17.52	72.54

Table 1: Key drivers for our HVP re-opener projects (20/21 price base)

1.2. Ofgem Minimum requirements

Appendix A sets out how this submission complies with the requirements within SPC3.2 as well as those set out in the “Re opener Guidance and Application Requirements Document” published on 28th October 2025

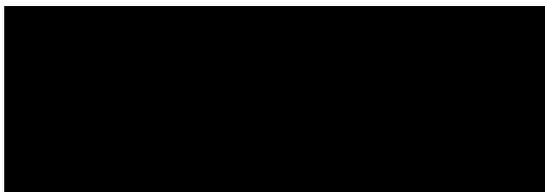
1.3. Assurance

The assurance processes we have established ensure that this re-opener application contains information that is accurate, insofar as the licensee can reasonably ascertain is, unambiguous, complete and concise. We have sought to keep the core narrative brief, while presenting the evidence and justification in proportion to the proposed adjustment.

Appendix B provides details of our internal submission assurance process.

1.4. Contact

In case of any queries relating to this submission please use the contact below in the first instance.



1.5. Publication plans/statement on redaction

This submission will be published on our website at www.enwl.co.uk/public-information. In accordance with our statement of transparency below, redactions will be made to protect commercial arrangements, to protect customers and to ensure the safety and resilience of the services we provide.

Statement of transparency (redaction statement)

This section sets our approach to transparency in publishing our re-opener materials.

Our document will contain minimal redactions.

Where redactions have been made, this is due to the following reasons:

- To protect customers from the potential for increased costs should published data be used to affect market costs;

- To protect commercial agreements which may contain confidentiality provisions or those agreements that are in negotiation and may be prejudiced;
- To guard against adversely impacting competition;
- To ensure the safety of our network and the continued resilience of the services we provide to our customers;
- Where the publication of such information may cause national security concerns;
- To avoid harm to employees or any other identifiable individual;
- To protect against unwarranted economic harm to SP ENW or our industry; and
- Where publication would conflict with Data Protection or other legal or regulatory requirements.

The reasons laid out above largely fall into one of three overarching categories:

- Confidential information;
- Commercially sensitive information; and
- Information that may pose a risk to national security.

Other detailed parts of our submission such as the data tables, commentary on detailed data tables, Engineering Justification Papers (EJPs) and Cost Benefit Analyses (CBAs) will not be published due to the above reasons but are provided in full to Ofgem.

Our aim is to ensure transparency of our plans for customers and stakeholders. Any interested parties are welcome to contact us to discuss further details on a case by-case basis.

2. Needs Cases

This section outlines the needs cases for the following two HVPs included in this ED2 re opener submission:

- HVPI: South Manchester Grid Supply Point 132kV Switchgear Replacement; and
- HVP2: Bredbury Longsight 33kV and 132kV Oil Filled Cable Replacements

2.1. Alignment with overall business strategy and commitments

The key objectives of both HVPs are aligned with our future business strategy to improve network resilience by addressing asset health degradation, deteriorating asset performance and equipment obsolescence. In addition, both projects also provide increased protection against future climate related risks. The Bredbury – Longsight cable scheme aligns with our long term strategy of removing all oil filled cables from our network by 2047.

Our Environmental Action Plan states that we will move towards installing SF₆ free switchgear at our 132kV GSP substations and this project is an important step towards that aim. In relation to our ED2 Business Plan both projects deliver across the following Business Plan commitments¹;

- B15 – Reduce the number of power cuts
- B16 – Reduce the duration of power cuts
- B22 – Maintaining resilience in a changing climate
- B33 – Reducing leakage from oil filled cables
- B36 – Reducing emissions of potent greenhouse gases from equipment
- O2 – Improving Network health

2.2. Overview of the Needs Case for Each HVP

2.2.1. South Manchester Grid Supply Point Replacement

This project was included in our ED2 business plan submission where it was excluded from our baseline programme and highlighted for its applicability to a

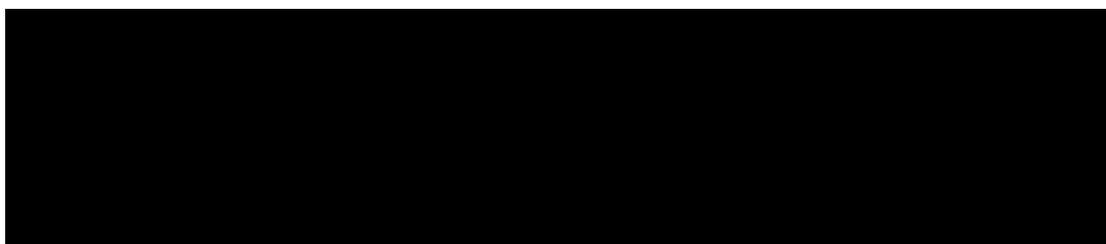
¹ [business-plan-commitments-2025.pdf](#)

future HVP re opener window. We note that as part of this Ofgem deemed the Engineering Justification Paper as Justified.

South Manchester 132kV Grid Supply Point (GSP) is located south west of the city of Manchester. The site occupies land owned by National Grid Electricity Transmission (NGET) and is immediately adjacent to the River Mersey. This GSP currently comprises an outdoor air insulated double busbar arrangement with fifteen 132kV switchgear bays housing the circuit breakers, with a wrap around reserve busbar. We own and operate eleven bays, with the remaining four being owned and operated by NGET.

Nine of our 132kV switchgear bays were manufactured in 1968 and utilise bulk oil circuit breakers, whereas the remaining two were manufactured in 1997 and utilise SF₆ circuit breakers. These assets are exhibiting increasing signs of deterioration and are nearing the end of their life. To address this, we submitted a Modification Application to NGET, who have since issued a Modification Offer for the replacement of our eleven switchgear bays. The delivery of this project will be undertaken as a joint project with NGET which will also include their four switchgear bays.

This 132kV GSP is a switching station as we do not have any transformers at the site. The site provides supplies to four Bulk Supply Points (BSP) feeding Manchester city centre and the south and west of the city. These are:



The South Manchester 132kV substation therefore supports supplies to more than 165,000 customers within the economic centre of Manchester and has a current maximum demand of 358MVA.

In addition to addressing asset health concerns, the replacement programme will mitigate flooding risk, as the site is vulnerable to severe flooding from the adjacent River Mersey.

It will also reduce environmental hazards by eliminating the potential for leaks from the tanks of the bulk oil circuit breakers. Furthermore, the proposed solution supports climate change objectives through the adoption of Gas Insulated Switchgear (GIS) which does not contain Sulphur Hexafluoride (SF₆); a potent greenhouse gas. The existing circuit breakers containing SF₆ will be replaced as part of the planned intervention.

Full project details can be found in the accompanying EJP².

2.2.2. Bredbury - Longsight

The 132kV Bredbury to Longsight circuits and the 33kV Vernon Park to Heaton Norris circuit comprise oil filled underground cables with a history of poor performance, which present environmental and operational risks to power supplies in South Manchester and Stockport. The Longsight GT1 and GT2 circuits, commissioned in 1966, are supplied from Bredbury Grid Supply Point (GSP) in Stockport whilst the Heaton Norris 33kV circuit was commissioned in 1963. All these circuits are located within 50 metres of watercourses, heightening the environmental impact in the event of failure.

The cable infrastructure consists of a mix of oil-insulated and non pressurised cables, further contributing to reliability risk and environmental vulnerability. Due to the environmental risks, cable condition and the need to secure the reliability of supplies to South Manchester, these circuits had already been identified as an ED3 HVP as a continuation of our ED2 oil filled cable replacement programme.

Following severe flooding on New Year's Day 2025, which caused significant structural damage to the cable route, it has become necessary to accelerate project delivery commencing in the ED2 period. Exceptional rainfall caused the River Tame in Stockport to rise to record high levels, resulting in significant disruption to electricity infrastructure in the area. The flood damage led to the collapse of a council-owned bridge that carries the three oil-filled cables and three ancillary circuits. Due to safety considerations, these circuits were immediately taken out of service, with supplies temporarily maintained via 33kV back feeds to Longsight and Heaton Norris. [REDACTED]

[REDACTED]

Following the loss of the cable bridge over the River Tame, we have commenced this cable replacement project to ensure prompt removal of oil filled cables currently supported by a temporary structure. The risk of future flooding presents a significant threat to network resilience and environmental safety, necessitating immediate intervention.

We maintain a long term policy to remove all oil filled cables from the network in line with our environmental objectives. The simultaneous replacement of the 132kV Bredbury GSP to Longsight GT1 and GT2 circuits, together with the 33kV Vernon Park to Heaton Norris circuit will enable the renewal of three obsolete assets as part of a single coordinated project. By adopting a common trenching approach

² EJP HVPI

for cable installation, we achieve substantial cost efficiencies while delivering customer benefits, including:

- Enhanced reliability;
- Improved resilience;
- Environmental protection;
- Future proofing; and
- Efficient delivery.

We have a strong and consistent track record of delivering oil filled cable replacement. Ofgem’s annual report 2024 25³ highlights that the industry has only completed 83km of replacement in the first two years of ED2. We delivered 27% (22km) of that total despite having 7% of the national cable oil inventory. Our longstanding strategy, of which this project is a part, is also consistent with Ofgem’s requirement in the report that;

“We also expect DNOs to be considering their plans for reducing the risk of leakage from these assets in ED3 and beyond and will expect to see clear and ambitious strategies as part of their Business Plans for ED3”⁴.

Full project details can be found in the accompanying EJP⁵.

³ https://www.ofgem.gov.uk/sites/default/files/2026-01/ED_annual-report_2024-2025.pdf

⁴ Ibid. p.26

⁵ EJP HVP2

3. Submission development

3.1. Approach to options assessment

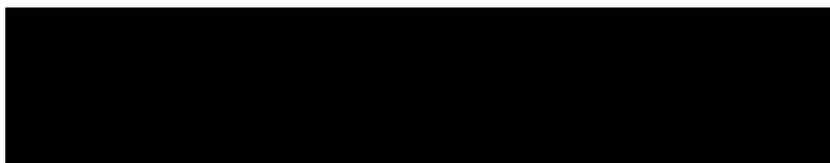
Our approach to options assessment includes a three step approach as set out below;

1. Long list options assessment where we consider a wide range of options for review.
2. These options are assessed for viability based on technical and project specific considerations.
3. Once any options pass through this step then we consider the cost of each option; if the option is viable then it will be included in the associated Cost Benefit Analysis (CBA).

Further information of the options identified can be found in the accompanying Engineering Justification Papers (EJPs) and CBAs. Information on how we built our CBAs can be found in Appendix C to this document namely – Approach to Cost Benefit Analysis

3.2. Stakeholder engagement and support

Both HVPs contained in this re opener submission have high profile stakeholders who have been consulted and engaged throughout the project development cycles. Stakeholders who have written letters of support provided alongside our submission include;



We have refreshed our stakeholder panel structure during the ED2 period and are fortunate to have access to informed regional leaders who are able to provide advice, input and challenge on our operations and plans. We have made use of these panels to engage them of this submission, specifically our Independent Stakeholder Group (ISG) covering all external stakeholder groups. The ISG was used regularly throughout the development of the submission to ensure that stakeholder engagement was conducted thoroughly and robustly.

This positive engagement with a range of stakeholders has reinforced the need to progress this re-opener application, in accordance with the ED2 requirements



3.3. Whole system considerations

The South Manchester GSP project is being delivered in parallel with National Grid Electricity Transmission (NGET) upgrades. This alignment ensures that the design and implementation of our works are fully coordinated with wider transmission system developments. This project’s optioneering also considered the impact of in situ replacement of the switchgear on customers which includes Manchester Airport and National Rail.

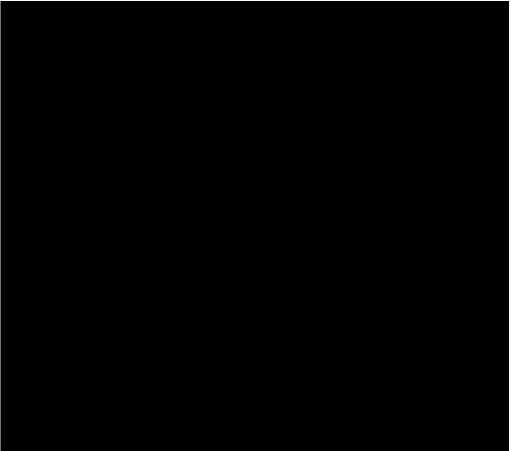
The Bredbury Longsight Cable Replacement Scheme has taken into account whole system considerations by increasing the resilience of the circuits to future climate related risks. Our replacement cable route scheme will take a path through Reddish Vale park instead of through major roads in Lancashire Hill; this is due to considering the transport impact of extended road closures in a significantly busy area.

Both projects consider the wider environmental impacts with the Bredbury – Longsight Cable scheme removing oil leakage from our network and the South Manchester GSP project using non SF₆ gas. Our Environmental Action Plan states that we will move towards installing SF₆ free switchgear at our 132kV GSP substations. This also aligns with NGET’s position on this matter. The adoption of SF₆ free switchgear will avoid potential adverse carbon footprint impacts and greenhouse gas emissions.

3.4. Options Considered

3.4.1. South Manchester GSP

Option	Description	Advantages	Disadvantages
1.	Do Nothing	None	<p>Risk of in service failure with potential safety, reliability and environmental impacts</p> <p>Does not address flooding risk to SP ENW assets.</p>

Option	Description	Advantages	Disadvantages
2.	In situ replacement of switchgear	Lower initial cost	<p>Unacceptable outage risk.</p> <p>Would require load transfer of 100MVA but only 69MVA is technically possible.</p> <p>Would result in a prolonged period (six years) of network operation with increased supply restoration risk exposure.</p>  <p>Does not address the limitations posed by existing layout</p> <p>Would require additional flood risk mitigation measures.</p>
3.	Offline replacement with AIS/Hybrid Switchgear	<p>Lower outage risk</p> <p>Lower cost</p>	<p>Does not fit in available space</p> <p>Potential planning permission challenges</p> <p>Needs separate flood risk mitigation project</p> <p>National Grid's two CBs and four of our own CBs would be past their current replacement dates.</p>

Option	Description	Advantages	Disadvantages
4.	Offline replacement with GIS switchgear in a new building	<p>Low outage risk due to shorter outage durations and use of a temporary interconnector</p> <p>Fits in available space.</p> <p>Future substation extensions can be accommodated.</p>	<p>Higher switchgear cost.</p> <p>National Grid's two CBs and four of our own CBs would be past their current replacement dates.</p>

Further information on these options can be found in the accompanying EJP.

3.4.2. Bredbury - Longsight Cable Scheme

Option	Description	Advantages	Disadvantages
1.	Do Nothing	None	<p>There is a significant ongoing risk of oil leakage into the environment and loss to supplies.</p> <p>There is also an elevated outage risk due to the vulnerability of the cables following bridge damage and the continued reliance on a temporary structure which would leave the circuit exposed to further loss of supplies in a future flooding event.</p>

Option	Description	Advantages	Disadvantages
2.	Remove circuits from service/ reconfiguring the network to transfer demand to other substations in the region.	Removal of environmental risk.	<p>Costly re configuration of network to provide the required level of supply security.</p> <p>Significant investment in new underground cable circuits and substation assets would be required.</p>

Option	Description	Advantages	Disadvantages
3.	Replace Cable Bridge and place non pressurised cable over the bridge.	Removes the environmental risk. Provides access over the River Tame.	Any replacement bridge would need to be built to a resilient standard at significant cost. Concerns the bridge could be vulnerable to damage in future floods due to climate change impacts. Will require additional stop joints to remaining oil filled sections. Increases costs for any subsequent overlay of remaining sections by compromising route availability. Does not address the condition and performance concerns regarding the remaining adjacent obsolete cable assets.
4.	Divert with the non-pressurised cables in the highway.	Removes the environmental risk. Removes the requirement to place cables under or over the river.	Discussions with the local authorities have ruled out this route due to its disruptive impact on critical local road infrastructure.
5	Replace the three circuits with non-pressurised cable by directional drilling under the River Tame on an adjusted route.	This option future proofs against flooding as well as removing an environmental risk.	Complex drilling process requires specialist labour.

Further information on these options can be found in the accompanying EJP.

3.5. The preferred option

3.5.1. South Manchester GSP

Option 4 involves installing the new 132kV switchgear offline in a new GIS building on National Grid owned land.

Since our original EJP was developed as part of our ED2 submission in 2021, the 132kV GIS SF₆ free market has continued to develop and mature with several manufacturers now offering products. Our Environmental Action Plan states that we would target the adoption of SF₆ free switchgear at our 132kV GSP substations which also aligns with NGET's position on the issue. Using SF₆ free switchgear will avoid potential adverse carbon impacts in future. The footprint for this option is smaller than the Air Insulated Switchgear (AIS) in Option 3 and can easily be accommodated on the available land, leaving mature trees in the area still in place. Discussions with National Grid to lease the land are nearing completion.

Flood risk can be mitigated by designing the new GIS building so that all critical assets are elevated above predicted flood levels. GIS substations are compact, self-contained installations that minimise visual impact and can be integrated more effectively into their surroundings. Their enclosed, indoor configuration further reduces aesthetic concerns, particularly in sensitive or urban areas. The external finish of the new GIS building can be specified to blend with the existing environment. This was the basis of our outline planning permission, which has been granted.

Since this will be an offline build, the outage risk will be lower than the in situ replacement and AIS/Hybrid offline build as this will use temporary interconnector during the circuit transfers. The level of network risk is considered acceptable for this type of project as per our Network Outage Risk Code of Practice.

GIS solutions can present limited flexibility for future network expansion unless designs incorporate long-term growth considerations. As part of our GIS building design, we have allowed an SP ENW and NGET additional bay at each end of the building to provide for future network expansion.

Following the Ofgem classification of our original EJP as "Justified" in 2022, we have progressed the planning of the project through the Planning Permission and the procurement processes. Outline permission for the erection of a GIS Substation with switch house, geocellular tank and internal access road was approved in June 2025.

Further details of this can be found in the accompanying EJP.

3.5.2. Bredbury - Longsight Cables

As a direct result of the January 2025 flooding, it has only been possible to re-energise one of the 132kV circuits and the 33kV circuit. The other 132kV circuit remains de-energised to protect the environment from oil leakage. It is necessary to accelerate the project and commence work in the ED2 period to address the extensive infrastructure damage. Given the high risk of future flooding and the inherent vulnerability of this interim arrangement, urgent cable replacement is essential to safeguard supply reliability and mitigate environmental risks.

Option 5 is to remove the oil-filled cable section from Brinnington Road and install a new cable route via directional drilling beneath the River Tame at an alternative location to the existing bridge crossing. The newly routed cable will reconnect at Broadstone Hall Road South.

Following a comprehensive options assessment, this routing strategy was identified as the preferred solution, delivering enhanced supply resilience and mitigating future flood-related risks in two phases.

Phase 1

Phase 1 of the project will involve the removal of 4.37km of oil-filled cable from the two 132kV Bredbury to Longsight circuits, along with 1.32km from the Vernon Park to Heaton Norris 33kV circuit. These will be replaced with approximately 5km of modern, non-pressurised cable and 5.69km of underground ancillary cable infrastructure. This upgrade will improve long-term network reliability, eliminate legacy oil risks, and support future resilience across the region.

The capacity of these circuits is unchanged. As per our technical policy (CP281), the 33kV Vernon Park–Heaton Norris line will be rated at 38 MVA or the closest available rating. The 132kV feeders must be rated to match the capacity of the existing circuits and also handle the higher loads expected during long-duration emergencies. Their rating must also account for the extra electrical losses that occur when high currents flow through the system. These ratings are sufficient to support the DFES Best View load forecast out to 2050 published in January 2025.

Phase 2

The second phase of the project will address the remaining 33kV and 132kV oil-filled cable sections and will be scheduled to follow on immediately after completion of Phase 1. Phase 2 will complete the removal of all oil-filled cable sections of the impacted circuits as follows:

132kV GT1 and GT2 circuits:

- Bredbury GSP to Brinnington Road
- Broadstone Hall Road South to Longsight BSP

33kV Vernon Park to Heaton Norris circuit:

- Vernon Park to Brinnington Road
- Gregg Street to Heaton Norris

Phase 2 will complete the full decommissioning of oil filled cable infrastructure across the Bredbury–Longsight GT1 and GT2 circuits, as well as the Vernon Park to Heaton Norris 33kV circuit. The replacement approach involves overlaying new cable routes, with final alignment subject to agreement with local authorities. As a result, small variations in project costs may arise dependent upon the outcome of routing refinements and planning consents. Of specific note, this section will cross the M60 motorway requiring detailed consenting from National Highways.

More information on this proposal and delivery can be found in the EJP.

4. Delivery

Further information on our approach to delivery management & governance can be found in Appendix D as well as the project specific EJPs.

4.1. South Manchester GSP

Currently, we are completing the replacement of 132kV switchgear with a GIS solution at Padiham GSP. During the early part ED1 period, we successfully completed a similar sized project replacing the Bredbury GSP 132kV switchgear. We currently have another project currently in progress at Harker GSP also replacing the 132kV switchgear (National Grid are leading the delivery at this substation). We have within our organisation the experience and expertise to deliver such projects. Our track record goes further back as we have delivered the Penwortham East & West GIS and the Whitegate GIS substations in DPCR4 and DPCR5 respectively.

Based on our previous experience and lessons learnt, we have developed a delivery strategy identifying the different work packages of civils, switchgear and cable work, and how each will be delivered. These work packages have been included in the returned tender as a turnkey project. This gives us flexibility to ensure that we deliver in the most cost effective way as we still retain the option to breakdown the turnkey project into its individual components and use our framework contractors. The tender Award Report sign off will be in accordance with our Internal Control Manual before the contract(s) is awarded. The project is expected to be delivered by 2033.

Further information about our delivery process can be found in the accompanying EJP.

4.2. Bredbury - Longsight Cables

The programme is to deliver Phase 1 and Phase 2 between 2026 and 2030 by our contract partners.

Our experience in cable replacement and contract delivery ensures that routine commercial risks will be effectively managed using established commercial controls. These controls are designed to maintain schedule integrity and should ensure the timely delivery of the project.

We are undertaking a major ongoing programme of oil filled cable replacement in ED2 continuing from previous price control periods which has enabled us to develop a well understood view of the relevant delivery risks of this activity. This has also generated significant skilled regional delivery capacity for this type of work.

Phase 1 of the scheme has already commenced due to the importance of addressing the currently compromised network configuration. Further details on this can be found in this video⁹ on our website.

4.3. Regulatory treatment

We note that in the RIIO T2 determinations of MSIP re openers, Price Control Deliverables (PCDs) were determined to apply as part of the closeout process for RIIO T3 reflecting that these projects straddle price controls in terms of start and end of projects.

We note that the decision for Transmission may have reflected the fact that the T2 re opener determination was made after T3 Final Determination allowing full sight of the T3 framework and allowances in the context of decisions in T2 which will impact on that period.

The situation is obviously different in ED in relation to ED3 where the decision on this re opener application will not be made with full sight of the Final Determinations for the ED3 period.

Given that context and the fact that both our HVPs included in this re opener start in ED2 and end in ED3 we are proposing we will work with Ofgem to build a suitable regulatory mechanism appropriate for ED.

We propose as a minimum to report and monitor these projects with their associated costs and volumes on the existing “CV24 – HVP ED2” table in the annual Costs, Volumes and Revenue (CVR) pack of our regulatory returns under Standard Licence Condition 46: Regulatory Instructions and Guidance (RIGs).

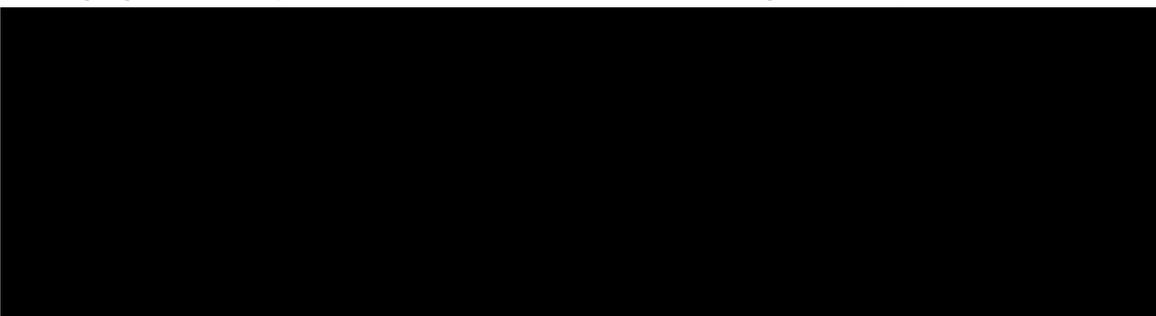
We anticipate that an equivalent table will be included in the ED3 CVR pack.

⁹ [Stockport investment](#)

5. Investment Proposal

5.1. Customer Benefits

Both projects provide resilience benefits to customers, the South Manchester project provides resilience from flooding to c.165,000 customers, and the Bredbury Longsight Cables provide resilience from storm damage to c.45,000 customers.



There are extra benefits to the wider community, as both projects will provide enhanced protection against extreme weather events in the South Manchester area.

also provide customers with increased network resilience through the reduction of asset health related failure risks. In addition, there are environmental benefits for both projects as they include the removal of oil from our network and the South Manchester project involves using non SF₆ gas in the switchgear, replacing the existing SF₆ circuit breakers installed on the site. More information on customer benefits can be found in Appendix C to this document namely – Approach to Cost Benefit Analysis.

5.2. Customer Impacts

Both projects will be delivered with as little impact to customers as possible For South Manchester we have avoided replacing the switchgear in situ to reduce the risk of interruptions during construction.

For Bredbury Longsight, we will keep the current arrangements in place until we are able to energise the new underground cables in phase 1; for phase 2 we will be able to back feed customers via other routes until the cable scheme is completed. In addition for the Bredbury – Longsight cable scheme, we have taken a route to cause the least disruption to traffic in the local area.

5.3. Costings

Information on detailed costings can be found in the accompanying Engineering Justification Papers¹⁰.

¹⁰ *EJP HVPI and SPENW EJP HVP2*

6. Impact on regulatory mechanisms

As noted in Section 1 of this document, this submission proposes modifications to allowances for ED2 to the value of £10.48m for South Manchester based on the profile set out in table 6 1 (which totals £62.08m for the full project) and £7.04m of modified allowances for Bredbury - Longsight based also on the profile set out in table 6-1 (which totals £27.98m for the full project).

20/21 prices (£m)	23/24	24/25	25/26	26/27	27/28	Total Allowance (all years)
South Manchester GSP	0.06	0.01	0.07	3.05	7.29	10.48
Bredbury - Longsight Cables	0.00	0.00	5.75	0.79	0.50	7.04
Total	0.06	0.01	5.82	3.84	7.79	17.52

Table 6-1: Proposed modification by HVP

The total modification to allowances for both projects being sought in this re-opener is £17.52m set out in table 6 2. The ED3 element of the cost will be included as part of the ED3 business plan submission.

20/21 prices (£m)	23/24	24/25	25/26	26/27	27/28	Total allowance (all years)
HVP_t	0.06	0.01	5.82	3.84	7.79	17.52

Table 6-2: Proposed modification to Appendix 1 SpC 3.2

We have not identified any other impact of this re opener on any other licence condition or regulatory output and no other modifications are sought as part of this submission. For absolute clarity and transparency the ED2 element of risk points reduction under NARM/CNAIM will not contribute towards the ED2 NARMs target or delivery due to the classification of these projects as HVPs.

7. Conclusion

This table summarises the key elements of our proposals.

Key drivers	Proposal	EJP reference	CBA reference	Customers benefitting	Total costs - 20/21 prices (£m)		
				#	ED2	ED3	Total
Asset Replacement Flood Resilience	South Manchester GSP	SPENW-EJP-HVP1	SPENW-CBA-HVP1	165,500	10.48	51.60	62.08
Asset Replacement Environmental Risk Climate Resilience	Bredbury Longsight Cables	SPENW-EJP-HVP2	SPENW-CBA-HVP2	45,000	7.04	20.94	27.98

Appendix A - Ofgem Minimum Requirements

Guidance condition	Summary	Obligation	HVP	Location in submission
SpC 3.2.85	<p>The licensee must when making an application under the High Value Projects Re-opener, send to the Authority a written application that:</p> <p>(a) explains why the licensee considers it has incurred or expects to incur costs on a High Value Project;</p> <p>(b) sets out the scope of work the licensee has carried out or proposes to carry out in relation to the High Value Project that is the subject of the application;</p> <p>(c) sets out any modifications to the value of HVPt in Appendix 1 being sought;</p> <p>(d) explains the basis for calculating any modifications requested to allowances and the profiling of those allowances; and</p> <p>(e) provides such detailed supporting evidence as is reasonable in the circumstances.</p>	Must	Y	<p>a) Section 2.2 - Overview of the needs case for each proposal</p> <p>b) Section 3.5 - the preferred option</p> <p>c) Section 6 - Impact on regulatory mechanisms</p> <p>d) BPDT tables provided alongside the submission; Also in section 6 - Impact on regulatory mechanisms; And covered in EJPs</p> <p>e) Covered in EJPs and BPDT</p>
SpC 3.2.86	<p>An application under this Part must:</p> <p>(a) be confined to costs incurred or expected to be incurred by the licensee that are not otherwise funded by the special conditions;</p> <p>(b) be confined to costs incurred or expected to be incurred on or after 1 April 2023; and</p> <p>(c) take account of allowed expenditure which can be avoided as a result of the modifications requested.</p>	Must	Y	<p>a) Section 1.1 - Executive summary</p> <p>b) Section 6 - Impact on regulatory mechanisms, and BPDT</p> <p>c) Section 6 - Impact on regulatory mechanisms, and BPDT</p>

Guidance condition	Summary	Obligation	HVP	Location in submission
General '2.1	High quality information is required. This should be: <ul style="list-style-type: none"> • Accurate • Unambiguous • Complete • Concise 	Must	Y	Our assurance framework can be found in Appendix B
General '2.2	Written confirmation from a senior person that: <ul style="list-style-type: none"> • It is accurate, robust, the proposal is financeable and is good value for customers • There are quality assurance processes in place to ensure the licensee has provided high quality information that enables Ofgem to make decisions in the best interests of consumers • The application has been subject to internal governance arrangements and has been signed off at an appropriately senior level 	Must	Y	Provided in cover letter
General '2.3	A point of contact must be provided for each re-opener application (name/position/email/phone)	Must	Y	Section 1.4 Contact
General '2.4	Subject to paragraphs 2.5 and 2.6, the licensee must, within five working days of submitting a Re-opener application to Ofgem, publish its complete application in a prominent place on its website, in such a manner that relevant stakeholders can easily locate the application.	Must	Y	Section 1.5 Publication plans/statement of redaction www.enwl.co.uk/publicinformation
General '2.5	Redactions can be made for <ul style="list-style-type: none"> • Confidentiality • Commercial sensitivity • Security 	May	Y	Section 1.5 Publication plans/statement of redaction

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.1	Any re-opener must clearly provide answers to the following questions: <ul style="list-style-type: none"> • Why the adjustment is justified • What the adjustment should be 	Must	Y	1.1 Executive Summary Section 6 - Impact on regulatory mechanisms
General '3.2	The re-opener licence conditions prescribe the minimum that an application must contain. The guidance provides further detail on what should be included in a re-opener document.	Must	Y	Please see table above
General '3.3	There may be some Re-opener applications where licensees will not be able to provide the required information listed within this document. In such instances, the licensee must provide a justification for not providing all the required information. We will consider whether there is sufficient information to progress a Re-opener application in the absence of all the required information on a case-by-case basis	Must	Y	Appendix A
General '3.4	Every application must contain a table mapping out which sections of the document relate to individual requirements as set out in the re-opener licence condition and chapter 3 of the re-opener guidance document.	Must	Y	Appendix A
General '3.5	This chapter should be read in conjunction with any relevant appendices to this document and licence conditions.	Must	Y	Section 1.1 - Executive Summary Section 6 - impact on regulatory mechanisms

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.6	In the Gas and Electricity Distribution sectors, a single owner may operate several separate distribution networks under either a single licence or number of separate licences. In either case a single Re-opener application relating to all the distribution networks for which an adjustment is being sought must be submitted.	Must	Y	Although ENWL have been recently acquired by Iberdrola SA, we continue to operate as a separate group to SP Energy Networks. This re-opener application is provided for the ENWL licensee only, and we understand that there is no other HVP re-opener submission being provided by any other distribution network under Iberdrola ownership.
General '3.7	Where a materiality threshold exists, it is applied to the individual distribution network. The Materiality Threshold would apply such that we propose to only adjust allowances if the changes to allowances resulting from our assessment, prior to multiplication by the TIM incentive rate applicable to that licensee, exceed the Materiality Threshold specified in SpC 1.2.	Must	Y	Section 1.1 - Executive Summary Section 6 - impact on regulatory mechanisms
General '3.8	All re-opener applications must include a needs case whether or not this is a specified requirement in the re-opener licence condition or guidance.	Must	Y	Section 2 – Needs Cases EJPs – Section 3 - Background
General '3.9	Subject to the re-opener licence conditions and guidance documents, the needs case must contain: (detail in 3.10 and 3.11)	Must	Y	See Below

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.10	<p>Alignment with overall business strategy and commitments: The application must contain a statement on how the proposal aligns with the future business strategy, how it relates the ED2 licence or other statutory obligations, and/or business plans for future price controls.</p>	Must	Y	<p>Section 2.1 – Alignment with overall business strategy and commitments</p> <p>Section 6 - Impact on regulatory mechanisms, and BPDIT</p>
General '3.11	<p>Demonstration of needs case/problem statement There must be a clear statement as to the need for the proposed expenditure or the problem being addressed (with the risk being quantified) in the context of its significance for:</p> <ul style="list-style-type: none"> • Consumers (these must be identified) • Network assets • Wider society 	Must	Y	<p>Section 2 – Needs Case, further information can be found in section 2.2 – Demonstration of needs case/problem statement</p> <p>EJP: Section 3 background</p> <p>Section 6 deliverability</p>
General '3.12	<p>The application must provide the rationale for the level of expenditure and why this is efficient</p>	Must	Y	<p>Section 5 Investment proposal</p> <p>Further information can be found in the accompanying EJPs</p>

<p>General '3.13</p>	<p>Consideration of options and methodology for selection of the preferred option: The application must include a clear list of the options considered and the selection process for the preferred option. This must include the following (subject to 3.5: read in conjunction with relevant appendices to this document and licence conditions):</p> <ul style="list-style-type: none"> • Description of the options considered, their key features, including the options not adopted • A 'do minimum' option as a counterfactual demonstrating the effects of little or no investment/programme expenditure • An option to delay capital expenditure, recognising the option value of the delay • A market-based option (where there is a valid market-based option e.g. commercial contracts instead of reinforcement) • A clear statement of the criteria used to assess the options, including assessment of each option against the criteria • An description of the process used to select the options, internal or the existing industry process • An appropriate sensitivity analysis, using relevant statistical or other techniques • A clear summary of any CBA/Engineering Justification (carried out in accordance with 3.22 and 3.23) • A justification for the proposed timing of additional expenditure 	<p>Must</p>	<p>Y</p>	<p>Covered in section 3 Submission Development</p> <ul style="list-style-type: none"> • 3.4 Options considered • EJP Section 4 - Optioneering • We have not included a market-based option as this is not viable possibility with the current projects • EJP Section 4 – Optioneering • Appendix C Approach to cost benefit analysis • EJP Section 5 – Analysis and cost • EJP Section 6 - Deliverability
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Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.14	<p>The application must include a clear description of the preferred option, sufficient to allow us to make an informed decision on if the preferred option is suitable.</p> <p>The application must include a clear description of the preferred option, sufficient to allow the Authority to make a decision if it is suitable. This must include the following (subject to 3.5: read in conjunction with relevant appendices to this document and licence conditions):</p> <ul style="list-style-type: none"> • A clear description of the key features of the preferred option including how that option will address the issues set out in the needs case/problem statement • A statement of the benefits of the preferred option to customers, quantitative and qualitative • If the preferred option is predicated on a particular scenario, a description of the scenario • A clear statement of the key benefits of the preferred option, including any drawbacks • A register of the assets or programmes of work that will be impacted by the implementation of the preferred option • Evidence of the technical feasibility of the preferred option, using technical annexes as appropriate 	Must	Y	<ul style="list-style-type: none"> • Section 2 Needs case • Section 5.1 Customer benefits • Appendix C Approach to cost benefit analysis • EJP Section 5 Analysis and Cost • EJP Section 5 Analysis and Cost • Covered as whole EJPs

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.15	<p>The application must contain a statement on the project delivery and monitoring plan for the preferred option, including:</p> <ul style="list-style-type: none"> • A project delivery programme including provisional dates and key milestones • A consideration of whether the licensee has access to sufficient resources to ensure timely delivery • A description of mitigation measures that can be taken to address potential deviation from the project delivery plan • A description of reporting mechanisms to monitor delivery and measure outcomes (this may be introducing a new PCD) 	Must	Y	<ul style="list-style-type: none"> • Section 4 Delivery • EJP Section 6 Delivery • EJP Section 6 Delivery • Section 4.3 Regulatory Treatment
General '3.16	The application must include an explanation of how stakeholder engagement contributed to the identification and design of the preferred option	Must	Y	Section 3.2 Stakeholder engagement
General '3.17	Stakeholder engagement may not be necessary where there is not a material impact on stakeholders, or where the application is driven by statutory obligations	Must	Y	N/A
General '3.18	Stakeholder engagement will not be necessary where it would pose a risk to national security, specifically for applications related to cyber resilience and physical security Re-openers	Must	Y	N/A

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.19	<p>When the adjustment sought relates to the level of allowances, re-opener applications must include sufficient cost information to:</p> <ul style="list-style-type: none"> • Evidence to justify why the expenditure is additional to ex ante allowances, or allowances provided through other mechanisms • Evidence to justify why the level of costs is efficient (to be determined by the Authority) 	Must	Y	<ul style="list-style-type: none"> • Section 4.3 Regulatory Treatment and 1.1 Executive Summary • Section 3.5 The preferred options <p>Also covered in EJP Section 5 - Cost</p>

<p>General '3.20</p>	<p>3.20 the cost evidence must be provided in accordance with the following requirements (subject to 3.5: read in conjunction with relevant appendices to this document and licence conditions):</p> <ul style="list-style-type: none"> • Use the specific re-opener templates developed for that re-opener • On the ED licence cost basis (2020-23 prices) • On a gross basis including direct and indirect costs, except where the mechanism is listed under the indirects scalar where only direct costs should be included • In Excel format with all data tables clearly labelled and set out logically, including instructions on workbook functionality where appropriate • In a sufficient level of detail to demonstrate how overall values are derived and in a way that can be easily replicated e.g. using transparent formulae • In a way that is easily comparable to other benchmarks or other data provided by Ofgem • With all relevant assumptions and data sources clearly provided and justified • With key cost drivers explicitly identified and justified • With uncertainties in forecast cost levels and any mitigations clearly identified. These should form the basis of any uncertainty analysis using appropriate techniques, and if so a register of these uncertainties must be included • Outturn data for similar projects 	<p>Must</p>	<p>Y</p>	<p>Covered in BPDT, CBAs and EJPs</p> <ul style="list-style-type: none"> • All costs presented in the required price base 20/21 • The costs can be found in the accompanying BPDT • Our BPDT and CBAs are provided in excel format • EJP Section 5 - Costs • We have used the CBA templates from ED2, and the relevant BPDT table for consistency of reporting • Appendix C Approach to Cost Benefit Analysis • EJPs section 6 Deliverability • We have included all outturn data • EJP Section 6 – Deliverability and Risk • Section 5.3 Costings
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Guidance condition	Summary	Obligation	HVP	Location in submission
	<ul style="list-style-type: none"> • A risk register for the specific project for any allowances requested for project risk • Identification of cost efficiency measures and their impact accounted for • Demonstrate additionality (i.e. demonstrating the additional expenditure required in addition to that already provided through ex ante allowances, or that will be provided through other mechanisms) 			
General '3.21	<p>Further guidance on meeting requirements can be found in the HMG Infrastructure and Projects Authority Cost Estimating Guidance. The Authority expects these principles to be followed when generating cost estimates.</p> <p>Where companies do not consider this to be practical or cost effective, they should provide justification for why the alternative approach they have chosen is more appropriate.</p>	Must	Y	Appendix D

Guidance condition	Summary	Obligation	HVP	Location in submission
General '3.22	<p>CBA and EJPs are important evidence to be included in applications. When they are provided, they must:</p> <ul style="list-style-type: none"> • Be consistent with published guidance and recognised best practice, e.g. The Green book and Spackman discounting approach • Demonstrate evidence of structured options development, including consideration of whole system options and non-network options where applicable, against a baseline scenario which involves the minimum level of intervention required to remain compliant with all applicable regulation. • Demonstrate the value of projects across different scenarios, where relevant, and include an explicit consideration of (quasi) option values of deferring the investment • Be clearly linked to the re-opener application where applicable, with sensitivity to changes in input parameters assessed, for example future energy scenarios • Act as a robust decision support tool, and be open to scrutiny and challenge • Be transparent about which risks, costs and benefits have neither been considered nor monetised as part of the analysis • Be transparent about the assumptions, inputs and rationale for the decisions calculations and results arrived at. 	Must	Y	<ul style="list-style-type: none"> • The CBAs are the same template as was used for ED2 submission • EJP Section 4 – Optioneering • EJP Section 4 – Optioneering • EJP Section 3 – Background • Each EJP and CBA is a robust decision support tool • EJP Section 6 - Deliverability and Risk • EJP Section 5 - Costings • Appendix C – Approach to Cost Benefit Analysis

Appendix B – Assurance Process

The processes we have put in place are to ensure that this re opener application contains information that is accurate, insofar as the licensee can reasonably ascertain is, unambiguous, complete and concise. Where possible, we have tried to keep the core narrative brief, while presenting the evidence and justification in proportion to the proposed adjustment.

This submission has been managed under our well-established DAG (Data Assurance Guidance) processes which govern all of our regulatory reporting.

This submission was rated as High classification in our risk matrix which requires the minimum assurance of a Second Person Review, Internal Expert Review and Senior Manager sign off. In addition to these we have also undertaken a Director sign off.

Internal regulatory experts assessed the submission against the Ofgem Guidance and provided additional scrutiny against the associated minimum requirements.

Our Director chaired Regulatory Steering Group has provided oversight and overall sign off for this and all other re opener submissions.

Our Board has been briefed on our proposed submission and has delegated sign off authority to SP ENW management.

External Review services have been provided by [REDACTED] who have reviewed the details of the proposals and their presentation with particular focus on technical optioneering, costings and delivery strategy. [REDACTED]s have extensive experience of supporting similar regulatory submissions including across the Transmission price control.

As described in the document, our Independent Stakeholder Group (ISG) have been consulted and have reviewed the proposals, focusing on the customer benefits and stakeholder reengagement processes supporting the submission.

Appendix C – Approach to Cost Benefit Analysis

For both projects the process of working out the benefits had to expand from the traditional Cost Benefit Analysis (CBA) that we have used in the build up to ED2. Both projects looked into the effects of a 12 hour power cut to local businesses utilising data from NOMIS this considers what extra economic (or social) costs would be incurred by the local economy as a result of a 12 hour power outage and consequent disruption and lost output.

The impact of a power cut is arguably greater now than it would have been in the past for businesses due to the importance of access to the internet for communications and many business processes as well as the impact on supporting machinery used in businesses (e.g. electronic tills).

The approach involves two steps:

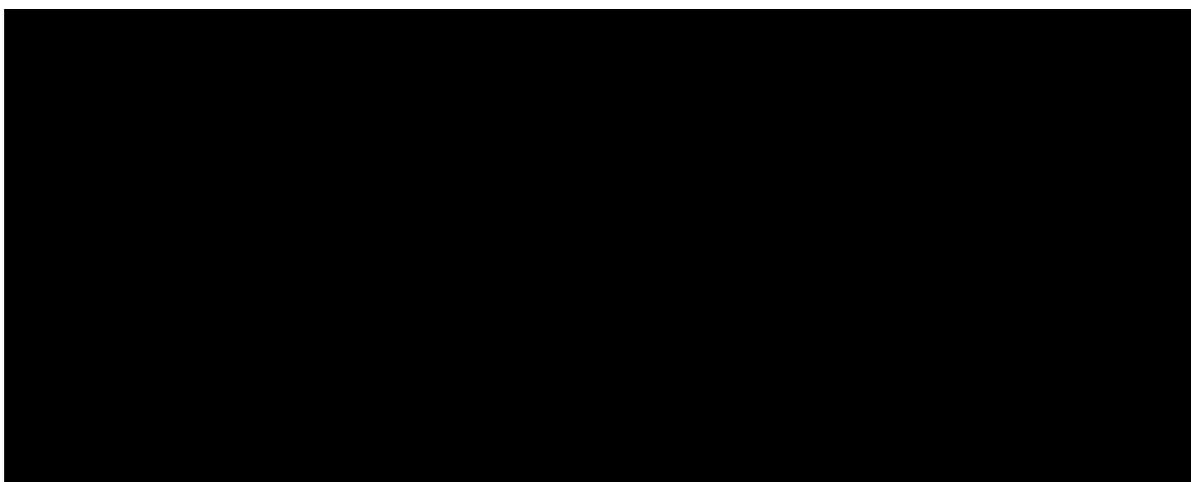
- Step 1: map the affected areas onto local data sets to create an estimate of local employment and other measures of economy activity
- Step 2: adjust for those sectors of the economy where a power cut is less likely to impact on economic activity.

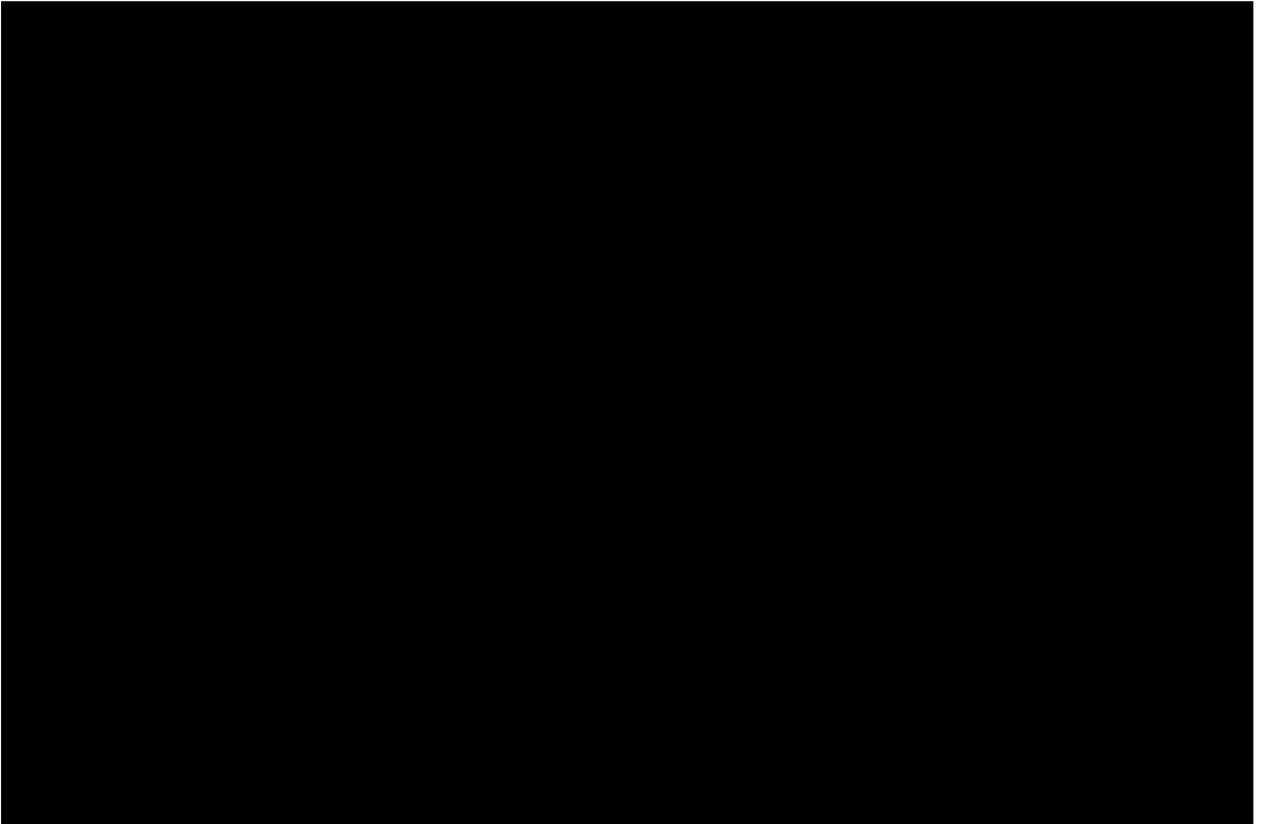
Most economic data sets are available at small areas for wards, Lower Super Output Areas (LSOA). As both projects cover many LSOAs we have had to use a best fit for areas, this does mean that there will be customers who have been missed off by this analysis as the projects may only slightly encroach on their LSOAs. This does not include potential adverse social impacts on health, vulnerability and education because there is limited data to be able to accurately assess these impacts.

This assessment is not based on assuming a particular time of year, day of the week or time of day. These variances would have made a significant impact if the outage happened overnight, on a weekend or during holiday times. For many a power cut would result in complete closure over a day. There are some forms of economic activity which aren't as dependent on a building or a place in the area so we have taken the work we previously had in the Storm Arwen Re opener on assumed impact of power outage by sector.

Table 1: Assumed impact of power outage by sector ¹¹		
Sector	Likely impact % of full potential impact	
1 : Agriculture, forestry & fishing (A)	MED	50%
2 : Mining, quarrying & utilities (B,D and E)	HIGH	100%
3 : Manufacturing (C)	HIGH	100%
4 : Construction (F)	LOW	25%
5 : Motor trades (Part G)	HIGH	100%
6 : Wholesale (Part G)	HIGH	100%
7 : Retail (Part G)	HIGH	100%
8 : Transport & storage (inc postal) (H)	MED	50%
9 : Accommodation & food services (I)	HIGH	100%
10 : Information & communication (J)	HIGH	100%
11 : Financial & insurance (K)	HIGH	100%
12 : Property (L)	HIGH	100%
13 : Professional, scientific & technical (M)	HIGH	100%
14 : Business administration & support services (N)	HIGH	100%
15 : Public administration & defence (O)	HIGH	100%
16 : Education (P)	HIGH	100%
17 : Health (Q)	HIGH	100%
18 : Arts, entertainment, recreation & other services (R,S,T and U)	MED	50%

For the outage costs due to a flooding event we have taken into account that the current site is not protected from flooding, however a significant storm would have to occur to cause the site to flood. For this we have used a 1-in-100 event to model the impact on customers.





We have also included the reduced emissions due to avoiding using SF₆ gas in the new switchgear and we have also included the cost of just replacing the assets at end of life which would need to happen anyway to avoid a failure. For this we have used costs from other projects to identify this.

Appendix D – Delivery

Our track record

RIIO-ED1

In ED1 we met all our key regulatory outputs and delivered against our commitments to customers, while keeping our bills as low as possible. We consistently delivered industry leading performance across a range of outcomes for our customers and other stakeholders. This performance was enabled by efficient delivery of our capital programme including the projects delivering reinforcement outputs.

Our performance was recognised by Ofgem in successive versions of its annual report which identified us as the only DNO to consistently deliver high performance across all outputs.

Figure 1: Our track record in RIIO-ED1



We saw several significant performance improvements over ED1 including network reliability (measured as the number of customer interruptions) improving by 19%, and customer satisfaction increasing from 80% to 89.4%.

Our delivery of the business plan commitments was underpinned by efficient delivery of our capital programme. We delivered this while being absolutely

focused on cost efficiency, delivering the highest total expenditure cost efficiency of any distribution network operator group, enabling additional investment in the network and saving our customers £73m (20/21 prices) over the period.

Towards the end of ED1 we flexed our capital delivery programme to make material improvements to the way we work following the disruption caused by the Covid 19 pandemic in 2020 and 2021, and in reaction to the consequences of the supply chain disruption following the Russian invasion of Ukraine and high inflationary environment of 2022.

We also built our capability to deliver innovation rollout programmes at scale ahead of ED2 through the Sentinel NIA12 and Smart Street IRM13 projects.

ED2

We began ED2 with energy and pace in our capital programme whilst being robustly tested given the backdrop of rising energy prices, high inflation levels, and increased prices driven by global conflicts and costs associated with adapting to climate change impacts.

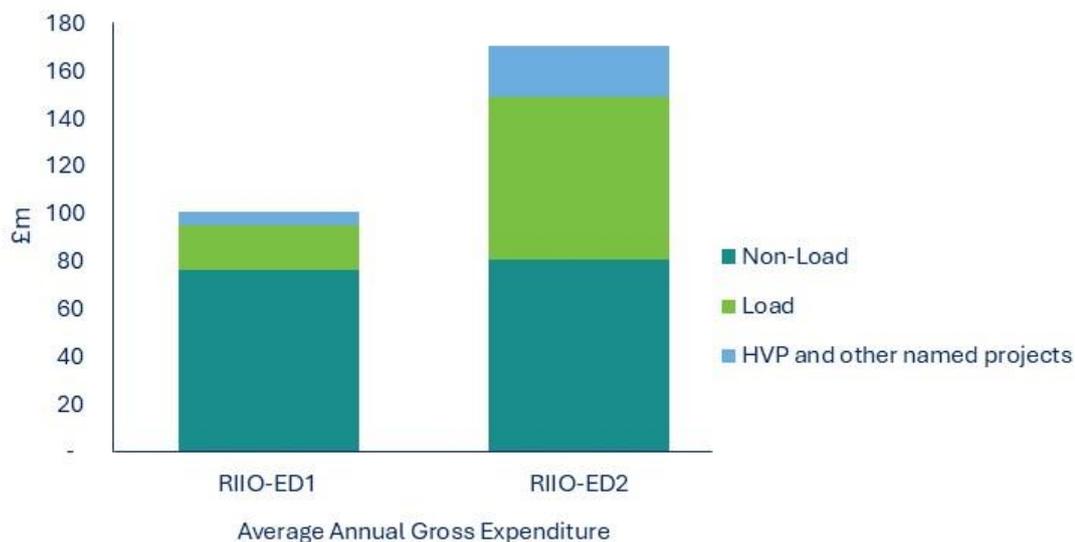
Tightening global supply chains and increased costs are external factors challenging delivery of our capital programme and progress on our ED2 business plan commitments. For example, prior to Covid 19, lead times for 132kV Grid Transformers were in the region of 12 months from an order being placed, but due to the increase in worldwide demand, suppliers are seeing order books full for 3+ years, meaning lead times have increased significantly.

In response to these challenges, and in preparation for delivering a significantly increased capital delivery programme (as shown in Figure 2 below).

¹² www.enwl.co.uk/future-energy/innovation/smaller-projects/network-innovation-allowance/enwl006---sentinel/

¹³ www.enwl.co.uk/future-energy/innovation/key-projects/smart-street-irm/what-is-smart-street-irm/

Figure 2: Average gross expenditure on capital investment across RIIO-ED1 and ED2



Capital delivery transformation

To ensure the delivery of the increased ED2 capital programme, we have transformed our capital delivery capabilities. While we were already successfully delivering our capital programme in line with our plans, we recognised that the pace and scale was changing as was the environment within which we operate. There is a clear focus on the need for delivery at pace and a step-change in the scale of investment to be undertaken in ED2 compared to ED1.

This transformation is made up of three interdependent activities:

- The creation of a single capital delivery function, including a governing Programme Management Office (PMO);
- Development of our project management methodology; and
- Changes to the supply chain procurement process.

Creation of a single capital delivery function

In 2024 we created a Capital Delivery function within our Asset and Investment directorate. This change included the creation of new roles as well as transferring several existing programme management and design roles into the new function.

Previously, our capital programme was delivered through several distinct business units within an Operations organisation which also focused on day to day network issues. Whilst successful in delivering historic levels of investment, this framework was identified as requiring change to guarantee delivery of a significantly bigger programme.

The purpose of the function is to deliver governance of the capital programme through a PMO with responsibility for:

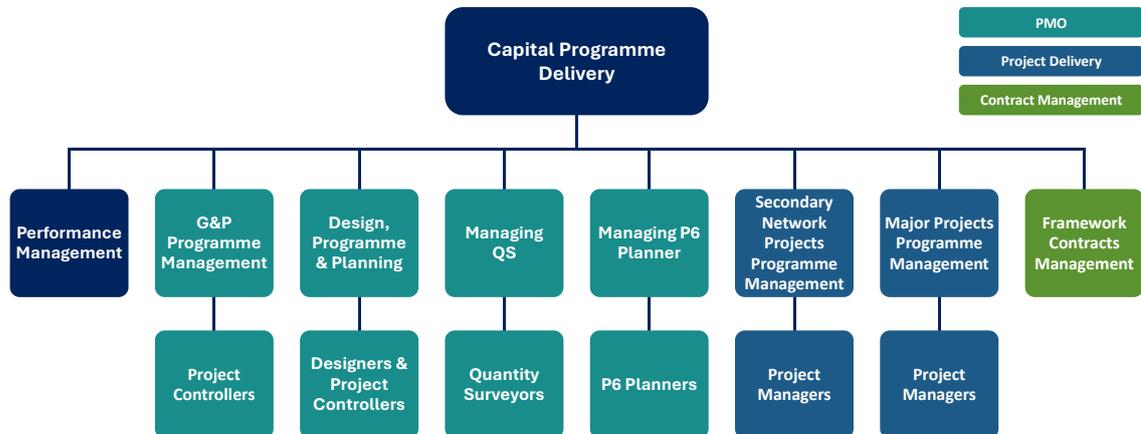
- Strategic planning for project delivery in line with business goals
- Project governance
- Specialist support for project managers in terms of planning, commercial, safety and quality
- Defining our project management methodology
- Project management training
- Preparing management reports
- Planning and scheduling resources efficiently
- Resource capacity planning and forecasting
- Streamlining processes and facilitating communication.

Project management of high value, complex projects through:

- Appointment of additional professional project managers responsible for the whole life of the project
- Application of our enhanced project management methodology.
- Securing delivery resource by:
- Working with procurement colleagues to attract and retain the supply chain partners we need to deliver the growing programme
- Providing long-term work banks for our delivery supply chain to provide certainty and promote investment, supporting the supply chain to undertake its own investment in capability with confidence.

The Capital Delivery function is led by the Head of Capital Delivery with the organisational structure below now in place.

Figure 3: Our capital delivery organisation



We will also continue to utilise the existing network operations skilled resource to support network investment as well as the additional resource we are recruiting into network operations as part of our wider ED2 workforce resilience plan.

Our project management methodology for BAU projects

For the South Manchester HVP specific deliverability considerations please also refer to section 6 namely – deliverability in the EJP.

Central to the governance of the network investment programme is the development and implementation of a more robust and consistent project management process which is now in place.

This new process, with the key stages shown below, will ensure timely and efficient delivery of projects and is designed to provide the following benefits:

- Clarifying responsibilities for the whole life of projects from initiation to handover;
- Ensuring robust programmes (using the Oracle Primavera P6 Enterprise Project Portfolio Management system) are created for every major project; and
- Management visibility and progress monitoring of projects against programmes to ensure governance of delivery to time, quality, safety and cost outperformance.

We developed this process utilising industry leading project management principles and guidance including the RIBA Plan of Work 2020 www.ribaplanofwork.com © RIBA 2020.

Figure 4: Our project management process

Stage A		Stage B	Stage C	Stage D	Stage E
Initiation	Needs	Concept and definition	Full approval	Delivery	Handover
Outcome, tasks and outputs 					
Best means of achieving requirements confirmed Draft needs with base cost estimate prepared Project raised in CHIME Project brief confirmed and project established Load and system network studies completed Planning approval obtained Project execution plan produced Finalised needs with revised cost estimate prepared Project Review Board initiated	Options identified and solution recommendation Optioneering completed Solution approval obtained Level 2 programme developed Procurement defined Advanced approval obtained for preliminary design, works or equipment Cost estimate report produced Detailed design completed CDM documents prepared Risk register initiated SHEQ plan initiated	Full approval obtained Full approval of solution with anticipated final cost value including uncertainty and contingency Procurement approval Appointment of contractor	Construction and commissioning completed Full P6 Programme baselined and agreed Mobilisation Plan produced Construction Phase Plan produced Construct asset Commission asset Monitor progress against P6 Programme Monitor SHEQ performance Change Log produced Monitor cost performance Sanction Increase Approvals sought if required	Asset handed over CDM health and safety file completed Asset records updated Operations and maintenance manual completed and handed over to Network Operations Post Investment Appraisal completed	

Stage A: Initiation and needs stage

This stage signals the start of any capital project and is effectively when the need for an asset based solution for a project is confirmed within the company and the project lodged with the PMO to progress.

A key part of this stage is the start of the process for the cost estimating and budgeting for a project. Here we create a base estimate utilising a combination of our internal benchmarked rates for previously completed similar projects, the Investment Cost Evaluator (ICE) rates, and market tested rates from both our existing framework contract rates where they apply to specific elements of a project and Early Contractor Involvement (ECI) processes where possible.

Cost estimating throughout the project lifecycle is carried out in line with the principles within the [HM Treasury Infrastructure and Projects Authority Cost Estimating Guidance](#).

This stage equates to the Strategic Outline Case stage detailed in the above guidance.

Stage B: Concept and definition

At this stage the different options to deliver the required outputs are considered and a solution agreed. We also complete the detailed design of the agreed solution here, determine the delivery route for the project design and construction and initiate any required procurement processes to secure the delivery route. This stage equates to the Outline Business Case stage detailed in the Infrastructure and Projects Authority Cost Estimating Guidance.

During this stage the cost estimates for the project are developed to provide the anticipated final cost (with a +/- variable range). Where these costs have been derived from the procurement process, either through a two stage design and build contract, a build only contract or utilisation of current framework contract rates, we have market tested prices for the project.

A key output at this stage is a cost estimate report detailing the commercial plan for the project.

Stage C: Full approval

Following development of the anticipated final cost for a project and agreed delivery route, we then secure full sanction internally to progress to the delivery stage of the project. This is a go/no go decision on whether or not to move to construction. This stage equates to the Full Business Case stage detailed in the Infrastructure and Projects Authority Cost Estimating Guidance.

Stage D: Delivery

This stage is the actual construction and commissioning phase of the project where the network asset is built and energised.

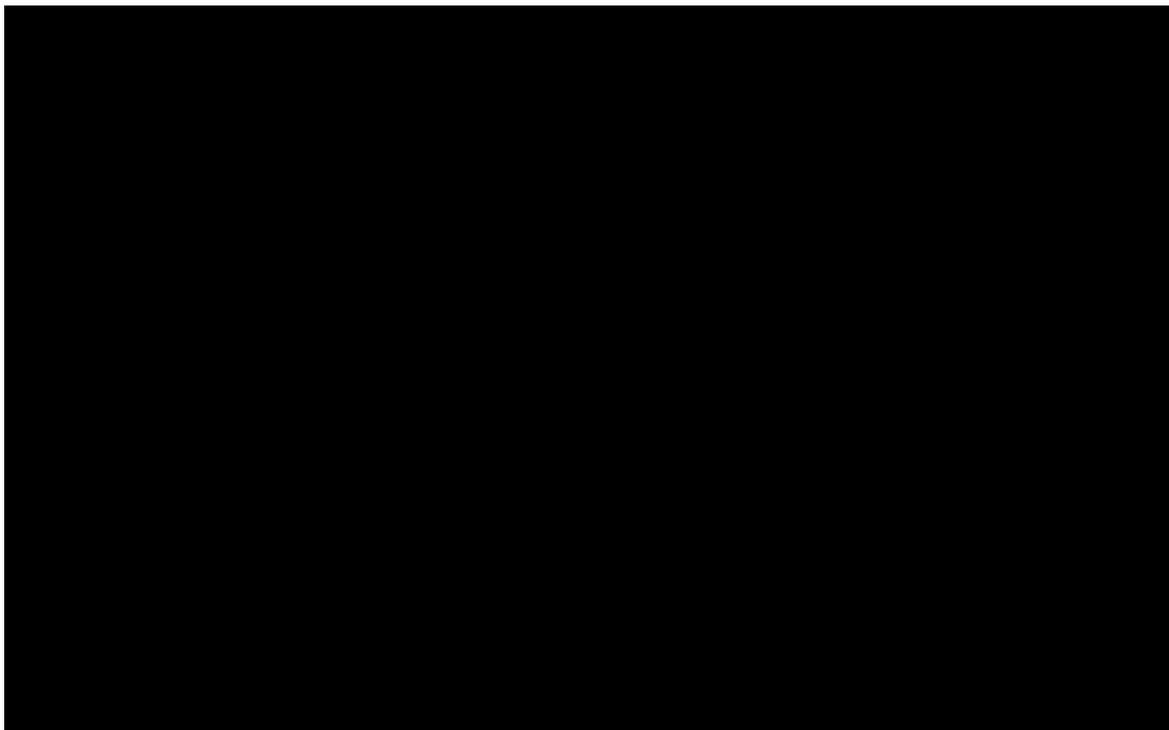
A key task at this stage is the development of a full project programme. As part of the new PMO function we have recruited professional project planners to support the project managers responsible for delivery of the project. The planners are trained in and licensed to use the Oracle Primavera P6 Enterprise Project Portfolio Management system. This is a recognised powerful, robust, and easy to use solution for prioritising, planning, managing, and evaluating projects, programs, and portfolios.

Critical to this stage is the construction phase plan developed in accordance with the Construction (Design and Management) Regulations 2015.

In this stage we also closely monitor cost performance of the project to ensure delivery of the required project outputs whilst achieving the target cost, drawing down on risk and releasing contingencies as the project progresses should they be required.

Stage E: Handover

The final stage of the project management process is where our asset is added to the asset records and begins delivering its intended benefits. At this stage we also carry out a post investment appraisal on a sample basis to identify any lessons learned which can be applied to the capital programme, including improving the accuracy and confidence in cost estimates.



Our internal approach to managing risk and contingency

Risk and contingency provisions are made and presented separately in the internal approval application.

At the time of FULL APPROVAL, the facility is made to include appropriate contingencies within the project sanction. These provide for any unanticipated financial impacts arising from delivery risks associated with the project, broken down into the following categories:

- Civils costs
- Electrical installation
- Electrical design
- Cable construction.

For each, a project-specific estimate is made based on the assessed level of residual risk due to each factor and a percentage applied to the base estimate. This is separately identified within the FULL APPROVAL funding applications. This

reflects a move from historic blanket contingency treatment to a tailored, project-specific approach aligned to the project risk register by management.

Once approved, the full project sanction is allocated in our financial control system, however the Project Manager only has approval up to the agreed Project Manager sanction. Once Project Manager sanction is exceeded (up to 50% of contingency), approval to access further contingency within the approved value is required.

As the application is for an internal financial sanction and projects are often delivered over multiple years, this sum needs to allow for anticipated inflationary impacts over future years. These future year inflation values are advised by our central finance team, consistent with those applied to wider budgeting and business planning processes. This is only used for internal project management and budgetary purposes, and the values shown throughout this application make no adjustment for future inflation forecasts, and all costs are shown in 2020/21 prices.

Stakeholder engagement

We have recently created a role and recruited a dedicated Capital Delivery Communications Manager who will create and implement tailored engagement and communication plans with stakeholders who will be impacted by our major projects.

Changes to the supply chain procurement process

Aligned to the transformation of the capital programme delivery management, the projected growth in investment also required a fundamental change to the way we procure the necessary resources (labour and equipment).

Throughout ED1, we relied on bespoke framework contracts with Tier 2 contractor organisations for much of the outsourced secondary network investment work involving underground cables, plant replacement and HV and LV overhead line work.

Any projects involving grid and primary assets were awarded via mini tender exercises and in the main issued to a network of known and trusted contractors or equipment suppliers. At the heart of this approach was the practice of any necessary design work being carried out by internal teams, supported by a small number of outsourced design companies.

Continuing to use our original approach would bring a number of risks to the delivery of the ED2 network investment programme:

- The existing contractor network does not have the capability in terms of skills and people to deliver the projects due to their size, complexity and nature for example major 132kV tower line construction works

- Competing demands (from within the industry and the wider UK) has led to demand outstripping supply for key skills creating cost and availability pressures
- The internal design teams do not have the capacity to deliver the required design work.

To mitigate these risks and secure the additional resources required, we have made the following significant changes to how we procure and manage our supply chain:

- Early contractor engagement with Tier 1 organisations to engage the market and gain information on the preferred procurement and contract preferences of key suppliers as well as identifying availability. Early results from this approach are very promising; we have received very positive feedback from Tier 1 contractors who have already submitted bids for framework and project contracts. We have also had significant interest from Tier 2 contractors for the projects more suited to their capabilities. Feedback from Tier 1 contractors we have engaged has been very positive with a strong endorsement of the approach we are taking to securing their services
- Moving away from bespoke contracts to industry recognised and accepted NEC contracts
- Issuing 'turnkey' design and build contracts
- Expanding the supply chain for the delivery of high volume, low value programmes of work to increase supply chain resilience and introduce more competition. Our experience in recent years is that for a lot of specific services, such as overhead line works, plant replacement, excavation and reinstatement there is always a number of core, mainly Tier 2 and 3 contractors providing these services. Where we have tried to wrap the provision of these services into single frameworks, the delivery strategy of the framework contractor, who is often themselves a larger Tier 2 contractor, is to sub contract to the wider Tier 2 and 3 contractors. Often this leads to poor performance on the framework due to cost challenges for the framework contractors, reticence from the sub contractors to work for the main contractor, and movement away from the framework contractor for higher rates via direct contracts. We have found that contracting direct with the smaller, stable contractors, provides more loyalty, greater opportunity to grow the supply chain, reduced costs through minimal management fees, setting of market rates and improved performance
- Identifying opportunities to support suppliers in investing in resources to work on our contracts, for example training cost contributions for Senior Authorised Persons

- Streamlining internal processes for authorising contractor people to enable faster and more efficient mobilisation.