SP Electricity North West

# RIIO-ED2:

# Digitalisation Re-opener

January 2026

# Contents

# 1. Introduction

## 1.1. Executive Summary

This document represents our submission under the provision of Special Licence Condition (SpC) 3.2 (Digitalisation re-opener) of our Electricity Distribution licence for investment which is required as a result of:

- a change in legislation, licences, regulatory requirements, or industry codes, where as a result there is a requirement for us to provide new, or significantly altered, digital or data services; and
- because we are implementing Mature Innovation related to data and Digitalisation to fulfil obligations in the conditions of our licence.

We are requesting modifications of our licence, to our total Digitalisation allowance of £9.01m in 20/21 prices. All of these costs will be incurred after 1 April 2023 and before 31 March 2028.

Our investment across seven projects and grouped into two drivers is summarised in Figure 1. This investment exceeds our materiality threshold of £3.95m in 20/21 prices. This re-opener submission is required to be submitted between 24 to 31 January 2026 and all values are shown in 2020/21 prices.

The Digitalisation re-opener has been identified as the appropriate uncertainty mechanism to use to request additional allowances for these new activities that were either unknown or uncertain at the time of submitting our RIIO-ED2 Business Plan. Further details are shown within the narrative for each project within section 2.

*Figure 1: Key drivers for our Digitalisation re-opener*

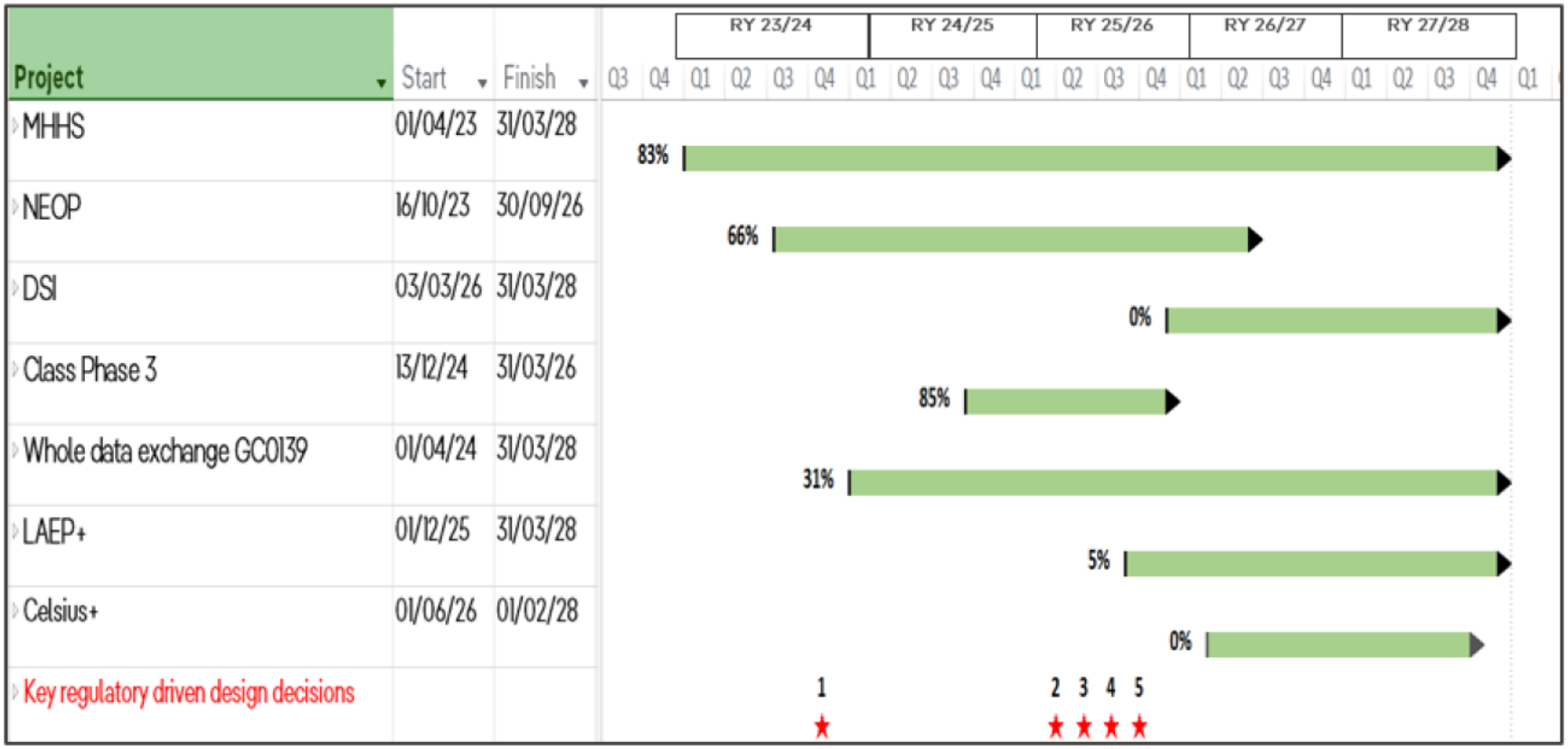
| Driver | Project/programme | Total cost 20/21 prices (£m) |
|---|---|---|
| Driver 1 – Regulatory change | | |
| To comply with licence changes, regulatory requirements or industry codes changes | Project 1 - Market wide Half Hourly Settlement (MHHS) | 2.96 |
| | Project 2 - National Energy Outage Platform (NEOP) | 0.13 |
| | Project 3 - Data Sharing Infrastructure (DSI) | [redacted] |
| | Project 4 - CLASS Phase 3 | 2.23 |
| | Project 5 - Whole data exchange (GC0139) | [redacted] |
| Driver 2 – Mature Innovation | | |
| To roll out proven mature innovation | Project 6 - Celsius + | [redacted] |
| | Project 7 - Local Area Energy Planner Plus (LAEP+) | |
| Totals | | 9.01 |

The high-level programme plan for all seven projects is shown in Figure 2. This plan summarises:

- key start and finish dates against the RIIO-ED2 price control period 1 April 2023 and 31 March 2028.
- completion status of each project at the time of submission.

More detail of each individual project's delivery plan is described in section 2.

*Figure 2: High-level programme plan of our Digitalisation re-opener*




| | | |
|---|---|---|
| 1 | Proof of concept NEOP design completed0/04/202 | Feb 2024 |
| 2 | Ofgem approve NESO balancing markets changes | Jul 2025 |
| 3 | MHHS baselined design code changes delivered | Sep 2025 |
| 4 | ED3 SSMC expectations published | Nov 2025 |
| 5 | Ofgem decision on code modification GC0139 | Jan 2026 |

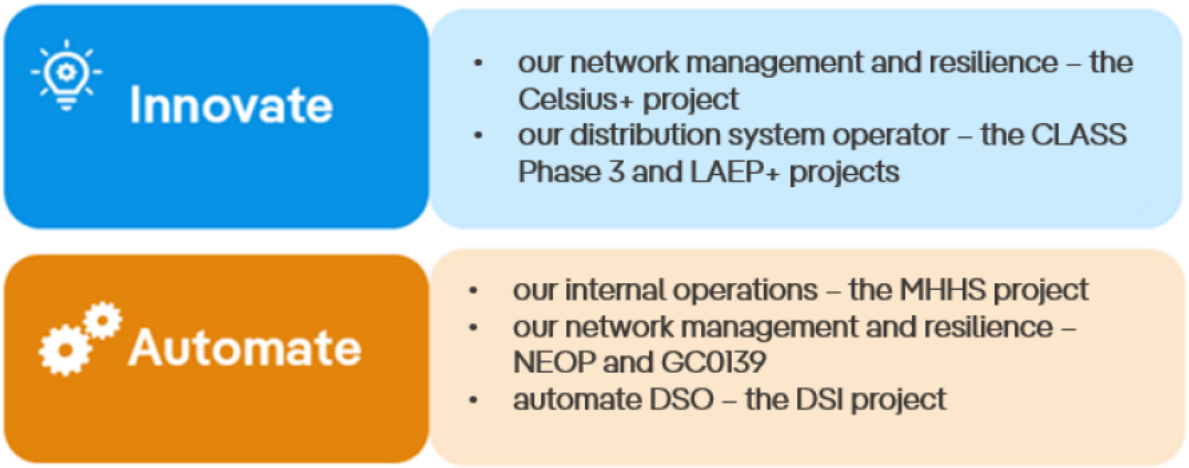
The key outputs and customer benefits delivered by these projects are summarised in Figure 3.

*Figure 3: Key outputs and customer benefits of our Digitalisation re-opener*

| Project | Output | Customer benefits |
|---|---|---|
| MHHS | • Connection to and use of a new centralised digital platform to meet Authority led and approved code changes and licence requirements. | From the wider MHHS Programme:<br>• Suppliers offering flexible tariffs to customers that encourage more flexible use of energy and help consumers to lower their bills.<br>• Suppliers providing more accurate demand forecasting, more accurate settlement and better network management will lower system costs and lead to lower costs for consumers. |
| NEOP | • Provision of near power outage data to Authorised third parties to meet Government/Authority led data requirements. | • Enhances power outage visibility & co-ordination.<br>• Improves incident management. |
| DSI | • Connection to and use of data sharing infrastructure to meet Government led data sharing forthcoming licence requirement. | • More informed, joined up and evidence-based regional planning.<br>• Embeds user needs such as from Local Authorities into the design process. |
| CLASS Phase 3 | • Continued provision of an SP ENW digital solution driven by new NESO markets changes approved by Government | • Revenue shared with customers.<br>• Reduces carbon emissions.<br>• Provides NESO with additional flexibility to assist with system balancing. |
| GC0139 | • Connection to and use of secure data exchange platform to facilitate the exchange of data to meet Authority approved code changes. | • Improves planning of transmission and distribution systems.<br>• Enhances development of Smarter Networks.<br>• Improves connections. |
| Celsius+ | • Provision of proven mature innovation digital technology. | • Increases customer access to network, supporting the continuing electrification of our region.<br>• Reduces time to connect.<br>• Maximises the value of the asset with timely reinforcement<br>• Improves understanding of substation operations |
| LAEP+ | • Use of proven mature innovation digital software platform | • Ensures consistency and alignment in Local Area Energy Plan development<br>• Promotes collaboration between Local Authorities. SP ENW and other stakeholders |

Figure 4 demonstrates how outputs from these seven projects contribute towards delivering our Digitalisation Strategy and Action Plan (DSAP), under the two DSAP key strategic themes of innovate and automate. These elements within our DSAP contributes to and supports wider system reform

*Figure 4: How our projects contribute towards delivering our DSAP*




Our strategic vision for RIIO-ED2 is *to lead the North West to net zero*. Underpinning this is what we refer to as our 'Licence-to-operate'. It is more than the licence we hold with Ofgem; it is the foundation to all our activities and is derived directly from our employees, customers and communities. This includes safely and compliantly delivering for the customers and communities we serve ensuring our licence-to-operate is secured with them through trust and legitimacy as their DNO.

We remain committed to being a compliant business in all matters and this document outlines seven projects, five of which are compliance driven

We are a monopoly business in a highly regulated environment, our policies, procedures and processes are there to keep our employees and communities safe and compliant. Compliance activities form a material part of our investment activities, and compliance, whether it be to legislation, licence obligations, or codes of practice, are ingrained into our DNA.

## 1.2. Ofgem Minimum requirements

Please refer to the minimum requirements checklist in Appendix 1.

## 1.3. Assurance

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, 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 medium classification in our risk matrix which require the minimum assurance of a Second Person Review and a Senior Manager sign off. In addition to these we have also undertaken an Internal Expert Review, and a Director sign off.

Internal regulatory experts assessed the submission against Ofgem's re-opener guidance and provided additional scrutiny against the associated minimum requirements.

## 1.4. Governance

The content and development process was managed by a specific steering committee, our 'Digitalisation Re-Opener Steering Group'. This group was made up of the sponsoring Director, specialists within IT, Finance and Regulation along with project leads as required

Our Board has approved the submission of this re-opener and our Chief Operating Officer (COO) has provided the cover letter to this application.

## 1.5. Contact

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

## 1.6. Publication plans/statement on redaction

This submission will be published on the public information section of our website (www.enwl.co.uk/public-information). Redactions will be made to protect commercial arrangements, to protect customers and to ensure the safety and resilience of the services we provide.

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

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
- Where publication would conflict with Data Protection or other legal or regulatory requirements

The reasons laid out above largely fall into one of three over-arching categories:

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

Appendix 5, our cost data table template, will not be published due to the above reasons but is provided in full to Ofgem.

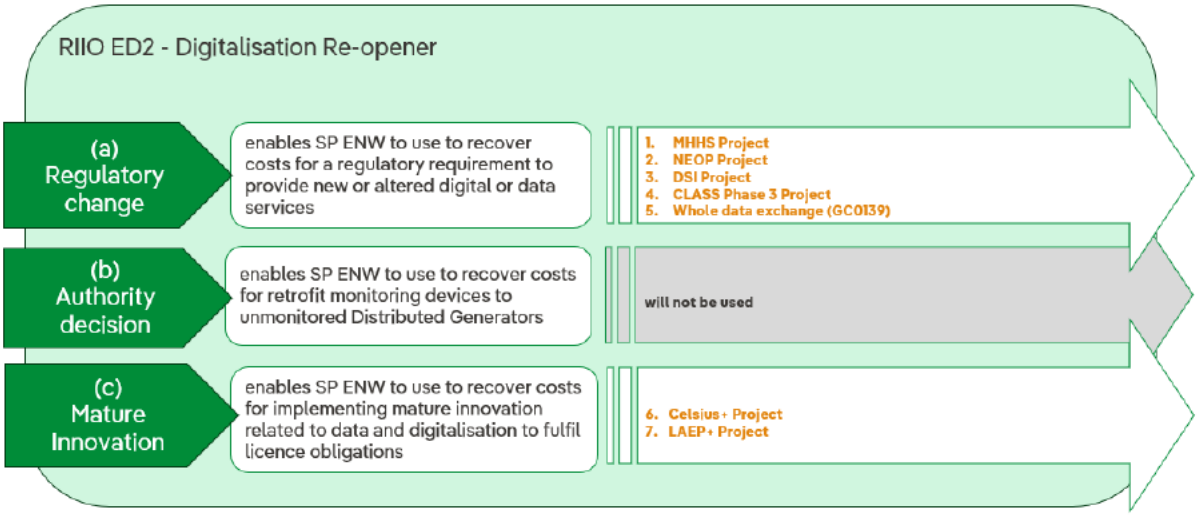
Our aim is to ensure transparency of our plans for customers and stakeholders. Any interested parties are welcome to contact us to discuss further details on a case-by-case basis.

# 2. Digitalisation portfolio of projects

## Overview

The seven projects in this Digitalisation re-opener portfolio have already and/or will deliver new or significantly altered digital or data services, of which five are compliance-based deliverables, driven by licence, regulatory requirement or industry codes changes, and two are to rollout proven mature innovation as summarised in Figure 5.

*Figure 5: Special Licence Condition met and to be used for our Digitalisation re-opener*




## Approach to Stakeholder Engagement

Whilst the Ofgem re-opener guidance states that stakeholder engagement may not be necessary where the application is driven by statutory obligations (and this is applicable to five of the seven projects), we have for all projects set out our stakeholder engagement in further detail within the relevant project sections of this section.

In addition, in November 2025 we engaged with the SP ENW Digital Futures Panel on our Digitalisation re-opener portfolio of projects and indicated where we have received feedback from Panel members and how we acted on that feedback.

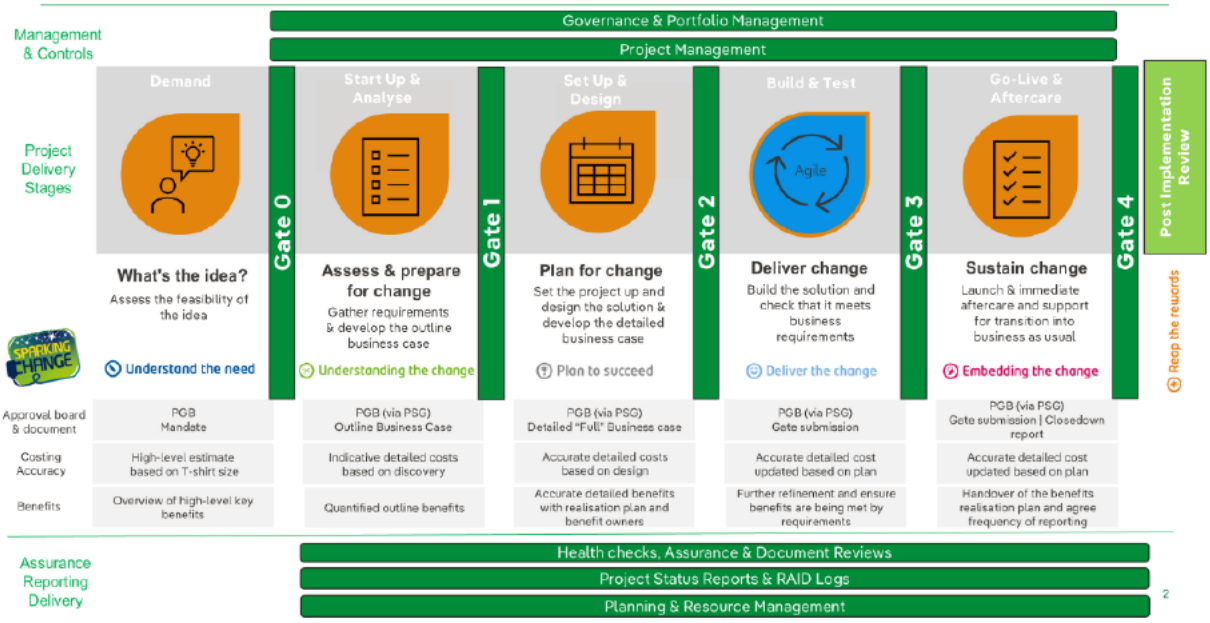
The primary role of the SP ENW Advisory Panel is to bring together key regional and national stakeholders in specific areas of expertise to ensure we can fully understand the needs of our stakeholders in the North West to both shape and provide scrutiny of our delivery of the commitments we have made as part of our wider business plan. The Digital Futures Panel brings together subject matter experts in digitalisation, data management, digital inclusion, and energy saving through implementation of digital products and aims to ensure we meet the needs of our stakeholders' needs and the digital products and services required to meet those needs. These subject matter experts (SMEs) work across a range of businesses, academic institutions and local and sub-regional government areas.

## Approach to Project Management

The projects included in our Digitalisation Re-opener are being delivered in line with our well-established IT Project Delivery Lifecycle (PDL) methodology. The IT PDL is a flexible framework which is scalable to the size of change and incorporates both Waterfall and Agile practises. Project

delivery, resourcing, dependencies, priorities and risks are managed and tracked using the organisation's standard project delivery methods and processes as summarised below in Figure 6.

*Figure 6: Our IT PDL*




## Approach to risk management

We have a comprehensive risk management approach which identifies, assesses, mitigates, and manages risks effectively. We ensure thorough management and governance of all risks through the IT Risk Board and the Digital and Technology One View Risk Board (DATOR) which meets on a monthly basis and feeds into the corporate risk register.

## Approach to Third Party risk management

For all suppliers we undertake the following:

- Supplier Assurance questionnaires,
- Cyber questionnaire and review,
- Data Protection questionnaire,
- Financial assessment and credit check,
- Legal review of contract.

## Approach to provision of information on each project

As per Ofgem re-opener guidance we have taken a proportional approach and avoided duplication and superfluous information and narrative. This Digitalisation re-opener includes the following information at a high level for each project in the remainder of this chapter:

- Alignment with the DSAP
- Alignment with overall business strategy and commitments
- Demonstration of needs case/problem statement
- Approach to options assessment
- Stakeholder engagement and support
- Whole system considerations
- Options considered
- The preferred option
- Delivery
- Key risks and mitigating controls
- Customer Benefits

- Costings
- Efficiency in the level of investment
- Cost Benefit Analysis

## Approach to Cost-Benefit Analysis

Projects included in section 2.1 are mandatory projects, driven by government, regulatory or code requirements. For these, there is no optionality once the Government or Ofgem decisions makers have set or approved the new requirements. Therefore, the only option is to ensure compliance within a specified timeline during RIIO ED2, and to adopt/implement the solution in accordance with the design specification set.

For this reason, we have concluded, as discussed with Ofgem at a Digitalisation Re-opener pre-submission bilateral meeting on the 19 January 2026, that there is no benefit from utilising a CBA tool - there are no options for comparison, and the outcome of any CBA would not change our course of action. As such, we have not included CBAs for those projects: MHHS, NEOP, DSI, CLASS Phase 3 and Whole Data Exchange (GC0139).

For the two projects included within section 2.2, Celsius+ and LAEP+, these are projects where we have chosen to roll-out proven mature innovation. As such, there are several options available to how such a rollout can occur and when. The use of a CBA in these circumstances can add value, and support decision-making.

In this instance, we have used our 'Social CBA tool'. This tool was co-developed with a third party, is founded on the core Ofgem RIIO ED2 2021 CBA template , and was enhanced through the inclusion of a wider Social Return On Investment (SROI) module - this new module is consistent with  The wider societal impacts are drawn from established proxies used by DNOs which are most relevant to us and include a small suite of new proxies that reference up to date fiscal, NHS and industry literature.

The resulting benefits can be categorised into network, direct to consumer, and social/wider societal. While the inputs remain consistent with those used in a traditional CBA, this approach incorporates additional benefits and applies a more detailed categorisation framework.

Traditional Net Present Value (NPV) metrics focus solely on financial costs and do not account for broader economic and societal impacts.

Our new Social CBA tool was developed to value the wider-reaching societal impacts of different interventions, which include improvements in air quality and the resultant reductions in social costs, access to earlier revenue streams for connecting customers, system-wide energy bill savings, and the impact on specific groups of vulnerable customers, whilst retaining the core functionality of the traditional CBA - to measure network and more direct benefits. By investing sooner, during RIIO ED2, we ensure that we maximise these benefits to customers, whether this results in direct customer bill impacts or through wider societal benefits.

We consider the use of this enhanced CBA tool to be most appropriate for these two projects, given they have been primarily developed to support broader benefits, rather than purely a return for network operating costs. The output of CBAs for these two projects and how this has informed our preferred option selection is explained further within section 2.2.

## Approach to recent Ofgem developments

As we have been developing this Re-opener application, we have observed that there are further regulatory driven initiatives that may result in further new or significantly altered digital or data services, beyond those included in this submission. One such example is the recent, open, consultation on Enhancing asset visibility: Distributor Network Operator options which sets

out options for potential Ofgem policy intervention. We note that the consultation refers to material costs to networks for some options, and that such investment could be funded using the ED2 Digitalisation Re-opener. Given the ED2 window is January 2026, and the outcome of this consultation and any subsequent design and specific requirements will not be known for some time, it is not possible to include such costs within this submission.

We welcome a further discussion with Ofgem as to how such new initiatives can be enabled within ED2 and appropriate funding route accessed. One option could be for Ofgem to direct a second, later window and should this be the case, we propose any new window would have a zero materiality threshold for any DNO who has utilised this existing window to ensure there is no first-mover disadvantage.

## 2.1. Driver 1 – Regulatory Change

### Project 1 – MHHS

#### Alignment with DSAP

Our MHHS expenditure aligns with our DSAP under section 7 'Internal Operations' via automation to enable our internal systems to connect and interact with the digital architecture of external systems under the authority-led MHHS Significant Code Reform (SCR).

#### Alignment with overall business strategy and commitments

Our MHHS expenditure incurred and forecast aligns with our historic, existing and future business commitments under our RIIO-ED2 licence and our other statutory obligations under industry codes and the authority-led MHHS SCR

In 2016, Ofgem launched the MHHS SCR to modernise the electricity system in the UK and support the transition to a Net Zero future. The UK settlement process reconciles the difference between the amount of electricity a supplier contracts to buy wholesale from generators and the amount their customers actually use. The aim of MHHS is to enable shorter and more accurate settlement of energy using half hourly metering readings to encourage greater take-up of flexible time-of-use Supplier tariffs by customers.

There are a set of rules and standards that govern the safe and efficient operation of the electricity generation, transmission, distribution and supply systems in the UK referred to as industry codes. They are essential to ensuring that the energy system is efficient, economical, and coordinated. In addition, there are central industry and individual parties' own IT systems that underpin the operation of these industry codes. The codes and IT systems are updated to keep pace with technological advancements and government polices ensuring that they meet the needs of consumers and support government strategy and legislation.

In 2021, Ofgem acting as MHHS Programme Sponsor, appointed Elexon as the MHHS Programme Implementation Manager (IM) which includes the component roles of:

- Senior Responsible Owner (SRO);
- Programme Management Office (PMO);
- Design Authority (DA);
- Systems Integrator (SI); and
- Programme Party Co-ordinator (PPC).

MHHS is arguably one of the biggest changes to energy markets since retail competition was introduced in the late 1990s. The MHHS programme is due to 'Go Live' in May 2027 which has been enabled through complex, multiple and significant changes to the industry codes and underpinning IT systems – refer to appendix 2 for a full list of all the industry code modifications. The core changes being:

- All domestic and non-domestic (30 million) Meter Point Administration Numbers (MPANs) migrated to new half-hourly settlement arrangements across an 18-month period (between October 2025 – May 2027)
- Suppliers, Metering Agents, DNOs and Central Systems developing upgraded IT systems to ensure capable of processing half hourly data
- New Data Integration Platform (DIP) - centralised hub for managing and processing data exchange between industry parties delivered by Elexon
- New market roles and terminology introduced
- New compliance rules

In 2025 the Authority approved the implementation of industry code changes to align with industry system builds. This codification of the MHHS Target Operating Model (TOM) and Design establishes the legal baseline for the new MHHS arrangements.

Under the historic and new MHHS arrangements, we provide a registration service referred to in our licence as the Metering Point Administration Service (MPAS). Our MPAS maintains a register of technical and other data that is necessary to facilitate the supply of electricity, by any electricity supplier, to premises connected to our electricity distribution system. In addition, we amend the register to reflect any changes; for example, we make changes to the connection and disconnection status data of Metering Point Administration Numbers (MPANs) associated with Metering Points.

Whilst we and other DNOs provide an individual registration service within our distribution area, we all use the same third-party provider software referred to as the Metering Point Registration System (MPRS).

We are required to be MHHS Qualified against two separate industry code Performance Assurance Frameworks/Boards to confirm we have the appropriate systems, processes and controls in place to meet the industry codes requirements for the MHHS Design. We were required to be MHHS Qualified before the start of migration of MPANs, using the SP ENW registration services within our distribution area.

We have a number of standard licence conditions which commit us to co-operate with the MHHS SCR and its appointed persons and comply with any MHHS driven changes to industry codes and central IT systems – refer to appendix 3 for a full list of the applicable RIIO-ED2 licence commitments.

### Demonstration of needs case/problem statement

The final MHHS design and code changes were delivered in 2025. As such these costs were uncertain during ED2 business planning and were confirmed after the start of ED2. We have included the key MHHS regulatory decision milestones on our high-level programme plan.

It was required under code changes and our licence to have undertaken data cleansing, system integration testing, be MHHS Qualified and to have our systems programme ready by September 2025 to enable suppliers to start migrating their customers to half hourly metering readings between October 2025 – May 2027. We are also required under code changes to support migration and monitoring and participate in incident management, change management and provide Early Life Support.

To enable us to become MHHS Qualified and be programme ready for migration we were required to stand up a dedicated project team, deliver changes to a number of our data and digital systems and connect to the new external DIP interface, the DIP being the new centralised hub for managing and processing MHHS data exchange between industry parties. The introduction of the DIP as the message platform required extensive interface and communication changes to our Registration, Distribution Use of System (DUoS), Unmetered Supplies (UMSO) and related systems in order to comply with the MHHS Design.

### Approach to options assessment

The design of the MHHS was led by the authority appointed IM Elexon. This codification of the MHHS Target Operating Model (TOM) and design establishes the legal baseline for the new MHHS arrangements. Our approach was to collaborate with other DNOs where possible in order to share development and testing costs and drive efficiency, for example with MPRS. Where changes were needed to SP ENW only systems these were restricted to the minimum changes required in order to comply with the MHHS design.

### Stakeholder engagement and support

We have and we will continue to engage with:

- the Authority (MHHS team)
- the Authority appointed Senior Programme Office/Implementation Office (Elexon)
- the Authority appointed Independent Programme Assurance provider (PriceWaterhouseCoopers)
- Code administrators (BSCCo ltd, SECCo Ltd and Electralink) and Code Managers (RECCo Ltd) and appointed sub committees
- Other MHHS participants via MHHS working groups and forums
- SP ENW third party providers
- SP ENW Digital Futures Panel

We will continue to engage with required stakeholders through incident management, Early Life Support and ongoing migration support and monitoring.

### Whole system considerations

We collaborated with other DNOs on whole system issues which required the same programme assurance approach. We co-funded a MHHS Distribution Programme Assurance role delivered by the DNO MPRS provider. This role co-ordinated a joint DNO joint response and represented DNOs at the core Programme Steering Group This investment proved highly efficient and was able to support the SRO and others in decision making and issue resolution.

### Options considered

Whilst we were required to design, build and test in accordance with the MHHS TOM and design legal baseline for the new MHHS arrangements; we were able to contribute, at multiple MHHS Programme design and code change consultations and forums and influence design decisions which impact DNO requirements. Refer to our 'Efficiency in level of investment' section for further details.

### The preferred Option

The following are the key changes and MHHS investment we have already made and will continue to invest in, to the end of RIIO-ED2. This MHHS investment was to enable SP ENW to be MHHS programme ready and will continue to ensure incident management resolution, migration support and monitoring and Early Life Support.

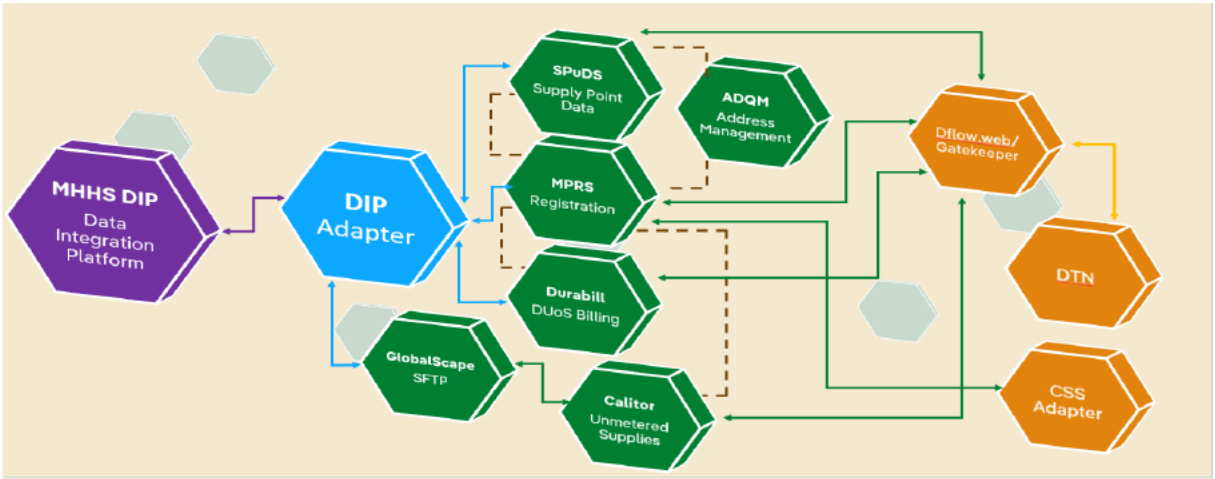
From 1 April 2023 – 22 September 2025

- Co-operation in the last two intensive years of an 11-year Authority lead SCR and active participation in requests for information, consultation and collaboration activity across multiple stakeholder forums. Successful completion of:
    - MHHS qualification from two Industry Code Performance Assurance Boards via formal Qualification Testing and submission of a comprehensive Qualification Assurance Document evidencing that we had appropriate systems, processes and controls in place to undertake code requirements for the MHHS Design and to operate in MHHS: Qualification Overview - MHHS Programme
    - Data cleansing for 2.4 million MPANs connected to our network – which will be moved to half-hourly settlement by Suppliers during migration
    - Integration to the Elexon DIP for message data exchange (via a new DIP interface adapter)
    - MHHS targeted industry code audit
    - MHHS Programme Readiness Assessments

- Successful build, test and integration of internal/external systems ready to enable connection to the Elexon central DIP and Supplier migration of MPANs as summarised in Figure 7:
    - Metering Point Registration System (registration) – internal system
    - Durabill (Distribution and Use of System billing) – internal system
    - Calitor (unmetered supplies) – internal system
    - DIP adaptor (to enable connection to the Elexon central DIP) – internal system
    - ADQM (address management) – internal system
    - SPuDs (Supply Point Data) – internal system
    - Globalscape (Secure File Transfer) – internal system
    - Dflow web/gatekeeper – external system
    - Data Transfer Network – external system
    - Central Switching Service Adaptor – external system

- Successful data cleanse of key industry data attributes in accordance with the MHHS Programme plan:
    - MHHS Programme Data Cleanse Plan

*Figure 7: SP ENW build, test and integration of internal and external systems*




*Purple – central system*
*Blue – SP ENW interface to the central system*
*Green – SP ENW internal systems*
*Orange – SP ENW connection to other external systems*

From 23 September 2025 – 31 March 2028

- Ongoing provision of adapted data and digital services via the altered internal systems named above.
- Ongoing incident management and participation in consultation and collaboration with the Elexon DIP Manager regarding migration support and monitoring and change management.

### Delivery

Our project delivery is aligned to the MHHS Programme Plan:

- MHHS Plan on a Page (POAP) V1.21
- Programme Plan & Complementary Documents - MHHS Programme

We have successfully met all required programme targets and deadlines up to and including M10 on 22 September 2025, which is the MHHS Programme milestone for 'Central Systems readiness for migrating MPANs'; M11/12 on 22 October, which is the MHHS Programme milestone for the Start of UMS/Advanced and Smart/Non-smart migration Post-M11/12 we continue to support the industry migration in alignment with the centrally managed migration progress: Migration Governance; through to M15 'Full transition complete' on the 7 May 2027 and beyond for the remainder of ED2 (including impact assessment and delivery of programme and code body led change requests). Refer to Figure 8 for a breakdown of deliverables completed and to be completed for the remainder of ED2. This delivery breakdown aligns with our costing breakdown.

Our programme delivery was subject to close co-ordination with the Authority appointed MHHS Programme IM and Independent Programme Assurance provider and also by Code Manager Performance Assurance Boards (PAB) (the Balancing and Settlement Code[1] (BSC) and Retail Energy Code[2] (REC)

*Figure 8: Breakdown of deliverables completed and to be completed*

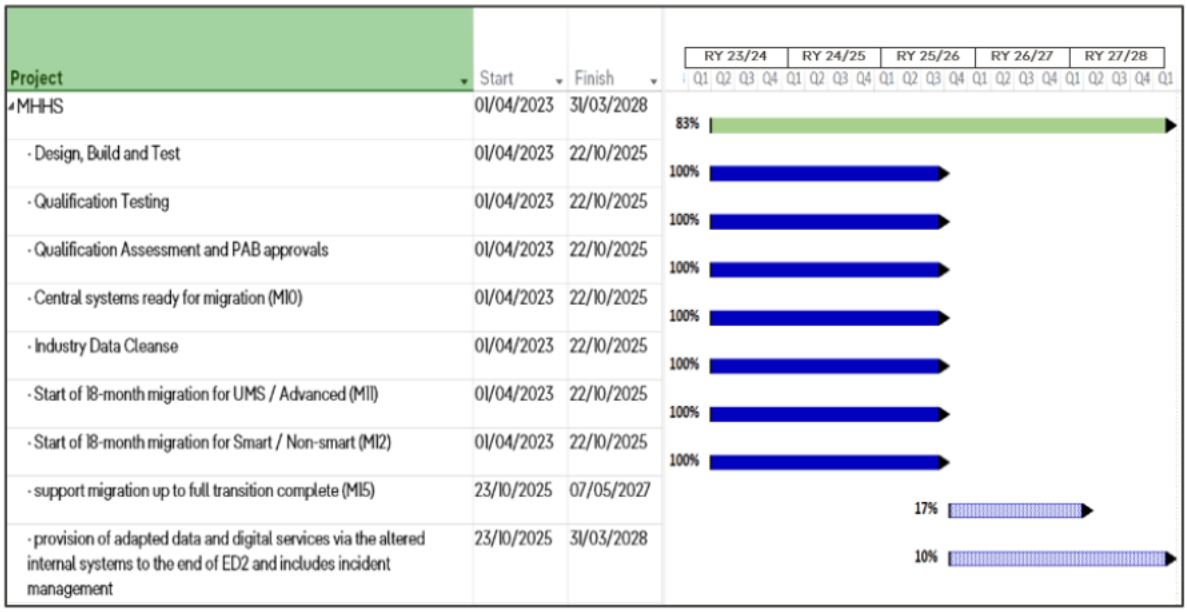
| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| Completed | | | |
| • Design, Build and Test<br>• Qualification Testing<br>• Qualification Assessment and PAB approvals<br>• Central systems ready for migration (M10)<br>• Industry Data Cleanse<br>• Start of 18-month migration for UMS / Advanced (M11)<br>• Start of 18-month migration for Smart / Non-smart (M12) | 100% | 01/04/2023[3] | 22/10/2025 |
| To be completed for the remainder of ED2 | | | |
| • support migration up to full transition complete (M15) | 17% | 23/10/2025 | 07/05/2027 |
| • provision of adapted data and digital services via the altered internal systems includes incident management | 10% | 23/10/2025 | 31/03/2028 |

[1] *Balance and Settlement Code - a multi-party legal framework that underpins the electricity trading arrangements in Great Britain.*

[2] *Retail Energy Code – a set of rules for operating in the retail gas and electricity sector.*

[3] *We have only included costs as per the allowed price control period and from 1 April 2023. For the avoidance of doubt, we have not included programme set-up and initial high-level analysis/design. This was part of ED1 activity and costs.*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| • Post M10 Change Request delivery | Subject to MHHS Programme, Code Managers and DIP Managers decision and change control decision making and timelines. | | |



| Project | Start | Finish |
|---|---|---|
| MHHS | 01/04/2023 | 31/03/2028 |
| - Design, Build and Test | 01/04/2023 | 22/10/2025 |
| - Qualification Testing | 01/04/2023 | 22/10/2025 |
| - Qualification Assessment and PAB approvals | 01/04/2023 | 22/10/2025 |
| - Central systems ready for migration (M10) | 01/04/2023 | 22/10/2025 |
| - Industry Data Cleanse | 01/04/2023 | 22/10/2025 |
| - Start of 18-month migration for UMS / Advanced (M11) | 01/04/2023 | 22/10/2025 |
| - Start of 18-month migration for Smart / Non-smart (M12) | 01/04/2023 | 22/10/2025 |
| - support migration up to full transition complete (M15) | 23/10/2025 | 07/05/2027 |
| - provision of adapted data and digital services via the altered internal systems to the end of ED2 and includes incident management | 23/10/2025 | 31/03/2028 |



## Key risks and mitigating controls

| Title | Details | Mitigating controls |
|---|---|---|
| Inaccurate/incomplete DUoS billing data | There is a central programme risk that due to the source of the industry DUoS consumption data changing to the new Elexon Helix system that we do not receive a full set of accurate/complete DUoS billing data which may result in impact to our cash flow and consequent downstream impact on our timely and accurate billing of Supplier DUoS which we understand would in turn cause impacts to their own billing and cashflow reconciliation | We successfully led influencing the MHHS Programme:<br>• to identify this as a central MHHS Programme risk and to develop additional testing, monitoring and reporting of settlement data volumes and values.<br>• MHHS programme mitigation was confidence provided to us and the rest of the DNOs by MHHS programme via output modelling.<br>• to detail warranty/hyper care monitoring. The MHHS Programme have introduced a plan to monitor the Group Correction Factor (GCF) vs historical analysis.<br>We will continue to monitor and deal with any new central issues during migration. Our activity and associated costs are captured under our ongoing deliverable to support migration.<br>This risk has been realised on the 17/11/2025 and is entitled MW103[4]. |

[4] *MW 103: Following M10 an industry issue was observed with Settlement data. Elexon issued Aggregated DUoS Report (D0030) and Non-Half Hourly Embedded Network DUoS Report (D0314) flows to industry with missing MSID data for Settlement dates 9-13 October 2025. This has had an approximate cash flow impact of £385k to SP ENW which was resolved on the next reconciliation run. Elexon have declared that the root cause has been identified and workarounds implemented to avoid any repeat.*

| Title | Details | Mitigating controls |
|---|---|---|
| Bulk registration of Import/ Export MPANs with no prior notification | There is a risk that registration of Export MPAN – linked to an Import MPAN (for any site with generation capacity) is increased at the back end of the Migration roll out due to unplanned Supplier activity which may result in significant increases in the number of meters that will need to be registered/migrated with minimal notification | We have developed additional internal system (SpuDS) functionality to automate and simplify setup and registration of new Export MPANs requested by suppliers in bulk. Our activity and costs are captured under our completed deliverable as part of design and build. |
| Uncertainty of Post M10 Change Request delivery | There is a risk of further Post M10 Change Requests' which are currently unknown and subject to MHHS Programme, Code Managers and DIP Managers decision and change control decision making and timelines | We track external MHHS Programme, Code Manager and DIP manager change control pipeline and we attend the DIP Change and Advisory Board meetings as an observer. We have allocated uncertain costs as part of future 'Post M10 Change Request delivery' deliverable. |

### Customer Benefits

Flexible tariffs would enable customers to lower their bills and enable a flexible cleaner energy system via more accurate consumption data, better demand forecasting and lower settlement and balancing costs. Ofgem expects MHHS to bring **£1.5b to £4.5b in net customer benefits for British consumers by 2045** as concluded in their MHHS Final Impact Assessment

### Costings

Our MHHS investment is £2.96m. Appendix 5 provides further cost breakdown in a cost data table template to enable ease of reporting

As this project delivers a regulatory driven change, there is no do-nothing option as this would result in SP ENW being non-compliant with industry codes and our licence requirement to co-operate with significant code reform

### Efficiency in the level of investment

Whilst this project was driven by regulatory change and design decisions outside of our direct control, we were able to demonstrate efficiency in the level of our investment as follows:

- Our collaboration with other DNOs on whole systems issues which required the same programme assurance approach. This proved highly efficient and was able to support the MHHS SRO and others in issue resolution.
- Our programme team structure enabled us to provide high quality programme assurance evidence to avoid delays or having to repeat testing or qualification processes. We demonstrated this by successfully meeting all required programme targets and deadlines. Ofgem expressed thanks to DNOs at the Senior Programme Steering Group for their contribution to achieving MHHS central systems readiness to enable migration.
- Our contribution, at multiple MHHS Programme design and code change consultations and forums, influenced design decisions which impact DNO requirements. Our suggested amendments which were approved, drove overall programme efficiencies and consequently reduced costs for all MHHS participants including DNOs. Some notable examples include:

- MHHS Change Request 18: Registration Service Operating Hours – this CR was approved and driven by SP ENW leading all DNOs and working with the MHHS Programme. It resulted in a reduction in costs to parties while still allowing the benefit attributable to key functional areas.
- MHHS Change Request 29: DIP LDSO Interface Processing – this CR was approved and driven by SP ENW and UKPN leading all DNOs and working with the MHHS Programme. It resulted in reducing costs and design, build and test complexity for all DNOs and improved the likelihood of completing MHHS qualification in time for M10.
- MHHS Change Request 40: Change to NFR E2E1009 for DNO & IDNO roles (LDSO, UMSO, Registrations) - this CR was approved and driven by SP ENW and UKPN leading all DNOs and working with the MHHS Programme. It resulted in negating design, build and test costs and removed the requirements to change existing systems to run more frequently unnecessarily and in absence of a business rationale for all DNOs, which could have impacted central systems programme readiness for M10.

Our contribution to change management will continue, with the new DIP change control governance pathway.

### Cost benefit analysis

This project has been driven by Ofgem regulatory and code requirements. The only option is to ensure compliance within the MHHS Programme plan and milestones during RIIO ED2, and to adopt/implement the solution in accordance with the design specification set. Therefore, we have not included a CBA for this project.

## Project 2 – National Energy Outage Platform (NEOP)

### Alignment with DSAP

Our NEOP expenditure aligns with our DSAP under section 4 'Network management & resilience' via automation to allow authorised stakeholders to view power outage data alongside data from other DNOs for a national picture of power outages.

### Alignment with overall business strategy and commitments

Our NEOP expenditure incurred, and forecast, is driven by a regulatory requirement (refer to needs case below for further detail) from DESNZ with the intent that all DNOs provide near real-time information about power outages from their live business systems, via Application Programming Interfaces (APIs).

### Demonstration of needs case/problem statement

The NEOP requirement was published in 2022, and the design was baselined in 2024 (refer to the detail on the timeline below). As such these costs were unknown during ED2 business planning and were confirmed after the start of ED2. We have included the key NEOP regulatory driven design decision milestone on our high-level programme plan.

In 2022, following Storm Arwen, BEIS (now DESNZ) produced an Energy Emergencies Executive Committee Storm Arwen Review Final Report. This review was a joint endeavour between government, industry and Ofgem with the aim of identifying lessons to be learned and actions to take forward. The report states the actions will drive improvements to Great Britain's electricity

network resilience to severe weather events. The report highlighted 47 actions for delivery by DNOs, Ofgem, BEIS and other government departments to improve network resilience, response and communication before, during and after a significant storm. The report concluded on page 34, under 'Additional Support' that "Information sharing is critical to effective local response coordination, in particular to supporting welfare: DNOs and their local resilience partners should work together to pre-agree type and format of information to be shared in severe events and where improvements to this can be made"/ Action L2 (page 37) required *"ENA to conduct scoping work into the development of a shared GB Power Cut mapping platform and provide outline of scale and cost of further development work"*. The reports executive summary (page 4) states that the 'Additional Support' actions have been identified to improve the quality of communication and information sharing between DNOs and local resilience partners, where coordination and cooperation are vital to ensuring public safety and welfare during major incidents.

In parallel, in 2022, Ofgem published a Final report on the review into the network's response to Storm Arwen Ofgem explained that this review was distinct, but complimentary to the review commissioned by BEIS and where appropriate Ofgem's recommendations align with the review. Ofgem set out an expectation in their report that DNOs will address these recommendations (page 8) Recommendation 11, required DNOs to work with Ofgem "*...to develop additional reporting metrics for communication channels, such as websites, applications, and social media."*

In 2023, DESNZ issued a letter 'Request for support to oversee the development of the National Energy Outage Platform' to the ENA Board Members detailing the Government's E3C commissioning of the ENA to oversee the development of the NEOP and the objectives of the NEOP and ministerial expectations for it, which were mirrored in the ENA scope document.

The BEIS review actions and Ofgem recommendations are Government and Ofgem requirements of DNOs and not optional and as such we consider these a regulatory requirement for completion.

The ENA established an ENA-hosted Working Group with DNOs. The Working Group was tasked with producing the requirements for a Proof of Concept (POC) for NEOP which included designing and agreeing the data fields and formats to meet the requirements defined by Ofgem, which were finalised in 2024 as follows:

- Research the structure, availability and timeliness of the data currently held by DNOs.
- Work with OFGEM/DESNZ to scope a prioritised list of reporting requirements.
- Create a common data schema (data template) that can be used to aggregate the data from the DNOs, in a way that will service the reporting requirements.
- Create a roadmap to understand when each DNO will be able to supply data in the agreed format.
- Work with whatever data that can be made available by DNOs in the short term, to create a Proof-of-Concept reporting dashboard
- Review progress and make recommendations for future developments.

NEOP is currently a central and consistent visualisation platform using APIs to gather information from the separate DNO systems and present it in a unified view. NEOP aligns with Ofgem's Storm Arwen report action, and its ultimate aim is for DNOs to provide near real-time information about power outages from their live business systems via an API

The costs in this project are for us to connect to and use the new centralised digital platform (Phases 1 and 2) and to provide a standardised API (Phase 3) to meet Government/Authority led real time power outage data requirements

## Approach to options assessment

Our approach was to work with other DNOs and stakeholders via the Working Group and design and deliver the preferred option for SP ENW to enable us to provide outage and Priority Service Register (PSR)[5] data.

## Stakeholder engagement and support

We have engaged with the following stakeholders:

- ENA
- Other DNOs via the working group
- SP ENW Digital Future Panel

## Whole system considerations

We collaborated with other DNOs via the ENA Working Group to enable efficiencies of resources and alignment on our approach during Phase 1 and Phase 3 (see below).

## Options considered

We needed to deliver against DESNZ June 2023 letter NEOP requirements. Our options were therefore limited to where we internally sourced the data, as part of Phase 2. Our project comprises of the following three phases:

- Phase 1: Proof of concept for all DNOs - This Phase was in keeping with the requirements for DNOs to work with whatever data that can be made available by DNOs in the short term, to create a Proof-of-Concept reporting dashboard. Consequently, SP ENW designed an API based on an API format to enable data feeds to NEOP. This was the only option, agreed via the ENA Working Group whilst acknowledging and accepting not all the data fields would be populated up to end of March 2026.
- Phase 2: Inclusion of SP ENW PSR data - to deliver the most effective solution for SP ENW and we explored the following options:
    - Option 1 – Use our SP ENW Strategic Data Platform (SDP)[6]
    - Option 2 –Use our SP ENW Network Management System (NMS)

  This Phase is in keeping with the requirements for DNOs to work with whatever data that can be made available by DNOs. This version of the NEOP would be decommissioned and replaced with a permanent solution as part of Phase 3 activity.
- Phase 3 – Standardised API, provided by all DNOs - As the existing NEOP centralised platform (agreed and implemented under Phase 1) will be decommissioned by the end of March 2026, we are currently exploring the standardisation of a new API in common with all other DNOs. Authorised third party users will be able to access and consume the data directly from all DNOs via a standard schema and format, with a centralised platform no longer being required This Phase is in keeping with the requirements for DNOs to review progress and make future developments.

[5] *All Suppliers and DNOs are required under the licence to provide free PSR service. The PSR provides extra support to eligible consumers in a range of situations, including when there's an interruption to their energy supply, like a power cut. For SP ENW our PSR is called our Extra Care Register.*
[6] *The Strategic Data Platform (SDP) is an in-house developed repository of operational data and is primarily used for reporting purposes.*

## The preferred option

Our options were limited to Phase 2 and the selection of the source of our outage and PSR data. We chose Option 2 'Use of our Network Management System' as it delivers the most up to date data., therefore meeting our required specification.

The following describes our three-phase approach:

- Phase 1 – ENA created an API for us to communicate with the NEOP. Access to this version of NEOP is limited and requires secure sign in. We were required to understand and agree the API format and the communication software developed for SP ENW to utilise.
- Phase 2 – Extract and load our Power Outage and PSR data - we choose option 2 for 'Use of our SP ENW NMS" which delivers our latest data to NEOP via:
    - Continuously extracting our power outage and PRS data from NMS via a live data feed
    - Using the communication software developed in Phase 1 to summarise, transform and load the extracted data into the format required by the NEOP.

[redacted]

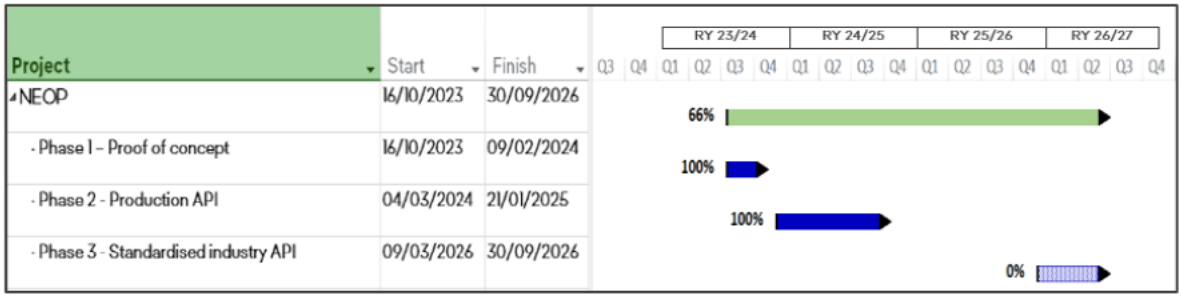
- Phase 3 – will be developed in 2026 to revised requirements, including service level agreements.

## Delivery

We have successfully completed Phase 1 and 2. We will focus on completion of Phase 3 for the remainder of ED2. Refer to Figure 9 for a breakdown of deliverables completed and to be completed for the remainder of ED2. This delivery breakdown aligns with our costing breakdown.

*Figure 9: Breakdown of deliverables completed and to be completed*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| Completed | | | |
| • Phase 1 – Proof of concept for all DNOs | 100% | 16/10/2023 | 09/02/2024 |
| • Phase 2 – Inclusion of SP ENW PSR data | 100% | 04/03/2024 | 21/01/2025 |
| To be completed for the remainder of ED2 | | | |
| • Phase 3 - Standardisation of the API for all DNOs | 0% | 09/03/2026 | 30/09/2026 |



## Key risks and mitigating controls

| Title | Details | Mitigating controls |
|---|---|---|
| [redacted] | | |

## Customer Benefits

This project will deliver the following customer benefits following completion of all three Phases:

- Enhanced Outage Visibility & Coordination – near real-time outage data to be shared through accessible APIs, enabling our customers and stakeholders to access up-to-date SP ENW information directly via NEOP. This empowers improved coordination during major incidents and enhances transparency in our distribution area.
- Improved Incident Management - by consolidating power outage visibility across our distribution area, NEOP supports us to deliver a faster, more efficient response during widespread power outages.

## Costings

The NEOP investment for SP ENW is £0.13m. Appendix 5 provides the cost breakdown in a RIIO-ED2 cost data table template to enable ease of reporting

There are no uncertain costs for this NEOP project as the first two phases of the project are complete and the remaining activity for Phase 3 of £0.07m is a combination of in-house resource and a negligible reliance on third party providers. We were able to remove the level of uncertainty via implementing cyber security protections against a cyber threat of DDoS attack on the API. This work is completed, and the costs are part of completed deliverables.

As this project delivers a regulatory driven change, there is no do-nothing option. We consider the Digitalisation re-opener as the best suited re-opener. The scope of work and objectives for the NEOP were not developed enough for inclusion in the Storm Arwen re-opener window, This rationale was provided in our Storm Arwen re-opener submission - page 26 section 5.1. Efficiency in the level of investment

Whilst this project was driven by regulatory change and design decisions outside of our direct control, we are able to demonstrate efficiency for the level of investment as follows:

- We collaborated with other DNOs on the proof-of-concept design, and we continue to collaborate with other DNOs on standardisation of APIs. This collaboration has enabled efficiencies in design and the ability for us all to connect to and use the same NEOP platform in the early phases and evolve the design to enable direct provision of data via APIs to authorised third parties for the final phase
- We removed uncertainty of cyber threat DDoS attacks on the API via implementing cyber security protections. This work is completed and has enabled avoided costs of managing cyber-attacks after the threat has occurred.

## Cost benefit analysis

This project has been driven by DESNZ and Ofgem regulatory requirements. The only option is to ensure compliance during RIIO ED2, and to adopt/implement the solution in accordance with the design specification set. Therefore, we have not included a CBA for this project.

# Project 3 – DSI

## Alignment with DSAP

Our DSI expenditure aligns with our DSAP under Section 5 'Distribution System Operation' via automation to be able to use and active participate in the new DSI.

## Alignment with overall business strategy and commitments

Ofgem have set an expectation that we (along with other licensees) will be required to use and actively participate in the DSI through a licence condition from mid-2026 (refer to the needs case for the detail and timeline which led to this regulatory driven requirement). As such, we will have a business requirement to prepare for and comply with the new licence condition during ED2.

## Demonstration of needs case/problem statement

The regulatory requirement for DSI was decided upon in 2025, as such these costs were unknown during ED2 business planning and were confirmed after the start of ED2. We have included the key regulatory decision milestone on our high-level programme plan.

DESNZ funded a Digital Spine Feasibility Study in which architecture for a DSI was proposed. The DSI is a decentralised digital technological solution to enable secure and standardised data exchange between energy system participants. In 2025, Ofgem appointed NESO as the Interim DSI Coordinator to establish the DSI pilot scheme up until 2028 using this architecture. NESO is the Independent System Operator (ISOP) for Great Britain (GB) and are responsible for the operation, maintenance and development of the transmission system.

In October 2025, in the Sector Specific Methodology Consultation (SSMC) ED3 (sections 5.18 to 5.22) and at the SSMC ED3 meeting in November, Ofgem confirmed:

- DNOs will be required to use and actively participate in the DSI through a licence condition from mid-2026
    - 'Use' of the DSI includes deployment of a Data Sharing Node and adherence to Trust Framework
    - 'Active participation' – measured qualitatively and reported through Service Level Agreements (SLAs.)
- ED3 Business Plans should show proposed engagement with, and investment towards, the DSI
    - Includes direct investment and indirect investment (e.g. enabling spend such as investment in data security, interoperability etc)
    - Where applicable, investments should signal how they intend to use the DSI (in particular, the core principles of interoperability, discoverability and standardisation)
- The SSMC approach as:
    - DSI will be monitored through SLAs
    - DSI metrics will be qualitative e.g. through use-case coverage, engagement with the technical solution.

Whilst the detail of the new DSI licence modification is expected during 2026, for the purposes of this submission, we anticipate we will ultimately make data available via the DSI through a locally developed interface.

## Approach to options assessment

Our project delivery plan will be driven by the forthcoming licence condition and the NESO plan for delivery. Whilst we are awaiting the detail, we are monitoring and tracking Ofgem and NESO sharing their views of how DSI will be used in two major projects:

- Regional Energy Strategy Planning (RESP)[7] lead by NESO
- Connections end to end review[8] led by Ofgem

We understand that the latest thinking from the live Ofgem consultation is that:

- the DSI will have functionality to allow organisations to validate participants' identities, as well as configure and control different access levels for different types of participants on a use case basis, making it a trustworthy and secure solution for sensitive data exchange.
- the DSI is currently in its early development stages, with the aim of a minimum viable product (MVP) being ready by Q1 2027.

As such our DSI project approach will be mindful of recommendations and expectations from these projects and will continue to track and monitor progress.

## Stakeholder engagement and support

We have engaged with NESO and other DNOs via the ENA Data and Digitalisation Work Group.

In addition, we engaged with the SP ENW Digital Futures Panel on our Digitalisation re-opener portfolio of projects. One of the Panel members suggested we provide clarity on the distinction between this project and the GC0139 project as they were aware that the GC0139 project had been used as a case study in the early stages of DSI development. We agreed to act on this feedback and committed to making this distinction clear in this re-opener submission. We discussed this Panel member feedback with our lead for the GC0139 modification have addressed this feedback as follows:

- the GC0139 modification workgroup has developed the data requirements that describe electricity systems (transmission and distribution) in a model format that can be used for steady state and fault-flow power system analysis. The legal text has been developed and approved by the Grid Code Review Panel. The data exchange format will be based on the CGMES v.3 CIM standard with appropriate extensions. Whereas this DSI project is a digital hardware/architecture project facilitating secure data transfer between network companies and others. As such we would securely exchange GC0139 CIM format models across the DSI infrastructure.

## Whole system considerations

We have engaged with other DNOs and NESO via the ENA Data and Digitalisation Work Group.

## Options considered

We are reliant on the NESO design and development of the DSI and forthcoming licence conditions. As such the following activity, costs, preferred option and timelines are uncertain.

## The preferred Option

We will deliver new functionality to enable us to make data available to the DSI through a locally developed interface  We will mobilise a project team to work with NESO during the design and

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[7] *Draft RESP Guidance – Section 2.23 download - NESO*
[8] *Connections End-to-end Review – Updated Proposals and Next Steps – Section 1.101 Flexibility Digital Infrastructure: Strategic direction setting*

development phase, which will become a full SP ENW project phase for build and delivery. It is anticipated that we will utilise our framework partners to deliver the new functionality in the initial stages.

### Delivery

We will deliver:

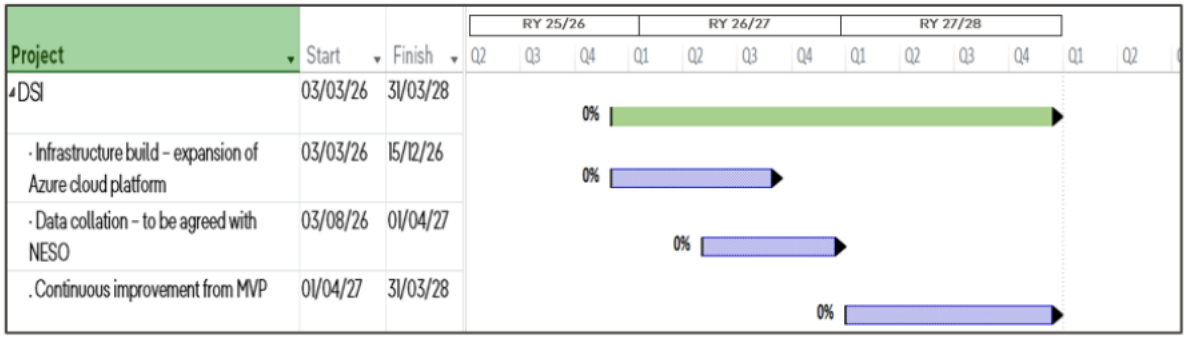
1. infrastructure build - to enable data to be made available to the DSI This will be an expansion of our Azure cloud platform.
2. Data collation - as the use case is not yet agreed between NESO and stakeholders our plan is indicative at this stage.

We understand that NESO is developing formal data definitions, dictionaries, and taxonomies. NESO intends to align these definitions with the current onboarding guidance for the DSI, ensuring these definitions can flow into the DSI backlog for full automation in future cycles.

Work would commence at the end of RY 25/26 and complete at the end of RY 26/27. The MVP will be completed by the end of RY 26/27, followed by continuous improvement of the MVP until the end of RY 27/28. Refer to Figure 10 for a breakdown of deliverables to be completed for the remainder of ED2. This delivery breakdown aligns with our costing breakdown.

*Figure 10: Breakdown of deliverables to be completed*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| To be completed for the remainder of ED2 | | | |
| • Infrastructure build – expansion of Azure cloud platform | 0% | 03/03/2026 | 15/12/2026 |
| • Data collation – to be agreed with NESO | 0% | 03/08/2026 | 01/04/2027 |
| • Continuous improvement from MVP | 0% | 01/04/2027 | 31/03/2028 |




### Key risks and mitigating controls

| Title | Details | Mitigating Actions |
|---|---|---|
| Data is unavailable | There is a risk the data is unavailable in our systems which is being requested as part of use cases. | We will continue to monitor design development and Ofgem expectations on use cases for the DSI. Therefore, we can address data gaps in a timely manner. |

| Title | Details | Mitigating Actions |
|---|---|---|
| Uncertainty in national DSI design | There is a risk the role of DNOs and scope of the design of DSI may change. | We will continue to monitor design development and Ofgem expectations on use cases for the DSI.<br>We will mobilise a project team to work with NESO during the design and development phase, which will become a full SP ENW project phase for build and delivery. |

### Customer Benefits

DSI will be an important enabler for:

- supporting more informed, joined up and evidence-based regional planning
- embedding user needs from Local Authorities into the design process
- drive efficiencies in the connections end to end process for customers

### Costings

[redacted] Appendix 5 provides the cost breakdown in a RIIO-ED2 cost data table template to enable ease of reporting

We consider the use of the Digitalisation re-opener the best suited recovery mechanism for recovery of these costs for a digital solution to a regulatory driven change, for which the design was unknown during ED2 business planning, and which were driven by regulatory requirements decided upon and published in winter 2025. Ofgem also confirmed in the SSMC ED3 consultation[9] that they also consider that DSI activities in RIIO-ED2 fall within the scope of the Digitalisation reopener (paragraph 5.21 – page 100).

The costs related to data collation remain uncertain as the use case is not yet agreed between NESO and stakeholders. Our mitigation control is to plan to reduce uncertainty as much as possible and establish data validation protocols and automated quality checks

As this project delivers a regulatory driven change, there is no do-nothing option as this would result in SP ENW being non-compliant.

### Efficiency in the level of our investment

We are demonstrating efficiency in the level of our investment:

- by engagement and influencing design and participant requirements to ensure value for money for customers whilst delivering industry requirements.
- by limiting resources to monitoring and engagement with NESO in the design phase

### Cost benefit analysis

This project has been driven by Ofgem regulatory requirements. The only option is to ensure compliance during RIIO ED2, and to adopt/implement the solution in accordance with the design specification set  Therefore, we have not included a CBA for this project.

[9] *Paragraph 5.21 of the SSMC states "We also consider that DSI activities in RIIO-ED2 fall within the scope of the Digitalisation reopener.*

# Project 4 – CLASS phase 3

## Alignment with DSAP

Our Customer Load Active System Services (CLASS) Phase 3 project aligns with our DSAP under section 5 'Distribution System Operation' via implementation of the final phase of proven mature innovation to adapt to changing regulatory drive markets.

## Alignment with overall business strategy and commitments

Our CLASS Phase 3 expenditure incurred, and forecast is driven by regulatory approved Ofgem changes for NESO to amend balancing services in line with NESO balancing requirements replacing Optional Fast Reserve (OFR) services with Slow Reserve (SR) and Quick Reserve (QR) services. Our CLASS Phase 3 aligns with our existing RIIO-ED2 plan by enabling us to continue to offer the CLASS solution – a world-leading technology used to balance the UK's grid while saving carbon and money for customers.

In addition, Ofgem's view in their Sector Specific Methodology Consultation (SSMC) ED3[10] under paragraphs 5.90 and 5.110 is that CLASS is innovation and best practice has increased flexibility capacity through temporary demand reduction and this is a form of improving voltage management/optimisation which is being proposed in ED3.

NESO as the Independent System Operator (ISOP) for Great Britain (GB) and are responsible for the operation, maintenance and development of the transmission system and they must adhere to Article 18 of the Commission Regulation (EU) 2017/2195 in establishing a guideline on electricity balancing (EBGL), as amended by the Electricity Network Codes and Guidelines (Markets and Trading) (Amendment) (EU Exit) Regulations 2019. In accordance with Article 18 of the EBGL, NESO was required to develop a proposal regarding changes to terms and conditions which Ofgem approved in July 2025, constituting a change in Regulatory Requirements.

At certain times of the day, NESO need access to sources of extra power in the form of either increased generation or demand reduction to keep the electrical frequency stable. This enables them to manage lower than expected generation or a greater than forecast electricity demand on GB's transmission system. Providers can offer generation or demand reduction in different NESO 'reserve services' markets if they meet the requirements set for the market (by NESO) which include factors such as speed of delivery.

In July 2025, Ofgem approved changes for NESO to replace the Optional Fast Reserve (OFR) market with the SR and QR markets to meet NESO's evolving balancing service needs. Ofgem's decision letter refers to the changes expanding the pool of service providers and that this could enable greater market participation and therefore increase competition in the service, with benefits to the GB consumer of price competition and improved system security. Ofgem's decision also referred to this change supporting the Government Clean Power 2030 Action Plan.

## Demonstration of needs case/problem statement

SpC 3.2.59(a)(i) allows the Digitalisation re-opener to be used in instances where licensees have incurred costs as a result of changes in legislation, licences, regulatory requirement or industry codes, where as a result new or significantly altered digital services are required to be provided through Authority-implemented energy sector reforms.

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[10] *Paragraph 5.90 of the SSMC states "We believe that the increased network build proposed in ED3, along with investment in improved voltage management, can contribute to: increasing flexibility and capacity on the system, both through supporting the rollout and operation of flexible low carbon assets, and by providing increased flexibility capacity through temporary demand reduction, as initially developed through the Electricity North West project Customer Load Active System Services (CLASS)", Paragraph 5.110 " Innovation and best practice. DNOs have trialled various innovations including...,voltage optimisation (e.g CLASS...)".*

The regulatory requirement for CLASS Phase 3 was proposed by NESO and subsequently approved by Ofgem in 2025, as such these costs were unknown during ED2 business planning and were confirmed after the start of ED2  As mentioned above, Ofgem published their view in November 2025, that CLASS is an example of how to improve voltage management for ED3 proposals  We have included the key regulatory decision milestones on our high-level programme plan.

Our CLASS service is a demand reduction solution which uses voltage control to manage electricity consumption from our customers. It is achieved by lowering the tap changers[11] on the transformers[12] at CLASS enabled substations[13] to help NESO to balance the national demand and supply of electricity and maintain security of those supplies.

In DPCR5 we successfully delivered the CLASS project using Low Carbon Network innovation funding. CLASS showed how demand can be varied using voltage control. In ED1, CLASS became business as usual and now in ED2, CLASS is frequently used by NESO to manage frequency and system security.

*[11] A tap changer is a mechanism in transformers that enables the adjustment of the voltage ratio by selecting different connection points, known as taps, along the primary or secondary windings. This adjustment is crucial for maintaining voltage stability in electrical power systems, especially as load conditions fluctuate.*

*[12] A transformer is a passive electrical device that transfers electrical energy between circuits through electromagnetic induction, primarily used for voltage conversion.*

*[13] A substation contains the specialist equipment that allows the voltage of electricity to be transformed (or 'switched'). The voltage is stepped up or down through pieces of equipment called transformers, which sit within a substation's site.*

[redacted]

## Approach to options assessment

[redacted]

## Stakeholder engagement and support

Whilst the Ofgem re-opener guidance states that stakeholder engagement may not be necessary where the application is driven by statutory obligations, we have engaged with the following stakeholders:

- NESO (as the ISOP) throughout NESO's development of Slow Reserve and Quick Reserve requirements including the formal consultations as well as a range of other routes
- Ofgem (the Decentralised Energy Systems team and Electricity Systems Operations team and others) in responding to and engaging with QR and SR consultations and on CLASS more generally

[redacted]

- SP ENW Digital Futures Panel

## Whole system considerations

There has been no whole system collaboration with other network companies as Regulation on wholesale Energy Market Integrity and Transparency (REMIT) market rules prevent our collaborating with other potential providers to avoid the perception or accusations of market manipulation. CLASS is also a solution currently only provided by SP ENW. General information on how to follow energy trading rules are provided by Ofgem.

## Options considered

[redacted]

## The preferred Option

[redacted]

[redacted]

## Delivery

Our delivery approach is a combination of in house, outsourced, and third-party resource to ensure we have access to the relevant skills at the required time to meet the delivery timelines.

Our reporting mechanisms to monitor delivery are in line with standard project governance which includes a weekly status report to the SP ENW IT governance forum, a monthly Project Sponsor Group with key stakeholders to update on progress, risks and blockers, and regular Sponsor checkpoints to maintain alignment.

We have progressed all four workstreams and will focus on completion in 2026. Refer to Figure 11 for a breakdown of deliverables to be completed for the remainder of ED2. This breakdown aligns with our costing breakdowns.

*Figure 11: Breakdown of deliverables completed and to be completed*

[redacted]

## Key risks and mitigating controls

[redacted]

## Customer Benefits

The CLASS Phase 3 project would enable us to continue to provide the following benefits to our customers:

- CLASS revenue shared with customers providing an overall reduction in the customer's electricity bill.
- Reduces carbon with the technology used by displacing other providers from the market with higher emissions including gas generators.
- Provides additional flexibility to NESO to assist with system balancing
- Reduces GB consumer bills by displacing more expensive sources of balancing reserve from the market.

[redacted]

CLASS income is shared between SP ENW and SP ENW customers. Our CLASS costs and income are reported under Regulatory Instructions and Guidance (RIGs) for RIIO-ED2 through Directly Remunerated Service 16 (DRS16. Distribution Network Voltage Control Services). In contrast to other DRS costs, DRS 16 is then added into our Totex, which means that customers share both the benefits and costs with SP ENW through the Totex Incentive Mechanism (TIM). Consequently, if there are additional costs for a particular year (such as these costs driven by NESO Article 18 changes to the markets), these will be deducted from the income. This would result in disproportionate costs to customers for the affected years, due to the costs incurred within the year being deducted from any income earned in that year.

Although the customer position will be neutral, our Totex position will be negatively affected by 49.4% of the cost of the CLASS Phase 3 project costs. As the changes causing these costs were not foreseen at the start of RIIO-ED2, we could not have requested any allowances to cover these costs. Therefore, when our Totex performance is calculated, we will have appeared to have incurred an overspend in this area.

In the example below, we have used illustrative figures to show how having no allowance for the CLASS Phase 3 project will impact the reported Totex performance. In case B, if costs are recovered through Totex allowances, rather than from CLASS income through DRS 16 as shown by case A, we would report a neutral or underspend position on Totex. If the costs are borne through DRS 16, we would report an overspend.

*Figure 12: Impact of CLASS Phase 3 costs on Totex allowances (income value is for illustrative purpose)*

| | | Case A No Re-opener | | | Case B Re-opener | | |
|---|---|---|---|---|---|---|---|
| | | BAU | Class Phase 3 | Total | BAU | Class Phase 3 | Total |
| | | £m | £m | £m | £m | £m | £m |
| DRS 16 | Costs | 1.0 | 2.2 | 3.2 | 1.0 | | 1.0 |
| | Income | 2.0 | 0.0 | -2.0 | -2.0 | 0.0 | -2.0 |
| Re-opener/Totex | | | | 0.0 | | 2.2 | 2.2 |
| Totex Actuals | | -1.0 | 2.2 | 1.2 | -1.0 | 2.2 | 1.2 |
| Additional allowance | | | | 0.0 | | | 2.2 |
| Totex Actuals v Allowance (positive = overspend, negative = underspend) | | | | 1.2 | | | -1.0 |

| Shared TIM performance outcome (positive = overspend, negative = underspend) | | | |
|---|---|---|---|
| | TIM sharing rate% | £m | £m |
| Customer | 50.6% | 0.62 | -0.51 |
| Company | 49.4% | 0.61 | -0.05 |

## Costings

The CLASS Phase 3 project investment is £2.23m. Appendix 5 provides the cost breakdown in a RIIO ED2 cost data table template to enable ease of reporting

We consider the use of the Digitalisation re-opener the best suited mechanism for these costs. They are for a digital solution to a regulatory driven change, which was unknown during ED2 business planning, and are driven by regulatory requirements decided upon and published in summer 2025. We do not consider a Load re-opener to be best suited to this project as the outputs are not impacting (reinforcing/replacing/upgrading) our network assets or infrastructure. We have recently undertaken (submission in January 2025 and Ofgem Decision in December 2025) a Load Related Re-opener (LRR) process which requires all of our load related expenditure programme to be submitted and assessed by Ofgem It would be disproportionate for SP ENW, Ofgem and stakeholders to do an additional LRR for a CLASS funding request.

[redacted]

This project is being proposed during ED2 as it is in the interests of customers and builds a pathway for meeting Ofgem ED3 expectations.

## Efficiency in the level of our investment

Whilst this project was driven by regulatory change and design decisions outside of our direct control, we were able to demonstrate efficiency in the level of our investment as follows:

## Project 5 – Whole Data Exchange GC0139

### Alignment with DSAP

Our Whole Data Exchange GC0139 project (referred to as GC0139 for ease) is centred around the planning data exchange Grid Code modification GC0139 (Enhanced Planning – Data Exchange to Facilitate Whole System Planning), proposed by SP ENW. This modification aligns with our DSAP under section 4 'Network management & resilience' via automation to implement Grid code change GC0139 to improve data exchange and facilitate transition to a smart, flexible energy system.

### Alignment with overall business strategy and commitments

Expenditure incurred and forecast to be incurred in the development and implementation of Grid Code modification GC0139 requirements is driven by an industry code change which requires Authority consent. Similar to our MHHS Project, this project involves changes to an industry code - in this case, the Grid Code - which sets of the technical rules and standards for connecting to and using the National Electricity Transmission System (NETS) in Great Britain. As with all industry code, the Grid Code is updated to keep pace with technological advancements and government polices ensuring that they meet the needs of consumers and support government strategy and legislation.

Grid Code Modification GC0139 proposal document, describes a defect of the existing requirements of the Grid Code (in respect of data exchange between DNOs and NESO) being insufficient for the coordinated and efficient planning of their networks as the industry transitions towards a smart energy system and distribution operation activities. GC0139 seeks to increase the scope and detail of planning data exchange between DNOs and NESO to help facilitate the transition to a smart, flexible energy system by aligning certain data exchange processes and providing greater granularity of data at a wider range of operating conditions. SP ENW proposed this code modification which is subject to Authority consent.

The modification is expected to have a high impact on DNOs in addition to NESO and Transmission Operators.

### Demonstration of needs case/problem statement

Ofgem will decide upon GC0139 in 2026, as such these costs were unknown during ED2 business planning and were confirmed after the start of ED2. We have included the key regulatory decision milestones on our high-level programme plan.

The existing requirements of the Grid Code, in respect of data exchange between DNOs and NESO, are insufficient for the coordinated and efficient planning of their networks. As the industry

transitions to a smart energy system, these requirements must change to give DNOs and NESO better visibility of each other's electricity system and its operation.

To facilitate the efficient and coordinated planning:

- of the Transmission System: NESO and other Transmission Owners (TOs) need a greater understanding of system power flows and fault contributions and, the quantity, type, and impact of distributed energy resources connected to distribution networks.
- of distribution networks: DNOs need a greater understanding of Transmission System power flows and fault contributions in a variety of demand and generation scenarios.

Modification GC0139 solution is for enhanced level of planning data exchanged between DNOs and NESO; the data exchanged will largely be in a Common Information Model (CIM) format, supplemented by data from DNOs an Excel Workbook format. Data exchanges will take place twice a year between NESO and DNOs.

Once this code modification has Ofgem approval and is implemented (which is anticipated to be 01 January 2027, we will be required to comply with the industry code requirements to have the capability to produce power system models in the CIM format, based on the Common Grid model Exchange Standard (CGMES) v3 standard with required extensions and deviations, to meet the data exchange requirements of the Planning Code. It will also require NESO to extend its current CIM capability to produce a power system model of the National Electricity Transmission System (NETS) or produce a bespoke NETS equivalent model for each DNO in CIM format.

### Approach to options assessment

As is the current standard governance pathway for industry code modification developments a working group was established by the Grid Code Administrator NESO, which adheres to an approved terms of reference The Workgroup discuss the issue, the scope of the identified defect, devise potential solutions and assess the proposal in terms of the Applicable Grid Code Objectives. This modification GC0139 has been refined and consulted upon via the GC0139 Working Group with Grid Code parties. For example, one area where the workgroup considered four options was regarding the periodic data submission by DNOs as follows:

- Option 1 – Minimum number of CIM files, augmented with Bulk Supply Point Schedules to reflect all the forecast scenarios
- Option 2 – All Cardinal Point Scenarios in CIM files Public
- Option 3 – the use of Steady State Hypothesis (SSH) files which may be used reduce the need to either:
    I. present different demand scenario data in excel spreadsheets (Option 1); or
    II. reduce the number of CIM files that need to be exchanged (Option 2)
- Option 4 – Minimum number of CIM files Augmented with GSP Schedules to reflect all forecast scenarios

The workgroup preferred Option 4 and agreed to proceed on this basis.

### Stakeholder engagement and support

The GC0139 workgroup was chaired by the NESO as Grid Code Administrator and its members includes DNOs, NESO as the ISOP.

In addition, we engaged with the SP ENW Digital Futures Panel on our Digitalisation re-opener portfolio of projects. One of the Panel members suggested we provide clarity on the distinction between this project and the DSI project as they were aware that this project had been used as a case study in the early stages of DSI development. We agreed to act on this feedback and

committed to making this distinction clear in our submission. We have addressed this feedback as follows:

- GC0139 modification workgroup has developed the data requirements that describe electricity systems (transmission and distribution) in a model format that can be used for steady state and fault-flow power system analysis. The legal text has been developed and approved by the Grid Code Review Panel. The data exchange format will be based on the CGMES v.3 CIM standard with appropriate extensions. Whereas this DSI project is a digital hardware/architecture project facilitating secure data transfer between network companies. As such we would securely exchange GC0139 CIM format models across the DSI infrastructure.

### Whole system considerations

This modification has considered other stakeholders views such as DNOs and NESO during refinement and development via the dedicated working group. A copy of the work group terms of reference and membership is available here For example, during refinement of the modification, six respondents to a consultation expressed concerns with the original implementation timescale of January 2026 questioning the ability of reasonably and practically achieving transition to a CIM data exchange methodology in that timescale. Consequently, the implementation date was altered to January 2027. Workgroup members fed back that this alteration allowed their software vendors, Network Operators and NESO to better prepare for implementation.

### Options considered

Whilst the GC0139 workgroup acknowledges this solution represents a significant increase in workload for NESO and the DNOs the proposal represents the most efficient way to exchange the enhanced data required as the industry transitions to a smart energy system and assist NESO, TOs and distribution system operators to better facilitate grid code objectives. The work group unanimously concluded in the GC0139 Work Group report (workgroup conclusion page 4) that the Original Proposal better facilitated the Applicable Grid Code Objectives than the baseline.

### The preferred Option

The GC0139 workgroup have collectively agreed this modification will require:

- The establishment of a CIM interface point agreement system.
- The establishment of a CIM governance body for Great Britain; and
- A secure data exchange platform to facilitate the exchange of data between NESO and the DNOs.

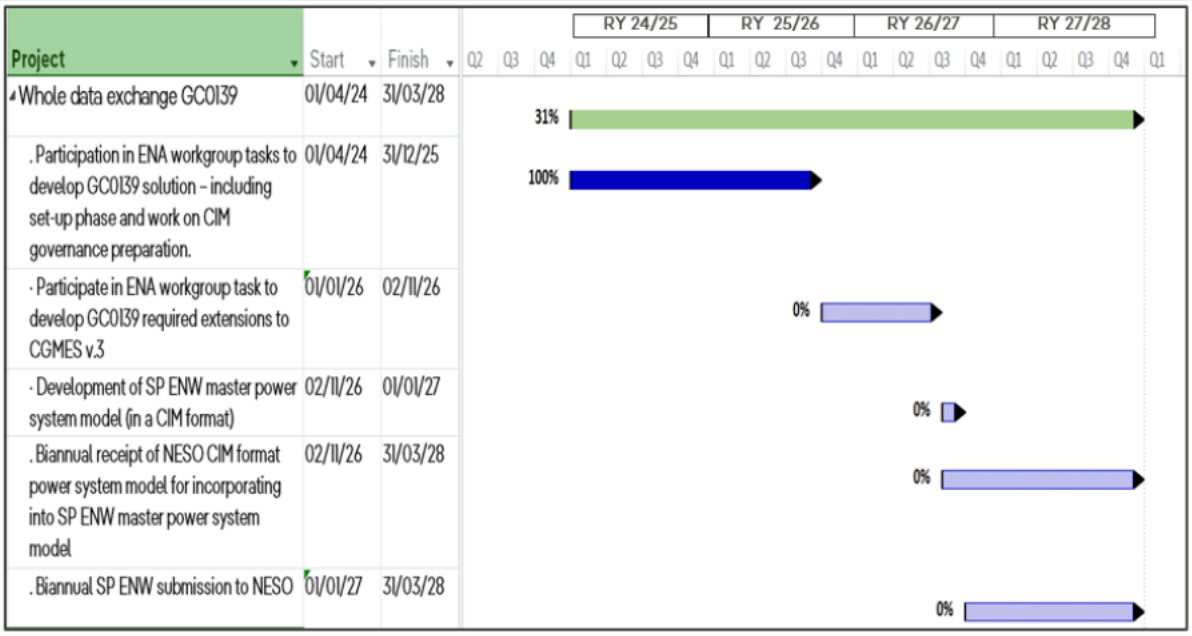
Our powerflow analysis system has the capability to produce CIM format models that comply with the requirements of the Long Term Development Statement (LTDS - SLCCL25). The data requirements to comply with the requirements of GC0139 are more extensive that those of the LTDS, therefore the capabilities of our Powerflow analysis system will need to be extended to meet the GC0139 requirements in respect of CIM.

### Delivery

Work has been completed on the early stages of set up, development and CIM governance preparation. The next stage of work would commence at the end of RY 25/26 once the modification has been approved by Ofgem and the changes are implemented. Refer to Figure 13 for a breakdown of deliverables completed and to be completed for the remainder of ED2. This delivery breakdown aligns with our costing breakdown.

*Figure 13: Breakdown of deliverables completed and to be completed*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| Completed | | | |
| • Participation in ENA workgroup tasks to develop GC0139 solution – including set-up phase and work on CIM governance preparation. | 100% | 01/04/2024 | 31/12/2025 |
| To be completed for the remainder of ED2 | | | |
| • Participate in ENA workgroup task to develop GC0139 required extensions to CGMES v.3 | 0% | 01/01/2026 | 01/11/2026 |
| • Development of SP ENW master power system model (in a CIM format) | 0% | 01/11/2026 | 01/01/2027 |
| • Biannual receipt of NESO CIM format power system model for incorporating into SP ENW master power system model<br><br>*subject to Ofgem approving the modification with a commencement date of 01/01/2027* | 0% | 01/01/2027 | 31/03/2028 |
| • Biannual SP ENW submission to NESO<br><br>*subject to Ofgem approving the modification with a commencement date of 01/01/2027* | 0% | 01/01/2027 | 31/03/2028 |




## Key risks and mitigating controls

| Title | Details | Mitigating controls |
|---|---|---|
| Implementation date delayed | There is a risk that this change does not commence in January 2027. | Project start will be deferred to the commencement date as approved by Ofgem. |

## Customer Benefits

Whilst the GC0139 Proposal Form (page 7) states that there are no direct consumer impacts it does state that better network planning will enhance the development of smart networks and provide consumer benefit through this. Whilst the modification does not elaborate on this benefit, we see these indirect customer benefits from enhanced smart electricity networks as being:

- Greater visibility of distribution network data will allow NESO to plan for increased security of the transmission system.
- Greater visibility of transmission system data will allow DNOs to plan for increase security of their distribution networks.
- Greater knowledge of transmission and distribution systems and the ability to quickly undertake Powerflow analysis across the transmission/distribution boundary will enhance and speed up SP ENW connection offers
- Facilitate the transition to a smart, flexible energy system by aligning certain data exchange processes
- Providing greater granularity of data at a wider range of operating conditions.

## Costings

[redacted] Appendix 5 provides the cost breakdown in a RIIO-ED2 cost data table template to enable ease of reporting.

There are no uncertain costs, however our biannual receipt of NESO CIM format instructions and biannual submission of our data is subject to Ofgem approving the code modification with a commencement date of 01/01/2027. We have identified this as a risk and our mitigation action would be to defer these activities

As this project delivers a regulatory driven change, there is no do-nothing option as this would result in SP ENW being non-compliant with the Grid Code

## Efficiency in the level of our investment

Whilst this project will be driven by regulatory change and design decisions outside of our direct control and subject to recommendations by the Grid Code dedicated GC0139 Working Group, approval of the Grid Code Panel and Authority determined, we were able to demonstrate efficiency in the level of our investment as follows:

- Our collaboration with other DNOs, NESO and other stakeholders via the GC0139 modification work group has enabled the whole system design of the most efficient way to exchange the enhanced data required.

## Cost benefit analysis

This project has been driven by Ofgem approved code changes. The only option is to ensure compliance during RIIO ED2, and to adopt/implement the solution in accordance with the design specification set  Therefore, we have not included a CBA for this project.

## 2.2. Driver 2 – Mature Innovation

### Project 6 – Celsius +

#### Alignment with DSAP

Our Celsius+ project aligns with our DSAP under section 5 'Network Management and Resilience' via implementation of proven mature innovation Celsius technology to the next tranche of substations.

#### Alignment with overall business strategy and commitments

Previously, under an Ofgem approved Network Innovation Competition (NIC) project (named Celsius) we trialled thermal monitoring at 520 substations across our network and installed a range of retrofit cooling technologies at 100 of the trial sites. Both techniques reduce long term costs for customers, avoid early asset replacement and prepare the network for renewable energy.

Ofgem's view in their Sector Specific Methodology Consultation (SSMC) ED3[14] under paragraph 8.36 is that Ofgem are keen that DNOs under ED3 demonstrate DNO commitments to driving better outcomes, from successful innovation projects. We view this project as a pathway from ED2 to ED3 and response to Ofgem's view that innovation remains central to the price control framework and DNOs need to do more and deploy high-quality innovation (paragraph 5.57)

In regard to the reference under SpC3.2.59 (c), the Celsius+ project enables us to better fulfil the following Standard Licence Conditions (SLCs)

- SLC 12.1 – 'Agreement for Use of System' in relation to our requirement to offer terms for Use of System and connection: this project enables us to reduce connection times for both demand and supply customers by increasing available network capacity and reducing the requirement to reinforce.
- SLC 49.2 -Licensee's obligation to manage Distribution Losses: in relation to our requirement to design, build, and operate our Distribution System in a manner that can reasonably be expected to ensure that Distribution Losses are as low as reasonably practicable, this project provides valuable advanced asset and demand temperature data (losses are a contributor to heating up our assets) about substations which enables us to better operate and manage the health of our assets.

#### Demonstration of needs case/problem statement

We are currently understanding and working on developing our ED3 business plan, accounting for the latest guidance published by Ofgem as part of their ED3 methodology and framework. These costs were uncertain during ED2 business planning and were confirmed after the start of ED2 and form part of our pathway from ED2 to ED3. We have included the key ED3 methodology/framework milestones on our high-level programme plan.

Celsius+ is the next phase for mature innovation implementation by installing thermal monitoring and then measuring asset and ambient temperatures to provide more advanced asset and demand data.

In our drive to improve access to our network we are constantly investigating ways to gain a better understanding of our network, in this instance our low-voltage network. The Celsius innovation project demonstrated that by having a better understanding of both the ambient temperature of

[14] *Paragraph 8.36 of the SSMC states "We are keen to see proposals that demonstrate DNO commitments to driving better outcomes, perhaps setting targets for new activities delivered through baseline funding or committing to savings from successful innovation projects." Paragraph 5.57 "While we have seen an increase in deployment of innovation, we don't think DNOs are prioritising, or deploying at pace, innovations that don't directly benefit them, and this is a concern."*

the substations and the operating temperature of the transformers we were able to increase the operating load on the network, without increasing the operating risk. The approach we propose is to install low cost, battery powered temperature sensors directly on to the transformers. The devices we have selected have an anticipated battery life of up to 10 years reducing the ongoing operating cost. In addition to the long battery life the batteries can be replaced as part of the standard maintenance programme without the requirement for significant additional training.

The data from the sensors will be transmitted to our data centre, where it will be analysed in conjunction with existing load data and used to update the load values on our asset register.

In addition to the core use case, we can identify any significant temperature anomalies and when they are deemed to be out of tolerance a fault will be recorded against the affected asset.

Installation of these devices will help us to identify under-utilised assets and better calculate headroom so that load can be increased e.g. through connecting more demand/generation to the relevant assets, thereby reducing the requirement to reinforce the network.

### Approach to options assessment

This project builds on SP ENW proven mature innovation technology. This project is unique and therefore there are no similar alternatives.

### Stakeholder engagement and support

We have attended or delivered the following stakeholder events/communications channels for the original Celsius project:

- Presented Celsius at the Low Carbon and Network Innovation conferences (LCNI) in 2016, 2017,2018 and 2019
- Hosted innovation learning events
- Hosted targeted customer focus group
- Published a dedicated Celsius website accessible for all stakeholders - https://www.enwl.co.uk/future-energy/innovation/key-projects/celsius/

For Celsius+ project we have and will continue to engage with:

- SP ENW third party vendors and suppliers.
- SP ENW Digital Futures Panel

### Whole system considerations

For the original Celsius project, communications were delivered under a 'Learn and Dissemination workstream'. As part of this workstream the following channels were used:

- Celsius Website, accessible to all stakeholders
- Attendance at LCNI conference for four years
- Issued biannual progress reports in June and December in accordance with Ofgem report cycles
- Held annual knowledge sharing events and one-to-one coaching sessions

Industry attended these events and were signposted to our Celsius website.

### Options considered

In addition to a baseline scenario of do nothing, we have considered the following three options:

- Option 1 – Full Installation: replicate entire scope of Celsius project: and cover three capabilities.
    - Active cooling: Installing cooling devices into the LV sub-stations
    - Passive cooling: Using reflective surface coatings.

- Temperature sensors: Installing temperature sensors to record ambient and transformer temperatures.

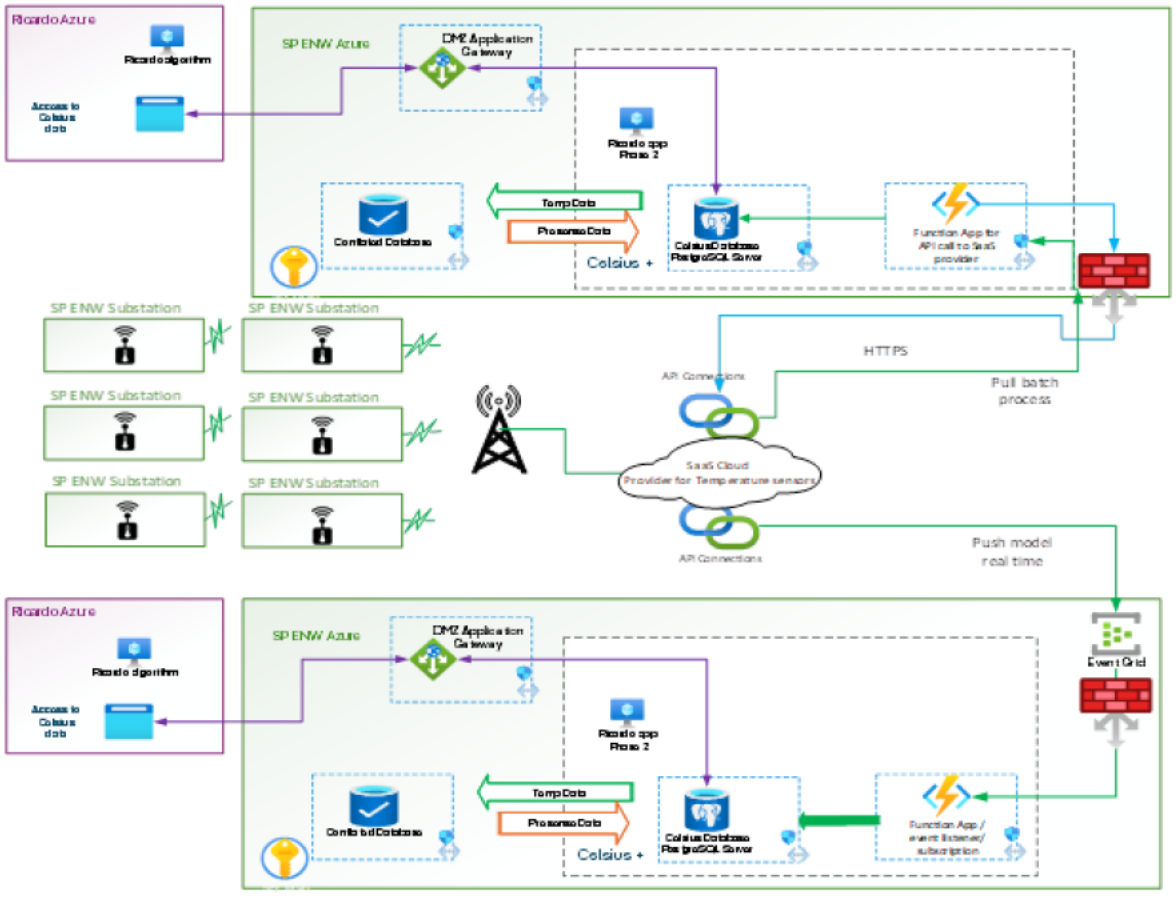
- Option 2 – Partial Installation: Temperature Sensors only: to limit the scope to the installation of temperature sensors, recording the ambient temperature and transformer temperatures. The data captured by the sensors is collected and in conjunction with transformer load data used to derive revised Load values for the transformers.

- Option 3 – Partial Installations: Active/Passive Cooling only to limit the scope to the installation of active and passive cooling.

### The preferred Option

We have selected Option 2 as our preferred option. We propose to use the latest temperature sensors and communication protocols to increase resilience, increase battery life and deliver a more secure connection. Refer to our cost benefit analysis below for the detail on our reasoning.

*Figure 14: High level of our Celsius+ preferred option*




### Delivery

Our delivery approach is a combination of in-house, outsourced and third-party resources to ensure we have access to the relevant skills at the required time to meet delivery timelines and deliver the value to the customers.

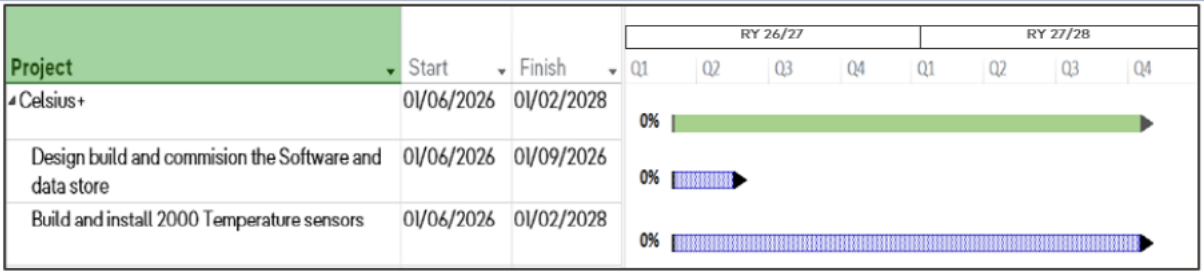
The installation and commissioning of the hardware will be delivered by a third-party engineering company.

Our procurement approach is based on a just-in-time model. Procurement of the temperature sensors and communication modules will be aligned with the installation programme.

We will start the project at the end of RY 25/26 and complete during the remainder of ED2. Refer to Figure 15 for a breakdown of deliverables to be completed for the remainder of ED2. This delivery breakdown aligns with our costing's breakdown.

*Figure 15: Breakdown of deliverables completed and to be completed*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| To be completed for the remainder of ED2 | | | |
| • Design build and commission the Software and data store | 0% | 01/06/2026 | 01/09/2026 |
| • Build and install 2000 Temperature sensors | 0 | 01/06/2026 | 01/02/2028 |




## Key risks and mitigating controls

| Title | Details | Mitigating controls |
|---|---|---|
| Allowances not approved for this project in ED2. | There is a risk that the requested allowances are not awarded. This will delay the delivery of the benefits to the customer under ED2. | We will include this project in our ED3 business plan. |

## Customer Benefits

The Celsius+ project will enable SP ENW to provide the following benefits to our customers:

- Recording transformer temperatures provides an improved understanding of latent capacity which:
  - Reduces connection times for both demand and supply customers
  - Better targets and informs network timely reinforcement activities to those most needed
  - Provides valuable learning about substations and factors that affect temperature of network assets. This can be applied to new build substations reducing the need for future intervention and therefore cost.

- Managing the temperature and avoiding large temperature changes reduces the likelihood of a fault which:
  - Reduces customer interruptions
  - Reduces customer downtime

## Costings

[redacted] Appendix 5 provides the cost breakdown in a RIIO-ED2 cost data table template to enable ease of reporting.

There are no uncertain costs for the project. We believe the benefits from this project should be realised in ED2. However, it we do not receive the ED2 funding adjustment for this project we will

reconsider it in the context of ED3. This has been identified as a risk with the mitigating control of delaying the implementation date.

This project is being proposed during ED2 as it is in the interests of customers and builds a pathway for meeting Ofgem ED3 expectations.

### Efficiency in the level of our investment

We are demonstrating efficiency in the level of our investment as follows:

- Through our targeted design approach of de-scoping the installation of cooling devices into our LV sub-stations, we are delivering the majority of the benefits of the original Celsius project whilst significantly reducing the project cost and ongoing support costs.
- Through our strategic delivery approach of combining in-house, outsourced and third-party resource we are ensuring we have access to the relevant skills at the required time to meet delivery timelines of 2000 temperature sensors installed which can deliver the value to the customers before the end of ED2

### Cost benefit analysis

We have used our Social CBA tool, which provides enhanced and wider SROI outputs, to identify the most efficient intervention to deliver the proposed outputs of this project. Appendix 5 provides our detailed Social CBA tool Template for the Celsius+ project.

Our analysis, summarised in Figure 16, evaluates four options, including a baseline "Do Minimum" scenario, to determine the solution that maximises whole-life value for consumers. Each option was assessed on its whole-life NPV, capital expenditure requirements, deliverability, and ability to deliver the required outputs.

- Baseline Scenario - Do Minimum - The baseline scenario represents a "Do Minimum"– with existing ANM/connection processes and current curtailment practices. This assumes no intervention and therefore incurs no additional capital cost. However, this option fails to deliver any of the required outcomes of the project and does not mitigate the risks associated with rising substation temperatures. As such, it does not generate additional benefits and was rejected.
- Option 1 – Full Installation - Option 1 involves full installation of temperature sensors alongside active and passive cooling solutions at substations – the replication of the original Celsius project. This option requires the highest capital investment. The whole-life analysis produces an NPV of £3.6m. Although it achieves all intended outcomes, its high-cost relative to the incremental benefit results in a lower NPV compared with other options. This option was rejected.
- Option 2 – Partial Installation: Temperature Sensors only - Option 2 consists solely of installing temperature sensors at substations – the descoping of cooling of the original Celsius project. This option has the lowest capital expenditure (excluding the baseline) and delivers a whole-life NPV of £3.7m, outperforming Option 1. It enables improved network monitoring and provides many of the core benefits at significantly lower cost. This is our preferred option.
- Option 3 – Partial Installation: Active/Passive Cooling only - Option 3 includes only the installation of active and passive cooling solutions – the descoping of temperature sensors of the original Celsius project. This option provides improved temperature management of substations but lacks the data-driven insights offered by sensor installation. With significant capital expenditure and limited benefits, this option delivers a whole-life NPV of (£6.5m). This option was rejected.

We have concluded Option 2 is our preferred option which enables us to demonstrate delivery of innovation into BAU, and as a pathway from ED2 to ED3. We will be maximising the utilisation of

existing assets before investing in new ones and enabling safe increases in load without raising operational risk. This supports faster and more cost-efficient connections, timely reinforcement, prolongs asset life and improves reliability through early identification of abnormal heating behaviour. Low ongoing maintenance cost, with battery powered sensors offering ~10-year life and simple replacement during routine maintenance.

In summary we consider the main benefits to be:

- faster and more cost-efficient connections,
- timely reinforcement,
- reduced carbon emissions and improved air quality
- accelerating economic benefits for DER (Distributed Energy Resource)'s and reducing whole-system costs.

The installation of sensors at substations provides granular data essentially 'freeing up' capacity such that, as the demand on networks is continues to increase with the uptake of low-carbon heating and transport.

*Figure 16: Celsius + Social CBA tool options summary*

| Option | Options considered | Decision | NPVs based on payback periods / £ | | | | |
|---|---|---|---|---|---|---|---|
| | | | 10 years | 20 years | 30 years | 45 years | Whole life NPV |
| - | Baseline Scenario - Do minimum | Rejected | - | - | - | - | Option is zero-cost |
| 1 | Full installation | Rejected | 9.4m | 7.0m | 5.5m | 4.3m | 3.6m |
| 2 | Partial Installation: Temparture Sensors only | Preferred | 6.0m | 5.0m | 4.4m | 3.8m | 3.7m |
| 3 | Partial Installation: Active/Passive Cooling only | Rejected | (2.2m) | (4.0m) | (5.1m) | (6.0m) | (6.5m) |

## Project 7 – LAEP +

### Alignment with DSAP

Our LAEP+ project aligns with our DSAP under section 5 'Distribution System Operation (DSO)' via implementation of access to a proven mature innovation software platform to deliver social and environmental value for the communities we serve as a social DSO.

### Alignment with overall business strategy and commitments

We alongside our customers and regulators are prioritising the growth of low carbon technologies and improved network connectivity, to support the focus on increased electrification of our region. We are continually implementing new digital solutions to support these goals and will build an ED3

portfolio to take us up to and beyond 2033. LAEP+ has been funded by most DSOs through innovation, however we consider it to be mature at this stage, therefore relevant for this reopener.

Ofgem's view on their Sector Specific Methodology Consultation (SSMC) ED3[15] under paragraph 8.36 is that Ofgem are keen that DNOs under ED3 demonstrate DNO commitments to driving better outcomes, from successful innovation projects. In parallel with our view on our Celsius+ project, we view this project as a pathway from ED2 to ED3 and response to Ofgem's view that innovation remains central to the price control framework and DNOs need to do more and deploy high-quality innovation (paragraph 5.57).

We will use LAEP+ (mature innovation trialled and tested by other DSOs) to enable SP ENW and Local Authorities which we serve to plan region-wide energy transitions undertaking Local Area Energy Planning (LAEP). We will offer free access to Local Authorities in our area.

With regard to the reference under SpC3.2.59 (c) the LAEP+ project enables us to better fulfil the following Standard Licence Conditions (SLC) as required under

- SLC 12.1 – 'Agreement for Use of System' in relation to our requirement to offer terms for Use of System and connection this project enables us to better offer terms following a request from a Local Authority and agents.

Scottish and Southern Electricity Networks (SSEN) have created a Local Energy Net Zero Accelerator (LENZA), a geospatial planning platform which emerged from a 2020 Ofgem approved Network Innovation Allowance (NIA) project named Regional Energy System Optimisation Planning (RESOP). SSEN drew together data from multiple sources into a single tool that was used to plan, retrofit and rollout low carbon technologies (LCTs) like electric vehicle charge points. The aim was to help Local Authorities plan decarbonisation pathways by enabling LCTs to be sited in cost-effective locations whilst providing early warning to SSEN of additional demand on the network.

[redacted] addition to SSEN, LAEP+ is now being used by UKPN, NGED and NPG covering 260 Local Authorities across those license areas who form the core user base.

*Figure 17- Utilisation of LAEP+ by other DNOs*

| DNO | Utilisation of LAEP+ | Innovation project name | Network Innovation Funding route | Funding[16] (£m) |
|---|---|---|---|---|
| UKPN | Free access for all 133 Local Authorities via LAEP+ Planning Tool - Your Local Net Zero Hub | Collaborative Local Energy Optimisation (CLEO) | Ofgem Network Innovation Allowance (NIA) | £3.0 |
| SSEN | Delivered as LENZA (powered by LAEP+) | RESOP – Regional Energy System Optimisation Planning (NIA_SSEN_0071) | Ofgem NIA | £2.9 (wider project funding) |

[15] *Paragraph 8.36 of the SSMC states "We are keen to see proposals that demonstrate DNO commitments to driving better outcomes, perhaps setting targets for new activities delivered through baseline funding or committing to savings from successful innovation projects." Paragraph 5.57 "While we have seen an increase in deployment of innovation, we don't think DNOs are prioritising, or deploying at pace, innovations that don't directly benefit them, and this is a concern."*

[16] *The proportion of the funding which has been allocated to LAEP+ and/or other partners is not in the public domain, and we have assumed that LAEP+ was implemented as part of those projects and is only part of these total funding costs.*

| | | | | |
|---|---|---|---|---|
| NGED | LAEP+ underpins PRIDE – Planning Regional Infrastructure in a Digital Environment - regional planning digital twin | PRIDE (Beta phase) | Ofgem Strategic Innovation Fund (SIF) with Innovate UK | £3.7 (wider project funding) |
| NPg | Free LAEP+ for Local Authorities (from Autumn 2025) | Information not in the public domain | | |

The LAEP+ platform is an online tool designed to support council officers and their stakeholders to build spatial energy plans across their local area which can be shared with and analysed by DNOs. It has been designed to support both technical and non-technical users including those with no previous digital or energy experience. It provides most of the baseline datasets typically required to develop a Local Area Energy Plan, alongside the tools to model projects, scenarios and consult with stakeholders. This data is processed, compiled and made available to DNO teams via customisable portals which can render data compatible with extant models and frameworks like Distribution Future Energy Scenarios.

### Demonstration of needs case/business statement

We are currently understanding and working on developing our ED3 business plan accounting for the latest guidance published by Ofgem as part of their ED3 methodology and framework. These costs were uncertain during ED2 business planning and were confirmed after the start of ED2 and form part of our pathway from ED2 to ED3. We have included the key ED3 methodology/framework milestones on our high-level programme plan.

In our drive to improve access to our network and further the electrification of our region we are constantly investigating internal and external digital solutions. The LAEP+ solution delivers a digital representation of our electricity network. The solution and the maps, including details of our electricity network, can be accessed by Local Authorities and their agents enabling them to create and design local area energy plans.

The use of the software and service empowers Local Authorities, therefore reoptimizing the use of our resources/agents required to support customers onto other aspects of their needs, by replacement with digital tools and the LAEP+ support. Overall, this enables more effective strategic investment due to better demand forecasting allowing for timely reinforcement of the network.

### Approach to options assessment

Our project builds on proven mature innovation trialled and tested by other DNOs. Many of our Local Authorities bound DSO's already using LAEP+, so standardisation significantly benefits our Local Authorities. Also, as proven innovation, LAEP+ offers a timely and cost-effective solution. This guided us towards the proven innovation software platform being provided by AITL given the wider benefits of adopting it.

### Stakeholder engagement and support

We have and continue to engage with the following key stakeholders:

- Greater Manchester Combined Authority

- Enterprising Cumbria (Working on behalf of Westmorland and Furness Council and Cumbria Council)
- AITL
- Other DNOs who have proven use of this mature innovative software platform
- SP ENW Digital Futures Panel

### Whole system considerations

We have collaborated with other DNOs via bilateral communications to understand the benefits to enable us to best articulate our needs case for access to this proven mature innovation software platform.

### Options considered

In addition to a baseline scenario of do minimum, we have considered the following two options:

- Option 1: Develop an internal SP ENW solution – This option would develop a new solution to provide a planning tool and support for Local Authorities and stakeholders.
- Option 2 – Deploy the AITL LAEP+ solution – software platform - This option proposes the implementation of a new instance of LAEP+ covering our geography. LAEP+ is a planning tool for Local Authorities, DSO's and collaborators to develop, analyse and share Energy Transition Plans. It comprises a large range of datasets to support planning in both DSO and local authority teams, as well as tools to build projects, scenarios, consultations and portfolios and data stories. This instance will be populated with network asset data sourced by our Network Management system (NMS). The data will be extracted from our OpenDataSoft Portal, the LAEP application will be able to upload the data via an Application Programme Interface (API). The data will be refreshed periodically

### The preferred Option

We have selected Option 2 as our preferred option. Refer to our cost-benefit analysis below for the detail on our reasoning.

Option 2 will enable us to;

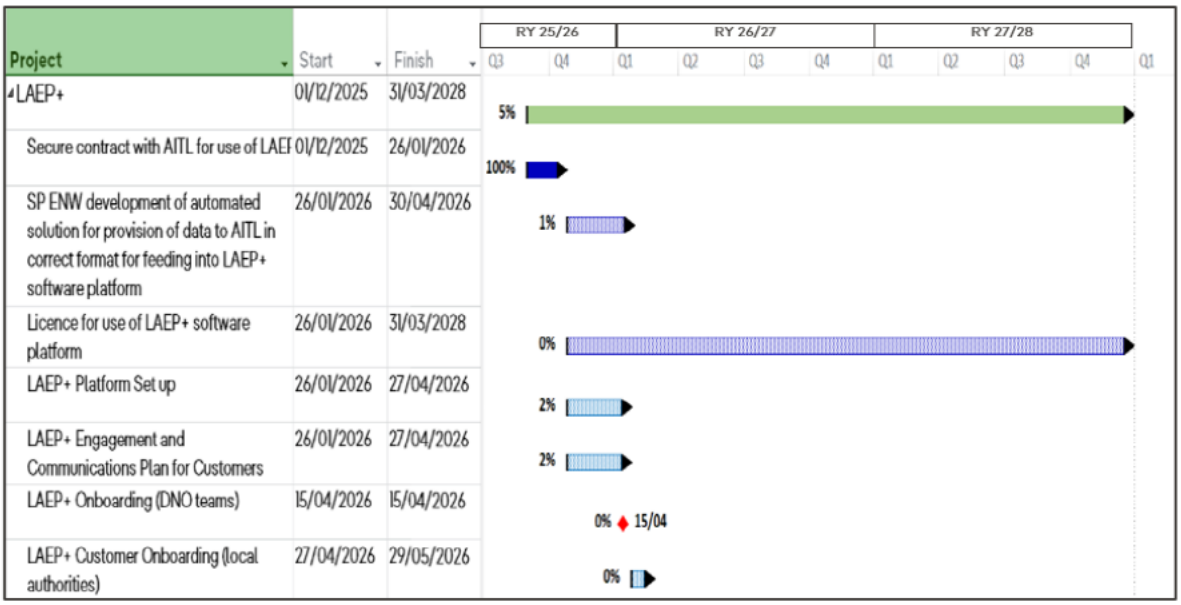
- hold a licence for use of LAEP+ software platform
- The development of solution to extract the data from our operational data store and provision of data to AITL in correct format for loading into LAEP+ software platform
- develop automation of the interface.
- connect to and use the LAEP+ software platform
- onboard and support our Local Authorities harness the capabilities of the LAEP+ tool and services for free.

### Delivery

We have successfully completed securing a contract with AITL for use of their LAEP+ software and platform. We will start the project in early 2026. Refer to Figure 18 for a breakdown of deliverables completed and to be completed for the remainder of ED2. This delivery breakdown aligns with our cost breakdown.

*Figure 18: Breakdown of deliverables completed and to be completed*

| Deliverable | Complete (%) | Start | Finish |
|---|---|---|---|
| **Completed** | | | |
| • Completed contract with AITL for use of LAEP+ | 100% | 01/12/2025 | 26/01/2026 |
| • SP ENW development of solution to extract the data from our operational data store and provision of data to AITL.<br>• Development of automation of the interface.<br>• Implementation and embedding within SP ENW systems (with some early users onboarded by 31/03/2026) | 0% | 26/01/2026 | 30/04/2026 |
| **To be completed for the remainder of ED2** | | | |
| • licence for use of LAEP+ software platform | 0% | 26/01/2026 | 31/03/2028 |
| • LAEP+ Platform Set up | 0% | 26/01/2026 | 27/04/2026 |
| • LAEP+ Engagement and Communications Plan for Customers | 0% | 26/01/2026 | 27/04/2026 |
| • LAEP+ Onboarding (DNO teams) | 0% | 15/04/2026 | 15/04/2026 |
| • LAEP+ Customer Onboarding (Local Authorities) | 0% | 26/04/2026 | 29/05/2026 |



## Key risks and mitigating controls

| Title | Details | Mitigating controls |
|---|---|---|
| Data provision insufficient | There was a risk that we may not be able to provide all the data required to support the planning and management capabilities of the LAEP+ software. | We undertook a detailed data analysis activity to ensure no gaps. We are able to meet the requirements of AITL from data held in our Operational Data Store. |

## Customer Benefit

The LAEP+ project will enable us to provide the following benefits to our customers:

- Enable the timely release of capacity for connecting parties, and cost-effective reinforcement.
- Ensure consistency and alignment on Local Area Energy Plan development across multiple stakeholders.
- Integrated platform for integrating spatial energy data, demand forecasts and decarbonisation pathways.
- Promote collaboration between Local Authorities, SP ENW, and other stakeholders.
- Provide access to consistent high-quality data and scenario modelling tools.

This capability enhances transparency, supports evidence-based decision-making, and enables councils to confidently prioritise interventions that deliver maximum social, economic, and environmental benefit.

## Costings

[redacted]Appendix 5 provides the cost breakdown in a RIIO-ED2 cost data table template to enable ease of reporting.

We are reliant on our ability to provide the necessary data required. We have identified this as an earlier risk with a mitigating control and costed for this activity as part of the solution for provision of data to AITL in correct format for feeding into LAEP+ software platform

This project is being proposed during ED2 as it is in the interest of customers and builds a pathway for meeting Ofgem ED3 expectations.

## Efficiency in the level of our investment

We are demonstrating efficiency in the level of our investment as follows:

- by collaborating with other DNOs, building on their proven mature innovation software platform we are avoiding unnecessary development costs with an unproven technology.
- through our targeted design approach of using the same software provider used by other DNOs and not developing an internal solution we are avoiding higher development costs and lengthy timescales for implementation.

## Cost-benefit analysis

We have used our Social CBA tool to identify the most cost-effective intervention to deliver the proposed outputs of this project. Appendix 6 provides our detailed Social CBA tool Template for our LAEP+ project.

Our analysis, summarised in Figure 19, evaluates two options, compared to a baseline "Do Minimum" scenario, to determine the solution that maximises whole-life value for consumers. Each

option was assessed on its whole-life NPV, capital expenditure requirements, deliverability, and ability to deliver the required outputs for regional electrification and Local Area Energy Planning.

- Baseline Scenario - Do minimum - The baseline scenario represents a "Do Minimum" position, whereby we continue 'as is' to support Local Authorities in our distribution area, through existing bilateral engagement, static data provision, and *ad hoc* analytical support. This option requires no additional capital investment but does not address the key challenges identified through stakeholder engagement, namely the lack of a shared, standardised, and spatially enabled planning platform. Under this scenario, Local Authorities would continue to develop Local Area Energy Plans using current processes, leading to slower connection planning, and increased risk of misaligned network investment. As the baseline option fails to deliver the required outputs of improved forecasting, coordinated planning, and efficiencies, it generates limited additional benefits and was, therefore, rejected We concluded that if we do minimum, we will miss an opportunity to benefit from other DSOs having already trialled and tested use of this software platform. Doing nothing risks our area being behind this digital technology market transformation curve and put us, our stakeholders and customers at a disadvantage as a social DSO with supporting our ED2 and ED3 plans and stakeholders in increasing the electrification of the region's domestic and business customers. We have therefore rejected this option
- Option 1 – Deploy an Internal SP ENW Solution - to enable Local Area Energy Planning across our distribution area. This option would require significant upfront capital expenditure, extended development timescales, and ongoing operational and maintenance costs to deliver and sustain a bespoke solution. Whilst an internal solution could in principle deliver many of the intended outputs, this option presents higher delivery risk, would delay the realisation of benefit and does not align with cross-DNO standardisation as other DSOs deploy or adopt LAEP+. This option would also not be using a proven mature innovation software platform. An SP ENW-specific platform would, therefore, risk reduced uptake, higher support costs, and fragmentation across regional boundaries. When assessed through our Social CBA tool, this option produces a lower and negative whole-life NPV of (£6.9m) as compared to the preferred option. This option was rejected.
- Option 2 - Deploy Licensed AITL LAEP+ Solution – utilisation of a proven and mature AITL-powered LAEP+ software platform across our distribution area, providing Local Authorities with free access to a standardised digital planning tool. This option includes the integration of our network data, automated data refresh, and structured onboarding and support for Local Authorities. Our Social CBA tool demonstrates that this option delivers the highest whole-life NPV of £35 0m We used the PRIDE CBA (refer to Figure 17) as the basis of our calculations – however, for the purposes of our analysis, these benefits have been scaled in proportion to the number of local authorities within our distribution area - 40 in total. This is our preferred option.

We have concluded Option 2 is our preferred option as it achieves the required outcomes at significantly lower cost and risk compared to Option 1, while enabling rapid benefits realisation within ED2 and establishing a clear pathway into ED3. LAEP+ enables us to:

- collaborate with Local Authorities using a shared, spatially enabled evidence base, improving demand forecasting, supporting timely and cost-effective reinforcement decisions, and accelerating low carbon technology deployment.
- leverage a platform already adopted by other DSOs, thus avoiding duplicated development costs, benefits from economies of scale, and supports consistent planning approaches across regions.

*Figure 19: LAEP + Social CBA tool options summary*

| Option | Options considered | Decision | NPVs based on payback periods / £ | | | | |
|---|---|---|---|---|---|---|---|
| | | | 10 years | 20 years | 30 years | 45 years | Whole life NPV |
| - | Baseline Scenario - Do minimum | Rejected | - | - | - | - | Option is zero-cost |
| 1 | Deploy an internal software solution | Rejected | 3.9m | 4.2m | (0.7m) | (5.1m) | (6.9m) |
| 2 | Deploy Licensed AITL LAEP+ solution | Preferred | 16.1m | 27.1m | 30.1m | 33.8m | 35.0m |

# 3. Investment Proposal

Our detailed costs table template is included in appendix 7 Figure 20 provides a high-level summary of our investment by project breakdown by regulatory year

The expenditure of the five projects (Section 2.1) will be required to continue, in order to meet the necessary regulatory commitments and timelines, as we await Ofgem decision on the outcome of this submission.

*Figure 20: Our high-level summary of the investment by regulatory year*

| Proposal (£m) | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 | Total |
|---|---|---|---|---|---|---|
| MHHS | 0.60 | 0.83 | 0.74 | 0.52 | 0.28 | 2.96 |
| NEOP | 0.02 | 0.04 | - | 0.07 | - | 0.13 |
| [redacted] | | | | | | |
| Class Phase 3 | - | - | 1.22 | 0.96 | 0.05 | 2.23 |
| [redacted] | | | | | | |
| Total * | 0.61 | 0.96 | 2.16 | 3.23 | 2.05 | 9.01 |

**Minor differences between this table and appendix 7 are due to rounding to two decimal places*

# 4. Impact on regulatory mechanisms

As shared in section 1 of this document, this submission proposes modifications to the total value of £9.01m to appendix 1 'Uncertain Costs without Evaluative Price Control Deliverables allowances (£m) of SpC3.2 of our licence as shown in Figure 21 below.

*Figure 21: Proposed modification to Appendix 1 SpC3.2 of our licence*

| Term | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 | Total |
|---|---|---|---|---|---|---|
| DIGIt | 0.61 | 0.96 | 2.16 | 3.23 | 2.05 | 9.01* |

**Minor differences between this table and appendix 7 are due to rounding to two decimal places.*

We have identified no impact of this re-opener on any other licence condition or regulatory output, and no other modifications are sought as part of this submission.

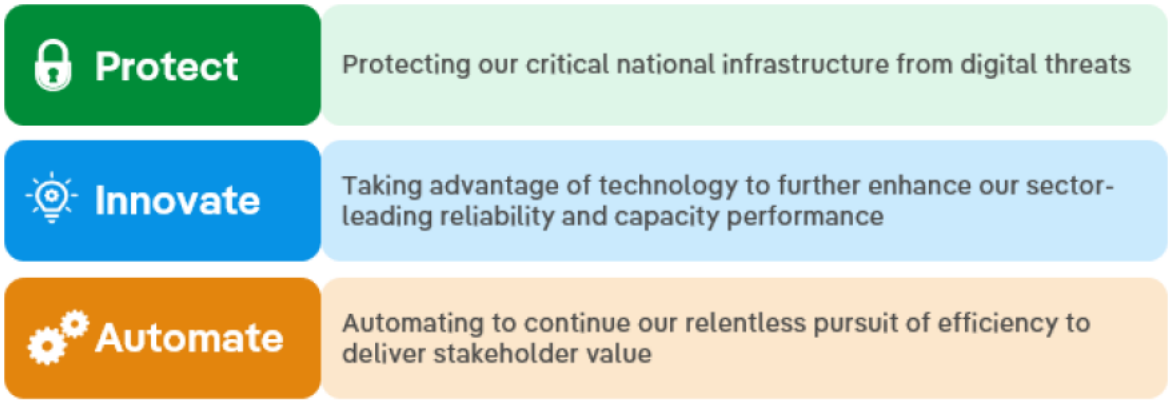
# 5. Conclusion

Our investment will deliver the following key outputs:

- Connection to and continued use of the new national digital MHHS DIP to meet Authority led and approved code changes and licence requirements delivered by the MHHS project Provision of outage data to authorised third parties to meet Government/Authority led real time data requirements - delivered by the NEOP project
- Connection to and continued use of the new national DSI to meet Government led data sharing forthcoming licence requirement – delivered by the DSI project
- Continued provision of the SP ENW CLASS digital solution under Government approved new markets changes. – delivered by the CLASS Phase 3 project.
- Implementation and compliance with Grid Code modification G0139 to enable secure data exchange platform to facilitate the exchange of data between NESO and the DNOs
- Provision of proven SP ENW mature innovation Celsius digital technology – delivered by the Celsius + project.
- Use of proven (by other DNOs) mature innovation digital software platform – delivered by the LAEP+ project

This investment and our outputs align with our Digitalisation Strategy and the delivery of our DSAP – the latest copy is contained in appendix 8 and is available on our website Our digitalisation strategy sets out how we use technology and data to improve customer service, business resilience and business efficiency and is built on three strategic themes – refer to Figure 22.

*Figure 22: Our DSAP strategic themes`*




These themes drive our Data and Digitalisation strategy and key activities in our DSAP to ensure we continue to deliver the best digital solutions for all our customers. The following are the actions related to each of our projects mapped to two of the DSAP strategic themes (innovate and automate):

*Figure 23: How our projects link with our DSAP strategic themes*

| Innovate | | Automate | | |
|---|---|---|---|---|
| **Network Management & resilience** | **Distribution System Operation** | **Internal Operations** | **Network Management & resilience** | **Distribution System Operation** |
| Celsius+<br>Implement Celsius+ to rollout Celsius technology to the next tranche of substations. | CLASS Phase 3<br>implement the final phase of our proven mature innovation CLASS in response to changes in the markets | MHHS<br>to support the transition to MHHS via connecting to the external central GB wide DIP | NEOP<br>to allow authorised stakeholders to view outage data by securing the system set up and aligning with an upcoming application programming interface (API) | DSI<br>be able to interact with the GB wide Data Sharing Infrastructure platform |
| | LAEP+<br>implement Local Area Energy Planning | | GC0139<br>implement grid code change GC0139 to improve data exchange and facilitate transition to a smart, flexible energy system | |

We propose that reporting on delivery and outcomes of our projects is undertaken via the DSAP which is an existing licence requirement for DNOs to complete on a 6 monthly basis. This reporting regime is well understood by Ofgem and stakeholders and can ensure transparency and accountability.

# 6. Appendices

| | |
|---|---|
| Appendix 1: | Minimum requirements checklist |
| Appendix 2: | MHHS industry code changes (modifications) |
| Appendix 3: | Licence commitments impacted by the MHHS SCR |
| Appendix 4: | Glossary |
| Appendix 5: | SP ENW Social CBA Tool Template Celsius+ |
| Appendix 6: | SP ENW Social CBA Tool Template LAEP+ |
| Appendix 7: | Digitalisation Re-opener Project Costing Template |
| Appendix 8: | DSAP |

# Appendix 1: Minimum requirements

In accordance with paragraph 3.4 of the Ofgem Re-opener Guidance and Application Requirements Document (Ofgem Guidance), this appendix shows a table which maps out which section of our application relate to individual requirements as set out in the relevant re-opener licence condition and the Ofgem Guidance.

Section 1 of this appendix shows how the submission meets the licence requirements, whilst section 2 shows how we meet the requirements in the Ofgem Guidance. For brevity we have not repeated the Ofgem Guidance word for word in this document.

## 01 How our submission meets the licence requirements

| **SpC 3.2: Digitalisation Re-opener ($DIGI_t$)** | | |
|---|---|---|
| Clause | **Requirement** | **How the condition has been met** |
| 3.2.59 | The Digitalisation Re-opener may be used where the licensee has incurred or expects to incur costs, that exceed the Materiality Threshold as a result of:<br><br>(a) a change in legislation, licences, regulatory requirements, or industry codes, where as a result there is a requirement for the licensee to provide new, or significantly altered, digital or data services, including but not limited to:<br>i. government or the Authority implementing energy sector reforms that require new data or digital services to be delivered by the licensee.<br>ii. a re-tendering of the smart metering system resulting in additional roles or responsibilities for the licensee with regards to the smart metering system.<br><br>(b) the licensee retrofitting monitoring devices to unmonitored Distributed Generators as a result of the Authority deciding that there is net Customer benefit in doing so; or<br><br>(c) the licensee implementing Mature Innovation related to data and Digitalisation to fulfil obligations in the conditions of this licence. | Condition met – our submission document explains the detail of where there has been a change in costs driven by a) regulatory change and c) mature innovation related to data and digitalisation. This is summarised in section 1 and expanded upon for each project in section 2.<br><br>This submission exceeds the Materiality Threshold for our licence which is £3.95m.<br><br>Our submission will not use b) as the Authority decision has not occurred and consequently costs have not been incurred to expected to be incurred during RIIO-ED2. |
| 3.2.60 | The licensee may only apply to the Authority for modifications to this licence under the Digitalisation Re-opener:<br><br>Between 24 January 2026 and 31 January 2026; and<br>during such other periods as the Authority may direct. | Condition met – we are making this application in the window directed by the Authority – between 24 January 2026 and 31 January 2026. |

| | | |
|---|---|---|
| 3.2.61 | The licensee must when making an application under the Digitalisation Re-opener, send to the Authority a written application that:<br><br>a) gives details of how any of the conditions set out in paragraph 3.2.59 have been met;<br><br>b) sets out any modifications to the value of $DIGI_t$ in appendix 1 being sought;<br><br>c) explains the basis for calculating any modifications requested to allowances and the profiling of those allowances; and<br><br>provides such detailed supporting evidence as is reasonable in the circumstances. | Condition met – the details of how the conditions set have been met are set out in this appendix and section 2 of the document.<br><br>Condition met – the modification being sought is shown in section 4 of the document<br><br>Condition met – the profile of allowances is shown within figure 21 of the document, whilst the basis for calculation is explained within section 3 and the detail shared in appendix 7.<br><br>Condition met - This submission provides comprehensive and proportionate evidence to support our application. |
| 3.2.62 | An application under this Part must:<br><br>a) where the circumstance in paragraph 3.2.59(a) applies, relate to changes to the roles and responsibilities of the licensee introduced on or after 1 December 2021;<br><br>b) be confined to costs incurred or expected to be incurred on or after 1 April 2023; and<br><br>take account of allowed expenditure which can be avoided as a result of the modifications requested. | Condition met – the submission relates to changes introduced on or after 1 December 2021.<br><br>Condition met - all costs included within this submission have been incurred or are expected to be incurred between 1 April 2023 and 31 March 2028.<br><br>We have not identified any avoided costs as a result of the changes stated. |

## 02 How our submission meets Chapter 3 of the Ofgem Re-opener Guidance and Applications Requirements Document

Where a section is referenced in how we have met these conditions they refer to the main submission document, unless otherwise stated.

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| General 2.1 | High quality information is required. This should be:<br>• Accurate<br>• Unambiguous<br>• Complete<br>• Concise | Our internal processes for quality control have ensured we have met this condition. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| General 2.2 | Written confirmation from a senior person that the submission:<br>• Is accurate, robust, the proposal is financeable and good value for customers<br>• There are quality assurance processes in place to ensure the licensee has provided high quality information that enables Ofgem to make decisions in the interests of consumers<br>• The application has been subject to internal governance arrangements and has been signed off at an appropriately senior level | Our accompanying Directors letter provides this written confirmation.<br><br>A statement on our assurance processes can also be found in section 1.3 |
| General 2.3 | A point of contact must be provided for each re-opener application (name/position/ email/phone) | Section 1.5 provides this information. |
| General 2.4 | Subject to 2.5/2.6 the licensee must, within five working days of submission, publish its complete application in a prominent place on its website | Section 1.6 describes our approach to publication, and the submission, with any redactions will be placed on our website at www.enwl.co.uk/public-information |
| General 2.5 | Redactions should be explained and can be made for<br>• Confidentiality<br>• Commercial sensitivity<br>• Security | Our transparency statement and reasons for redactions can be found in section 1.6. |
| General 2.6 | Cyber resilience & physical security: Where publishing an application would pose a risk to national security, the application should not be published and no explanation is required. | This is not applicable to our Digitalisation re-opener. |
| General 2.7 | Please see appendix 12 - Redaction Policy for further information on the above and Ofgem's approach to redaction of information. | Our transparency statement and reasons for redactions are compliant with the Redaction Policy and can be found in section 1.6. |
| General 3.1 | Any re-opener must clearly provide answers to the following questions:<br>• Why the adjustment is justified<br>• What the adjustment should be | A high-level summary of this can be found in section 1 with additional detail throughout the main submission document. |
| 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. | Section 1 .1 of the document and this appendix explains where we have met the licence conditions. |
| General 3.3 | If the licensee is unable to provide any of the requirements in this list, they must provide a justification for not providing the required information. | This is not applicable to our Digitalisation re-opener. |
| General 3.4 | Each application must contain a table mapping out which sections of the document relate to individual | This appendix meets this requirement. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | requirements as set out in the re-opener licence condition and chapter 3 of the re-opener guidance document. | |
| General 3.5 | This chapter should be read in conjunction with any relevant appendices to this document and licence conditions. | Noted |
| General 3.6 | A single owner may operate multiple licence areas. Where this is the case only one re-opener application should be submitted. | 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 Digitalisation re-opener submission being provided by any other distribution network under Iberdrola ownership. |
| General 3.7 | Materiality threshold applies to each individual licensee. | Section 1.1 confirms that our submission exceeds our materiality threshold. |
| 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. | Our needs case for each project can be found in section 2. |
| 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) | Noted |
| General 3.10 | The application must contain a clear 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. | A statement on how our needs case aligns with our overall strategy for each project appears in section 2. |
| General 3.11 | There must be a clear statement as to the need for the proposed expenditure or the problem being addressed in the context of its significance for consumers, network assets and wider society. | A clear statement is provided in section 1.1 on the need for expenditure and the problem to be solved. This is expanded further in needs statement for each project in section 2. |
| General 3.12 | The application must provide the rationale for the level of expenditure and why this is efficient | Section 2 for each project explains how we have driven efficiency of costs for each of the projects and for the portfolio as a whole. |
| General 3.13 | • The application must include a clear list of the options considered and the selection process for the preferred option. This must include the following:<br>• Clear description of the options considered, their key features, including the options not adopted<br>• A 'do minimum' option as a counterfactual demonstrating the | A clear list of the options considered for each project is provided in section 2. This is proportionate to the size of the re-opener and considers that five of the projects are regulatory driven and as such do minimum or delay expenditure is not an option. Where delay expenditure impacts delivery of a project we have included as a risk with mitigating control. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | effects of little or no investment/programme expenditure<br>• An option to delay capital expenditure, recognising the option value of the delay<br>• A market-based option (where there is a valid market-based option e.g. commercial contracts instead of reinforcement)<br>• A clear statement of the criteria used to assess the options, including assessment of each option against the criteria<br>• A brief description of the process used to select the options, either internal or the existing industry process<br>• An appropriate sensitivity analysis, using relevant statistical or other techniques<br>• A clear summary of any CBA/engineering justification (carried out in accordance with 3.22 and 3.23)<br>• A justification for the proposed timing of additional expenditure | Where CBAs have been used in this submission we have provided a clear summary. |
| General 3.14 | 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:<br>• 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<br>• A statement of the benefits of the preferred option to customers, quantitative and qualitative<br>• If the preferred option is predicated on a particular scenario, a description of the scenario<br>• A clear statement of the key benefits of the preferred option, including any drawbacks<br>• A register of the assets or programmes of work that will be impacted by the implementation of the preferred option<br>• Evidence of the technical feasibility of the preferred option, using technical annexes as appropriate | A clear description of the preferred option for each project is provided in section 2. This is proportionate to the size of the re-opener. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| General 3.15 | The application must contain a clear statement on the project delivery and monitoring plan for the preferred option, including:<br>• A project delivery programme including provisional dates and key milestones<br>• A consideration of whether the licensee has access to sufficient resources to ensure timely delivery<br>• A description of mitigation measures that can be taken to address potential deviation from the project delivery plan<br>• A description of reporting mechanisms to monitor delivery and measure outcomes | A clear statement on the delivery of the preferred option for each project has been included in section 2. This includes a plan with percentage completion against each deliverable.<br><br>We propose that reporting on delivery and outcomes is undertaken via the DSAP which is an existing licence requirement for DNOs to complete on a 6 monthly basis. This reporting regime is well understood by Ofgem and stakeholders and can ensure transparency and accountability. |
| General 3.16 | Subject to 3.17 & 3.18, the application must include an explanation of how stakeholder engagement contributed to the identification and design of the preferred option. Engagement may be limited to those categories who are materially impacted by the choice of the preferred option. Where there are opportunities to collaborate with other network companies on whole system issues, this must be reflected in the analysis and evidence provided. | An explanation of stakeholder engagement and whole system considerations for each project is included under section 2. |
| 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. In these circumstances a brief explanation of why stakeholder engagement was not considered appropriate must be provided | Noted |
| General 3.18 | Stakeholder engagement will not be necessary where it could pose a risk to national security, specifically for applications related to cyber resilience and physical security re-openers | This is not applicable to our Digitalisation re-opener. |
| General 3.19 | When the adjustment sought relates to the level of allowances, re-opener applications must include sufficient cost information to:<br>• Evidence to justify why the expenditure is additional to ex ante allowances, or allowances provided through other uncertainty mechanisms<br>• Evidence to justify why the level of costs is efficient (to be determined by the Authority) | Section 2 explains each of the project needs and why these cannot be met within existing allowances or other uncertainty mechanisms. Projects 1 to 5 are all new or significantly changed data activities which are either new since the start of RIIO-ED2 or were not sufficiently clear in scope or costs to be included within RIIO-ED2 business plans and therefore baseline allowances.<br>Projects 6 and 7 are proposed rollout of mature innovation, bringing benefit to |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | | customers and stakeholders that would otherwise need to wait for a future price control to be realised.<br><br>Section 2 for each project also explains how we have driven efficiency of costs for each of the projects and for the portfolio as a whole. |
| General 3.20 | The cost evidence must be provided in accordance with the following requirements: | See below |
| | • using where relevant the re-opener template [to be published] and in accordance with the Instructions in [to be published], and/or any other relevant templates. | We have elected to use a cost data table template derived from the templates provided by Ofgem for cyber re-openers as we consider these to be the most appropriate for these digitalisation costs. These are provided in appendix 7. |
| | • On the ED licence cost basis (2020-21 prices) | Our costs are in 20/21 prices, which is confirmed in section 1.1. |
| | • 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. Include costs on a net before and after NPCA basis, with sufficient level of detail to clearly demonstrate how the gross to net before NPCA and net after NPCA were derived | All costs are shown on gross basis including indirect and direct costs.<br><br>No NPCA adjustments required. |
| | • In Excel format with all data tables clearly labelled and set out logically, including instructions on workbook functionality where appropriate | Our cost data tables are in Excel format; Due to the size of this re-opener, we have taken a proportionate approach, and instructions are not required. |
| | • 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 | At each stage in the submission, the source of the value provided is identified and therefore should be straightforward to replicate. |
| | • In a way that is easily comparable to other benchmarks or other data provided by Ofgem | Data is provided using the cost data tables for these costs to enable easy comparability. |
| | • With all relevant assumptions and data sources clearly provided and justified | Relevant assumptions and data sources have been shown at the relevant points within the submission documents. |
| | • With key cost drivers explicitly identified and justified | Cost and linked regulatory drivers are identified where relevant and at a proportionate level for each project under sections 2 and 3 |
| | • With uncertainties in forecast cost levels and any mitigations clearly identified. | Section 2 for each project explains where there are uncertain costs for each of the projects and identifies an associated risk with associated mitigation control. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | • These uncertainties should form the basis of any sensitivity analysis using appropriate techniques, and if so a register of these uncertainties must be included | |
| | • Outturn data for similar projects | Each project is bespoke and specific to the individual need and therefore providing similar project costs is not readily available. |
| | • A risk register for the specific project for any allowances requested for project risk | Section 2 for each project identifies the risks with associated mitigation controls. |
| | • Identification of cost efficiency measures and their impact accounted for | Each project within section 2 has a section entitled Efficiency in the level of our investment. Here we identity how we have driven cost efficiency within the project costs/design. For MHHS we led and influenced three notable changes to the MHHS Programme design. |
| | • 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) | The additionality necessary is demonstrated at a high level in section 1 and section 3 and for each project in section 2 and appendix 7 |
| | • actual costs and forecast costs including RPEs are also to be provided, with sufficient level of detail to clearly demonstrate how the actual costs and forecasts costs reconcile to the cost evidence submitted in the relevant price base | The actual and forecast costs have been included in appendix 7 |
| General 3.21 | 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. 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. | As the projects detailed within this re-opener are not infrastructure projects, then the guidance document is not relevant for these particular works.<br><br>How costs have been established is described within the relevant project parts of section 2. |
| General 3.22 | • CBA and EJPs are important evidence to be included in applications. When they are provided, they must:<br>• Be consistent with published guidance and recognised best practice, e.g. The Green book and Spackman discounting approach<br>• Demonstrate evidence of structured options development, including | EJPs are not used in this submission.<br><br>CBAs are not used in this submission for the compliance driven projects.<br><br>CBAs are used in this submission for the Celsius+ and LAEP+ projects. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | 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.<br>• Demonstrate the value of projects across different scenarios, where relevant, and include an explicit consideration of (quasi) option values of deferring the investment<br>• Be clearly linked to the re-opener application where applicable, with sensitivity to changes in input parameters assessed, for example future energy scenarios<br>• Act as a robust decision support tool, and be open to scrutiny and challenge<br>• Be transparent about which risks, costs and benefits have neither been considered nor monetised as part of the analysis<br>• Be transparent about the assumptions, inputs and rationale for the decisions calculations and results arrived at. | |
| General 3.23 | The Authority has published sector specific guidance on CBAs and EJPs which must be adhered to when submitting re-openers during RIIO-2<br>• EJP guidance for ED in February 2021<br>• CBA guidance for ED in October 2021 | EJPs are not used in this submission.<br><br>For those projects which use a CBA, guidance for ED has been adhered to. |
| General 4.1 | Re-opener applications should follow a style and structure that clearly and concisely sets out the evidence that licensees wish to present in support of their request to have allowances or other price control parameters adjusted. | Our internal processes for quality control have ensured we have met this condition. |
| General 4.2 | Re-opener applications should follow a logical structure that aligns with the various requirements set out in the relevant re-opener licence condition and in the Ofgem guidance document. The application should consist of a core narrative that concisely sets out all the relevant evidence that we require to make an informed decision.<br>Further detailed analysis and technical information including CBAs and EJPs should be set out in clearly identified | We have developed this submission in line with the Ofgem Re-opener Guidance and Application Requirements Document (Ofgem Guidance). Following this guidance has meant some elements of duplication are present, however we have sought to keep this to a minimum.<br><br>Cross referencing has been used throughout to signal linkages to where additional information is provided. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | annexes. Where evidence derived in the annexes is relied upon in the core narrative this should be clearly identified, and the core narrative should include a specific reference to where the derivation is presented. | |
| General 4.3 | In addition to the requirement to include a table that maps which sections of the application relate to individual requirements set out in the relevant re-opener licence condition and paragraph 3.4 of the guidance document, a table of contents and glossary of terms should be included as part of the application. | This document provides the mapping to each condition and guidance requirement.<br>A table of contents with hyperlinks to each section of the main submission document is included.<br>A glossary of terms can be found in appendix 4 |
| General 4.4 | The core narrative should be clear and concise in the presentation of all the relevant evidence required to make an informed decision. The emphasis should be on the proportionate presentation of evidence avoiding duplication and superfluous information or narrative. The narrative should focus on quantifiable and objective evidence rather than subjective or qualitative assertions. | Our internal control processes have ensured we have met this condition. |
| General 4.5 | When determining the proportionate amount of evidence presented with respect to any particular issue, relevant factors should include:<br>• materiality of the issue with respect to the overall decision<br>• the complexity of the issues being considered<br>• the quality of evidence being considered<br>• the level of certainty about the future<br>• interaction with other relevant considerations. | Our internal processes for quality control have ensured we have met this condition.<br><br>We have adopted a proportionate approach to the volume of information provided and have sought to avoid repetition where possible. |
| General 4.6 | The core narrative should be drafted according to the principles of Plain English. As far as possible defined terms should have the same meaning as they have in the relevant licence and or Final Determinations. Data tables should be clearly and precisely labelled. | Our internal processes for quality control have ensured we have met this condition.<br><br>Technical language is used proportionately, and terms are clearly defined where necessary. |
| General 4.7 | While the purpose of the annexes is to present detailed analysis and technical information, the same principles with respect to the clear and concise presentation of evidence should apply. | Our internal processes for quality control have ensured we have met this condition. |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| General 4.8 | Specific requirements with regards to the structure of specific re-opener applications may be provided in individual appendices for specific re-openers. | See section 03 of this appendix for the specific requirements for the Digitalisation re-opener. |

## 03 How our submission meets the Ofgem Re-opener Guidance and Applications Requirements Document (Appendix 7)

Where a section is referenced in how we have met these conditions they refer to the main submission document, unless otherwise stated.

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| A7.1 | This appendix sets out the minimum requirements expected and should be read in addition to any general requirements set out in this Guidance document and in accordance with Part I of SpC 3.2, | Noted and refer to sections 01 and 02 of this appendix. |
| A7.2 | There may be some projects/solutions where licensees will not be able to provide the necessary level of details listed within this appendix. In such instances, licensees must provide a justification for not providing all of the necessary information. We will consider if such explanations/submissions are sufficient for the re-opener application on a case-by-case basis | We have provided all the necessary level of details listed within this appendix. |
| A7.3 | Our intent is for licensees to utilise a recognised cost taxonomy to classify Digitalisation spend when making an application under the Digitalisation re-opener. However, this approach needs to be considered by relevant working groups across all network licensees. The exact implementation of a cost taxonomy in the RIIO-ED2 price control is still to be considered and we intend to establish a working team across Ofgem and the licensees to determine implementation | We have not received a cost taxonomy and have therefore shown expenditure in the manner we consider most appropriate to support Ofgem assessment. |
| A7.4 | If a cost taxonomy is required to be utilised when submitting a Digitalisation re-opener application, we will develop and consult upon additional guidance relating to the implementation of the said cost taxonomy. Therefore, unless additional guidance is provided, a cost taxonomy is not required to be used as part of an application under the Digitalisation re-opener. | Noted |
| A7.5 | The Digitalisation re-opener may be triggered by the licensee during the re-opener windows set out in SpC 3.2, where the licensee has | We have triggered the Digitalisation re-opener during the |

| Guidance condition | Summary of condition | How/where condition is met |
|---|---|---|
| | incurred or expects to incur costs as a result of any of the triggers set out in SpC 3.2 Part I. | re-opener window which is confirmed in section 1.1 |
| A7.6 | Alignment with overall business strategy and commitment<br>In addition to the requirements set out in paragraph 3.8-3.15 of the main document, the licensee must provide:<br>• its Digitalisation Strategy and Action Plan (DSAP)<br>• evidence within the DSAP of the role it plays in facilitating the business to achieve its business objectives | We have provided our latest DSAP published in December 2025 as appendix 8. This aligns with our Digitalisation Strategy. |
| A7.7 | Demonstration of needs case<br>In addition to the requirements set out in chapter 3 of this document, the licensee's problem statement must provide:<br>• The change in licensee roles and responsibilities requiring the use of this re-opener, if applicable.<br>• the outputs arising from the investment which should be clearly linked to delivering their Digitalisation Strategy | We summarise alignment with our DSAP and regulatory changes which are drivers for this re-opener for each project (where relevant) in section 2 and at a high level in section 5 |

# Appendix 2: MHHS industry code changes (modifications)

| Code | Modification | Implementation date |
|---|---|---|
| BSC | • P478 Implementation of MHHS Arrangements<br>• P486 Aligning BSC Terminology with the Terminology Introduced by P478<br>• P489 Update approved P478 for alignment with the latest MHHS Design<br>• P490 Introduction of three new BSC Agents to provide the SVAA Service<br>• CP1599 Remove the requirement in BSCP602 to specify the Half Hourly Data Aggregator in Non-Final Demand Declarations<br>• CP1603 Update the SVA Data Catalogue to reference new and amended SVA interfaces introduced by MHHS<br>• CP1605 Category 2 and Category B Non-Compliance Process Improvements in BSCP27<br>• CP1608 Amend BSCP65 for BSC Party Name to have a maximum of 160 characters<br>• CP1609 New BSCP128 appendix 11 Template for Seasonal Time of Day<br>• CP1610 BSCP128 Updates to Align with ISD System Capabilities | 22 September 2025 |
| REC | • R0209 - Implementation of MHHS Arrangements. Additional drafting amendments have also been made under<br>• R0241 - MHHS Incremental Changes for go live.<br>• R0044 - MHHS Programme Changes required to Central Switching Service and R0097 - Consequential Change for CSS Smart Meter Data Retriever Appointments<br>• R0083 - Changes to Supply Number Format for MHHS<br>• R0222 - ESME ID Update Rejections<br>• R0264 - Data Specification Housekeeping | |
| DCUSA | • DCP 456 - MHHS Incremental Changes for Go Live | |

# Appendix 3: Licence commitments impacted by the MHHS SCR

| SLC 20: Compliance with Core Industry Documents | | |
|---|---|---|
| **Clause** | **Requirement** | **How the condition has driven MHHS investment** |
| 20.3 | The licensee must be a party to and comply with:<br><br>the Balancing and Settlement Code; ....<br>(c) the Distribution Connection and Use of System Agreement; and<br>(d) the Retail Energy Code; | We are a party to the BSC, DCUSA and REC and undergone targeted and successfully completed:<br>MHHS audit for the BSC (2024)<br>MHHS qualification from the BSC and REC Performance Assurances Boards (2025) |
| 20.10 | If a consequential change is required in any Core Industry Document, the licensee must take all reasonable steps to secure and must not take any unreasonable steps to prevent or delay, the making or implementation of that consequential change. | Due to MHHS consequential code changes (refer to appendix 2) we have been required to alter or deliver new data and digital services:<br>• to enable MHHS System Integration Testing<br>• to enable MHHS data cleansing<br>• to six of its internal systems:<br>o SPuDs,<br>o MPRS,<br>o ADQM,<br>o Durabill,<br>o Calitor<br>• by creating a new connection to the Elexon MHHS Data Integration Platform (DIP) |
| 20.11 | The licensee will cooperate with the Authority and/or any person(s) appointed by the Authority or appointed pursuant to a direction of the Authority, to undertake any reasonable requests in relation to planning, project assurance and/or coordination/systems integration in order to give full effect to the conclusions of a Significant Code Review. | We have successfully co-operated with the Authority led MHHS SCR and Authority appointed persons via:<br>• the provision of evidence as part of multiple readiness assessments by the Authority appointed Independently Performance Assessor<br>• the bilaterals and collaboration on multiple issue resolution with the MHHS SRO. |

# Appendix 4: Glossary

| Term | Definition |
|---|---|
| ADQM | Address management system used internally by SP ENW |
| AITL | Advanced Infrastructure Technology Ltd; vendor of the LAEP+ platform. |
| API-M | API Management; layer for authentication, authorisation, policies and caching of APIs. |
| AppInsights | Azure Application Insights; monitoring/telemetry for applications/APIs. |
| Azure ESB | Enterprise Service Bus pattern implemented on Azure components (integration tier). |
| BAU | Business as usual. |
| BP / FBP | (Final) Business Plan submitted to Ofgem for price control. |
| BPDT | Business Plan Data Templates; standard Ofgem Excel templates for cost/volume evidence. |
| BSC | Balancing and Settlement Code; governs electricity imbalance settlement in GB. |
| BSCCo | Balancing and Settlement Code Company; Elexon's corporate vehicle responsible for BSC administration. |
| BSP | Bulk Supply Point scheduled used to reflect scenarios in planning models. |
| CAB | Change Approval Board SP ENW forum for overseeing changes. |
| Calitor | SP ENW's unmetered supplies internal application. |
| CBA | Cost benefit analysis |
| Celsius / Celsius+ | Thermal monitoring and retrofit cooling innovations for substations; rollout under mature innovation. |
| CGMES | Common Grid Model Exchange Standard (v3); CIM profile for power system data exchange. |
| Chime | SP ENW asset register system. |
| CIM | Common Information Model; IEC standard schema for power system data. |
| CLASS | Customer Load Active System Services; SP ENW's demand reduction via voltage management (Phase 3 = market adaptation). |
| CSS | Central Switching Service; central system supporting retail market switching under REC. |
| DAG | Data Assurance Guidance; framework for assuring regulatory submissions. |
| DCUSA | Distribution Connection and Use of System Agreement |
| DDoS | Distributed Denial of Service; cyber-attack overwhelming with traffic. |
| D0030/D0314 | Industry DUoS settlement data reports used for billing/ reconciliation. |
| DER | Distributed Energy Resources |
| DESNZ | Department for Energy Security and Net Zero. |
| DFES | Distribution Future Scenarios; planning framework used by DNOs. |
| DFLOW | Industry data flows (often via ElectraLink DTN) used in electricity markets. |
| DG | Distributed generation. |
| DIP | Data Integration Platform; MHHS central hub for industry data exchange operated by Elexon. |
| DIP Adaptor | ENWL component enabling secure connectivity to Elexon's MHHS DIP. |

| Term | Definition |
|---|---|
| DNO | Distribution Network Operator; company operating electricity distribution networks in a licensed area. |
| DRS16 | Directly Remunerated Service 16: Distribution Network Voltage Control Services (CLASS reporting under RIGs; flows into Totex). |
| DSAP | Digitalisation Strategy and Action Plan. |
| DSI | Data Sharing Infrastructure (Digital Spine); decentralised platform for secure, standardised energy data exchange. |
| DSO | Distribution System Operation: the capabilities (systems, data, processes) required to operate networks in a net-zero future. |
| DUoS | Distribution Use of System; network charges to suppliers. |
| Durabill | SP ENW's Distribution Use of System (DUoS) billing system. |
| EBGL | Electricity Balancing Guideline. |
| EJP | Engineering justification paper |
| ElectraLink DTN | Data Transfer Network; industry messaging network for electricity market flows. |
| Elexon | BSC administrator; appointed MHHS Senior Responsible Owner (SRO) and Implementation Manager (IM). |
| ELT | Executive Leadership Team (Electricity North West) |
| ENA | Energy Networks Association; industry body for UK gas and electricity transmission/distribution companies. |
| EOI | Expression of interest |
| ESO / NESO | Electricity System Operator / National Energy System Operator (new GB independent system operator); responsible for transmission system operation and strategic planning. |
| FD | Final Determination. |
| GB | Great Britain. |
| GC0139 | Grid Code Mod: Enhanced Planning – Data Exchange to Facilitate Whole System Planning (CIM/CGMES-based, twice-yearly exchanges). |
| GDP | Gross domestic product. |
| Globalscape | Secure FTP (SFTP) platform used by SP ENW for file-based data exchange. |
| Grid Code | Technical rules for connecting to and operating on the National Electricity Transmission System (NETS). |
| GSP | Grid supply point – a substation owned by National Grid Company where voltage is transformed from either 400kV or 275kV to 132kV. |
| GVA | Gross value added. |
| HITL | Human-in-the-Loop; combining automated processes with expert judgement. |
| ICCP | Inter-Control Center Communications Protocol; telemetry/data exchange between control systems. |
| LA | Local authority. |
| LAEP / LAEP+ | Local Area Energy Planner / Local Area Energy Planner Plus; geospatial tool supporting local net-zero planning. |
| LENZA | Local Energy Net Zero Accelerator; SSEN's geospatial planning platform leveraging LAEP+. |
| LBE | Latest best estimate. |
| LV | Low voltage – 230V or 415V |
| Materiality Threshold | Licence-specified minimum threshold (e.g., £3.95m in 20/21 prices) to trigger a re-opener. |
| MHHS | Market-wide Half Hourly Settlement |
| MPAN | Meter Point Administration Number |
| MPAS | Metering Point Administration Service. |
| MPRS | Metering Point Registration System. |

| Term | Definition |
|---|---|
| MW | Megawatt |
| MVP | Minimum Viable Product earliest functional release. |
| NEOP | National Energy Outage Platform; near real-time, national outage visibility platform via DNO APIs. |
| NESO | National Energy System Operator (formerly ESO). |
| NETS | National Electricity Transmission System; GB transmission network. |
| NGED | National Grid Electricity Distribution |
| NMS | Network Management System; operational system controlling/monitoring the distribution network and CLASS. |
| NIA | Network Innovation Allowance. |
| Optional Fast Reserve (OFR) | Legacy NESO balancing service for rapid reserve (being replaced). |
| PriceWaterhouseCoopers (PwC) | Independent Programme Assessor appointed under MHHS. |
| Primary | Primary substation, typically 33/11 or 6.6kV |
| PSR | Priority Services Register; free service providing extra support to eligible customers. |
| Quick Reserve (QR) | NESO balancing service with faster delivery characteristics than Slow Reserve. |
| REC | Retail Energy Code. |
| RECCo Ltd | Retail Energy Code Company; manages the REC. |
| RESP | Regional Energy Strategic Planning; NESO's new strategic planning function/methodology. |
| RIG | Regulatory instructions and guidance. |
| RIIO | Energy network price review framework based on Revenue = Incentives + Innovation + Outputs |
| RIIO-ED2 | The second electricity distribution price review under the RIIO framework, running from 2023 to 2028. |
| RIIO-ED3 | The third electricity distribution price review under the RIIO framework, running from 2028 to 2033. |
| RPEs | Real Price Effects; inflation differentials across input categories. |
| RRP | Regulatory reporting pack. |
| RY | Regulatory Year |
| Secondary | Secondary substation, typically 11 or 6.6/0.4kV |
| Settlement | Reconciliation between contracted purchases and actual consumption in the wholesale market. |
| SIF | Strategic Innovation Fund. |
| Significant Code Review (SCR) | Ofgem-led coordinated reform of industry codes and processes (e.g., MHHS SCR). |
| SLC | Standard licence condition |
| Slow Reserve (SR) | NESO balancing service for slower-ramp reserve; both QR/SR replace OFR under Article 18 changes. |
| SPuDs | Supply Point Data system; SP ENW internal system for MPAN/connection data. |
| SSEN | Scottish & Southern Electricity Networks (DNO). |
| SSH (Steady State Hypothesis) | CGMES profile capturing steady-state operating conditions in CIM exchanges. |
| Standard Licence Condition (SLC) | A condition within the electricity distribution licence (e.g., SLC 20). |
| Tap changer | Transformer mechanism to adjust voltage ratio for regulation. |
| Terms of Reference (ToR) | Scope and governance for code workgroups (e.g., GC0139 Workgroup). |

| Term | Definition |
|---|---|
| Totex | Total expenditure (capex + opex) under RIIO with sharing factors and incentives. |
| Transformer | Electrical device that steps voltage up/down via electromagnetic induction. |
| UK | United Kingdom. |

# Appendix 5: SP ENW Social CBA Tool Template Celsius+

Provided separately as excel based file.

# Appendix 6: SP ENW Social CBA Tool Template LAEP+

Provided separately as excel based file.

# Appendix 7: Digitalisation Re-opener Project Costing template

Provided separately as excel based file.

# Appendix 8: DSAP

Provided separately as pdf document and via the following weblink:

https://www.enwl.co.uk/future-energy/data-and-digitalisation/digitalisation-strategy/