SP Electricity North West

Operational Decision Making Framework

at a glance

February 2026

Index

1. Introduction

This summary report provides a comprehensive overview of SP Electricity North West's Operational Decision Making Framework (ODMF) document, highlighting our approach to operational decision-making, flexibility, transparency, and stakeholder engagement. If you need more detailed information on any specific section, please refer to the full ODFM document, available on the Documents & Resources section within our DSO webpage.

2. About Us

SP Electricity North West is one of 14 Distribution Network Operators (DNOs) in the UK, regulated by Ofgem. We distribute electricity to 2.4 million homes and businesses in the North West, and maintain 13,000 km of overhead power lines, 44,000 km of underground cables, and nearly 500 major substations. In RIIO-ED2, we have invested £1.9 billion between 2023-28 to ensure continued delivery of excellent, safe, and affordable service for our customers.

3. Purpose of this Document

The ODMF document is intended for network users, stakeholders, authorities, and Flexibility Service Providers. It explains SP Electricity North West's operational principles and approach in terms of using automation, flexibility or other intervention, as well as human oversight to manage the network and dealing with constraints or unexpected events to ensure safety, reliability, security of supply, and cost-efficiency. It sets out our principles for scheduling, optimising and dispatching flexibility and ensuring whole system coordination under the Primacy rules. It also aims to provide transparency in our decision-making and facilitate feedback for improvement.

The 2026 ODMF introduces a Social DSO strategy and "Social Value" as a core operational principle, enhanced flexibility market integration via ElectronConnect with API-based dispatch, and the adoption of LIFO for Part 4 curtailment. Our Active Network Management (ANM) system successfully went live in January 2025, supporting real-time flexibility and network optimisation. Additional updates include expanded data sharing through the Open Data Portal and clarification of the Market Facilitator's role in implementing primacy rules.

4. DSO Strategy and Operational Decision-Making Principles

SP Electricity North West's DSO strategy focuses on facilitating the decarbonisation of transport, heat, and energy systems and the transition to a net zero economy by 2050, at the lowest cost while maintaining high network reliability. Our core DSO functions include Market Development, Planning & Network Development, Network Operation, and transparent Data and Information Sharing. SP Electricity North West's key decision-making principles when operating and managing the network are Safety, Security and Reliability, Efficiency, Transparency, Sustainability, and Social Value, and underscore our dedication to fostering trust in our operations, while ensuring the energy transition is inclusive and customers only pay for services that are needed.

5. Flexibility in Operational Decision Making

Flexibility is central to SP Electricity North West's operational decision-making, with a commitment to "Flexibility First." This means promoting flexible opportunities to the market as an alternative to traditional network capacity reinforcement. To resolve network constraints, unlock capacity, improve network security, and support the transition to a net zero future. The three types of flexibility that SP Electricity North West is utilising are Flexibility Services, Flexible Connections and Flexible Assets:

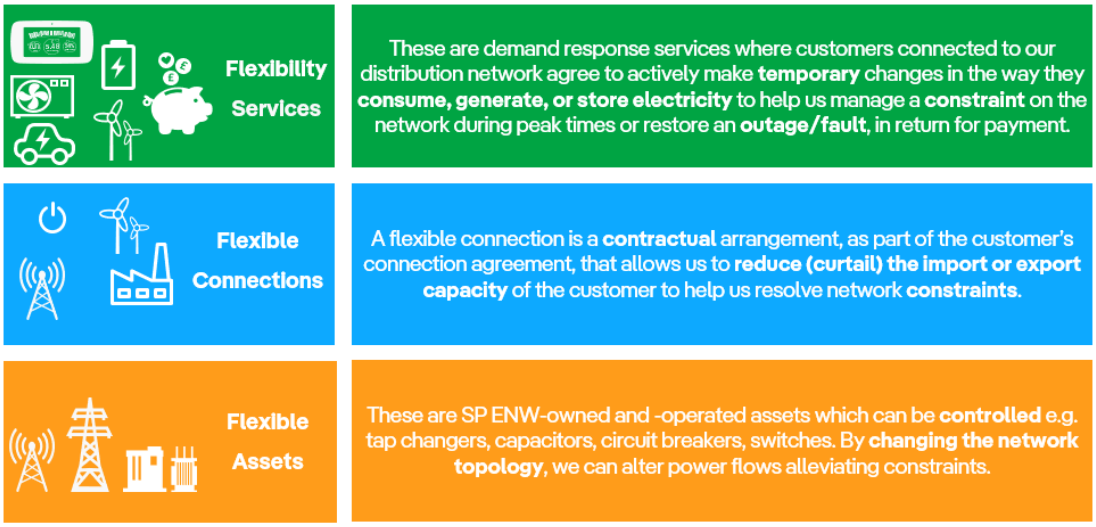

Figure 5-1 - Overview of the flexibility types we use

6. Dispatching Flexibility Resources

6.1. Our Integrated Systems

Our flexibility resources scheduling and dispatch infrastructure is based on three systems which work together:

- Our **Active Network Management (ANM)** system, alongside the **Merit Order Management (MOM)** module, is the core engine that forecasts constraints, monitors network conditions in real time, reviews flexibility options, and triggers action. These options are then either scheduled in advance by the DSO operational team or presented to network control engineers as additional network management options in real time. Our ANM system seamlessly integrates with our Network Management System (NMS) to hold real-time data for network topology, running arrangements, metering data, and system monitoring devices.
- The third-party flexibility market platform, ElectronConnect, contains details of our flexibility contracts and facilitates the dispatch of flexibility services.

Our ANM system went live in January 2025

6.2. Our ANM and MOM systems

SP Electricity North West employs a hybrid approach combining automated and manual dispatch methods to manage flexible resources (Flexible Assets, Flexible Connections, and Flexibility Services) across its network. At the core of this approach is the ANM system, which continuously monitors real-time network conditions and responds dynamically to emerging constraints. When a network constraint is detected, the ANM system either directly controls or sends operational instructions to Distributed Energy Resources (DERs)—such as generators, energy storage systems, and controllable loads—connected to the affected network areas to alter their operation in order to help manage the constraint. This capability ensures efficient network operation, enhances system reliability, and supports the integration of low-carbon technologies, aligning with the SP Electricity North West's broader decarbonisation and digitalisation goals.

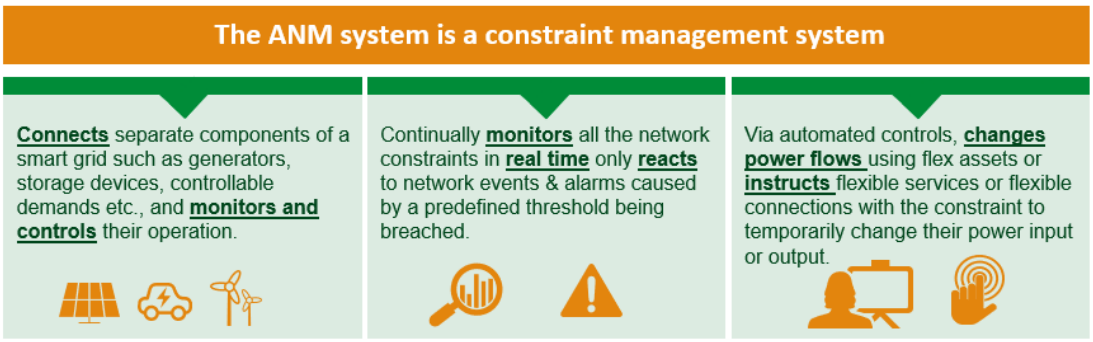

Figure 6-1 - ANM System Overview

The ANM will become the primary method for the dispatch of flexible resources, while the control room and operation staff will retain the ability to manually dispatch resources in the event that the ANM system is not operational, or there is a need to on the grounds of safety or security of supply.

When a constraint occurs the ANM system will use its available options in the following order:

1. Flexible Assets
2. Flexible Connections and Flexibility Services
3. Non-flexible connections - these will be our last resort, in the unlikely event that network re-configuration is inadequate or there are not enough flexible resources available to resolve the constraint.

Our dispatch approach is technology agnostic, which means all DERs - whether contracted directly or via aggregators -are treated equally.

Our ANM system operation is based on two core components:

- The system which carries out network modelling and operation activities in real-time to manage network constraints.
- The Merit Order Management (MOM) system, which is an external component to the ANM system and ranks flexible resources to be dispatched within a merit order list, based on a Curtailment Index and Pseudo Pricing methodology.

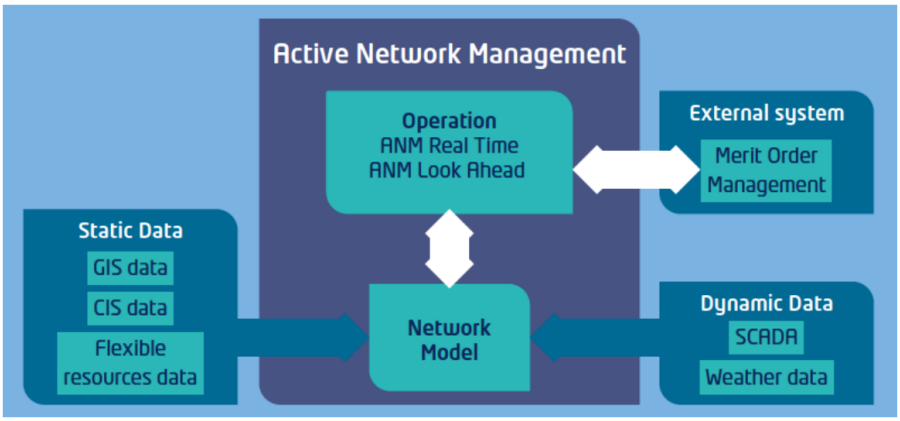

Figure 6-2 - ANM system architecture

6.3. Curtailment Index and Pseudo-pricing

Each connected DER has a Curtailment Index which presents the actual curtailment experienced within the year versus the maximum estimated allowance. The CI is created and updated by the MOM system and is sent to the ANM system on a regular basis. The CI is dynamic, as every time a DER is curtailed, its curtailment index value is recalculated to reflect the number of MWh it has been curtailed by and, as such, its position in the curtailment merit order list may change.

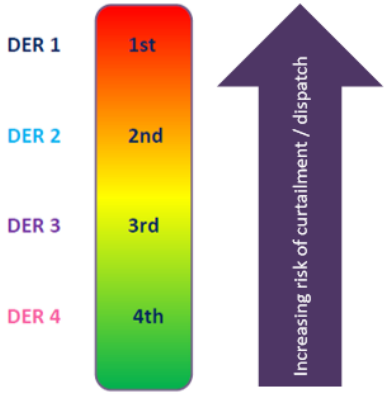

Figure 6-3 - DERs in merit order list and their risk of curtailment/dispatch

$$\text{Curtailment Index} = \frac{\text{Actual curtailment throughout the year so far (MWh)}}{\text{Curtailment allowance for the year (MWh)}}$$

Whichever DER has the experienced the lowest level of curtailment compared to the estimated maximum curtailment allowance for the year is positioned further up in the merit order stack and more likely to be curtailed/dispatched to manage a constraint, whereas DERs that have experienced the highest level of curtailment compared to the estimated maximum curtailment allowance for the year are at the bottom of the stack, and less likely to be utilised to resolve a constraint (Figure 6-3).

SP Electricity North West is the only UK DNO that is using the Curtailment Index methodology to determine the dispatch or curtailment order for flexible resources. This is proven to be a fairer and more transparent approach as curtailment is distributed equitably across flexible resources based on their current curtailment level and provides a curtailment threshold which mean customers' investment decisions can be more certain.

Furthermore, to allow for the unbiased deployment of flexibility solutions, our system can introduce a "pseudo curtailment price" to the Curtailment Index of Flexible Connections. This enables us to directly compare Flexible Connections (which are uncompensated when they are curtailed) and Flexible Services (which receive payment when they are

dispatched) that co-exist within the same Merit Order list and rank them in the optimal commercial order for dispatch. Then, the commercial value of curtailment can be configured in the MOM system providing a transparent way to fairly evaluate and rank all flexibility resources against constraints.

6.4. Process of Flexible Resources Dispatch

The data flows and operational actions taken from constraint forecasting up to curtailment/dispatch of flexibility resources are outlined below:

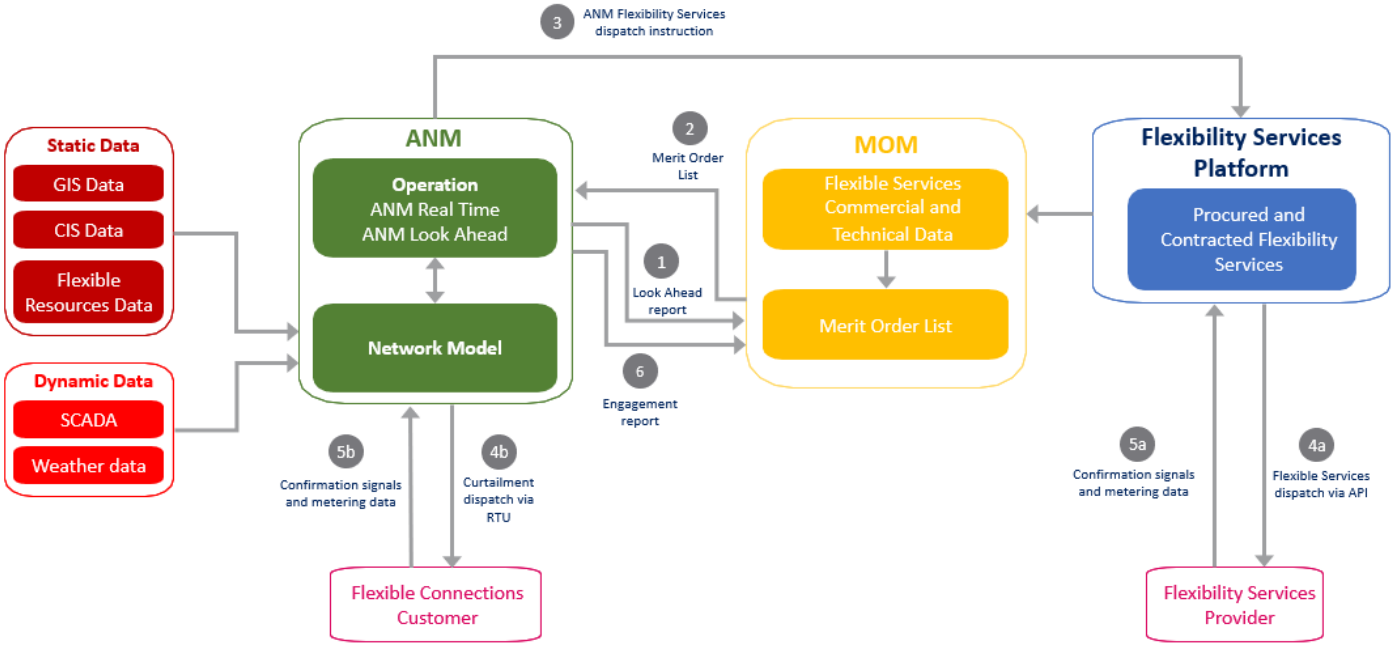

Figure 6-4 - Process and Commercial and Technical Data flows for Flexible Resources Dispatch

Constraint forecast and run-up to curtailment/dispatch

(1) The ANM system creates a **'Look Ahead'** report which provides a 48-hour forecast of potential network constraints in one-hour blocks, using historical data and predictions based on inputs, such as weather data. The output includes a prediction of the magnitude of curtailment required and list of assets connected to each constraint. The "Look Ahead" report is sent to the MOM system for the DSO team to make commercial decisions on utilising more flexibility services or other operational practices.

(2) The ANM system also holds the **master merit order** of connected customers (created by MOM) and the threshold up to which they can be curtailed or where flexible services contracts exist.

The 'Look Ahead' and merit order are updated every hour on a rolling basis.

During curtailment/dispatch

If the ANM system detects a network issue/constraint which requires action, it starts to work through MOM's latest merit order list, filtering for the specific constraint, whilst checking against Primacy rules. The ANM system sends a signal to DERs to change output, continuing down the list until the constraint is managed. The ANM system:

(3) Sends dispatch requests for Flexibility Services via our third-party Flexibility Services market platform (ElectronConnect), which **(4a)** then dispatches these resources and **(5a)** monitors responses and handles settlements.

Or

(4b) Curtails/disconnects any flexible connections via a Remote Telemetry Unit (RTU) and **(5b)** monitor responses.

Post-Curtailment/Dispatch

(6) The ANM system creates an **"Engagement Report"** which holds the data of which Flexible resources (connections, and Services) it has dispatched/curtailed and sends it to MOM to update the curtailment/merit order list.

Curtailment Indices and pseudo-curtailment prices are adjusted, potentially changing the merit order for future constraint events.

Examples with visuals and use cases are included within the full ODMF report to make it easier for stakeholders to understand our operational decision-making processes, dispatch decisions and systems.

6.5. Why Our ANM System Leads the Industry

Our ANM system leads the industry by delivering unmatched efficiency, scalability, robustness, and fairness.

- ✓ **Efficient & Centralised**: Single real-time topology combining ANM and NMS for streamlined operations, leading to increase efficiency, better control and lower risk of data loss.
- ✓ **Scalable**: Rapid mass deployment in days, not limited by GSP-specific solutions.
- ✓ **Automated & Reliable**: Fully automated actions and commissioning reduce errors and improve resilience.
- ✓ **Optimised Capacity**: Unlocks extra capacity at zero cost before utilising flexibility services/flexible connections, avoiding over-dispatch/over-curtailment.
- ✓ **Fair & Transparent**: Curtailment Index ensures curtailment is distributed more equally across all customers.
- ✓ **Unbiased Deployment**: Pseudo-pricing delivers optimal commercial order for deploying flexibility services and flexible connections.
- ✓ **Setting New Standards**: Raises the bar for cost-effectiveness, transparency, and operational excellence.

6.6. How we manage “Technical Limits” (Part 4 Connections)

Part 4 Connections are DERs connected to GSPs under specific technical constraints. They are subject to curtailment when approaching or breaching “Technical Limits” (TLs) which is the minimum and maximum acceptable power flow (expressed in MW) at the GSP beyond which wider transmission system constraints could be active.

These Part 4 DERs are entered into the ANM system and ranked in a separate Curtailment Index stack which is used to resolve only transmission-level constraints. If a TL is at risk of being breached, Part 4 DERs are curtailed first, before any other flexible connections or services. The curtailment order is based on their position in the Curtailment stack for Part 4 Connections. If the constraint is not related to a Technical Limit, the standard Merit Order is used instead.

The NESO requires DNOs to manage DERs to prevent TL breaches. If a TL breach occurs, the DNO must curtail or disconnect the relevant Part 4 DER. If a Part 4 DER fails to respond to a curtailment signal, this may lead to commercial discussions about its continued connection rights. Therefore, DNOs must pre-emptively set curtailment limits to allow DERs to be curtailed before a TL is breached.

Following stakeholder consultation (February 2025 and October 2025), we have adopted the Last In First Out (LIFO) methodology for curtailing Part 4 connections. Benefits of adopting the LIFO methodology include simplicity, transparency, predictability, fairness, and alignment with stakeholders’ preference. More details and examples of the LIFO methodology are provided in the full ODMF.

6.7. ODM Use Cases

Figure 6-5 below defines some of the core use cases that SP Electricity North West follows with regards to ODMF and the hierarchy of the decision-making processes and systems which are utilised and implemented.

Further details about other network automation systems that we use for post-fault network restoration and voltage control (e.g. CLASS, FLISR, Smart Street), which coordinate with the ANM, are provided in the full ODMF report.

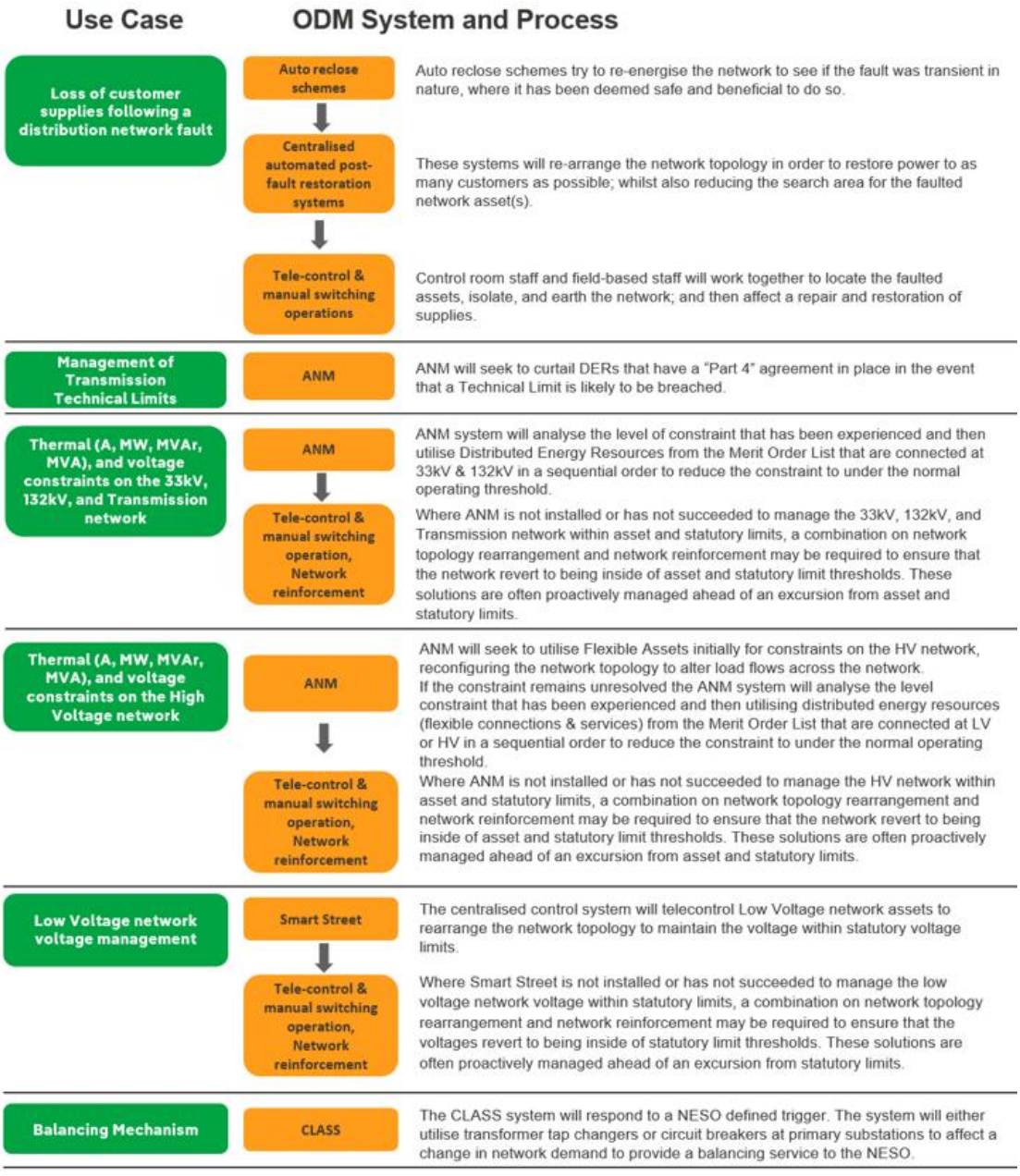

Figure 6-5 - Operational Decision-Making use cases

7. Industry Coordination and Conflict Management

We make sure our operational decisions and solutions are coordinated from a whole energy system perspective to remove barriers for participation in the flexibility market, encourage market liquidity and avoid conflicts between services and products.

We have been working closely with the other DNOs and the NESO as part of the Primacy Working Group[1] to support the development and implementation of the Primacy Rules, which establish who has priority for flexibility dispatch between DNO and NESO under specific circumstances, promoting whole system efficiencies. Our current operational and dispatch principles consider the potential for conflicts of service between SP Electricity North West and the NESO and adhere to the Primacy rules, and as additional rules are developed, we will incorporate them into business as usual as soon as they are required. The Primacy rules involve sharing data in the form of a Risk of Conflict (ROC) report between DNOs and NESO on a weekly basis to manage potential service conflicts, and we publish those on our Open Data Portal.

Our pricing strategy for procuring Flexibility Services is using the standardised industry Common Evaluation Methodology (CEM) tool, which was developed ENA Open Networks Project in collaboration with other DNOs and the NESO. The CEM tool allows us to perform cost-benefit analysis to determine the optimal intervention solutions to manage network constraints, comparing traditional asset reinforcement with flexibility services, determine the ceiling prices we offer, and assess the Flexible Service Providers' bids to ensure they offer value for money.

8. Independent Oversight

Our DSO Stakeholder Panel provides external oversight, challenge and guidance on our DSO activities, ensuring transparency and fairness in our decision-making. The panel includes independent representatives from various stakeholder groups, reflecting diverse voices and perspectives.

[1] *Currently led by Elexon as the Market Facilitator since summer 2025.*

9. Data and Information Sharing

SP Electricity North West's Open Data Portal shares operational and non-operational data to promote transparency and collaboration in our operational decision-making. This portal can be freely accessed by our customers and stakeholders via the SP Electricity North West website. The portal data supports stakeholders in making informed decisions, driving competition, and facilitating the transition to net zero.

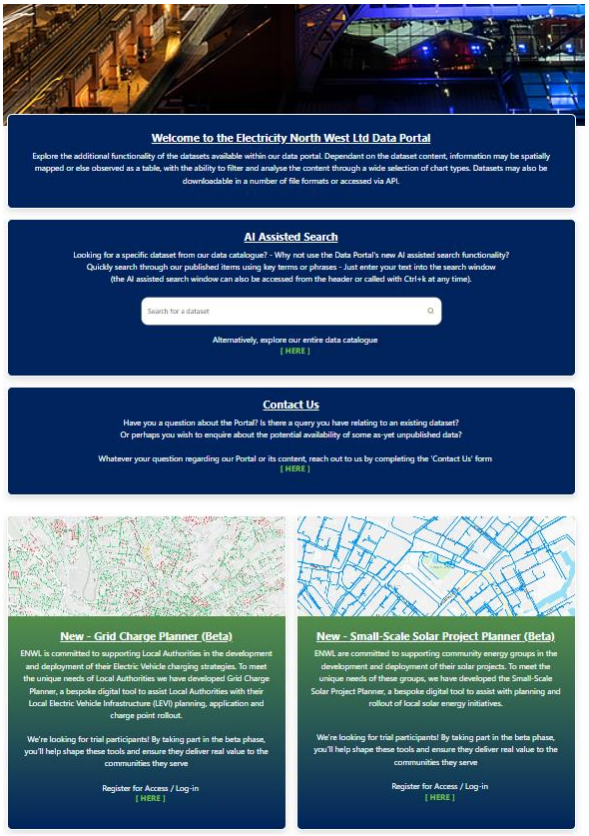

Figure 9-1 – SP Electricity North West's Open Data Portal

The site allows users to easily search, view, filter and analyse the content, or export datasets in simple standardised formats via API, including API, KML, CSV, JSON, Shapefile and XLSX. A range of operational and non-operational data sets freely available to users, including Network Development Plans (NDPs), demand capacity headroom, generation capacity headroom, Distributed Future Electricity Scenarios (DFES), smart meter installation, Long Term Development Statement (LTDS), flexibility services (current and historical requirements), flexibility dispatch data, Primacy Risk of Conflict Report, unplanned outages, etc.

We will be sharing additional data sets with other market entities, such as the NESO, via Inter-control Centre Communications Protocol (ICCP) links and security protected Application Programming Interfaces (APIs) to enable enhanced and coordinated whole system operational and non-operational decision-making.

10. Review and Update Process

This year we have actively engaged stakeholders through webinars and our Stakeholder Panel to ensure a clear understanding of the processes and systems we use for operational decision making.

Moving forward, we have committed to reviewing the ODMF document annually, incorporating stakeholder feedback and leveraging the DSO Stakeholder Panel to improve processes.

The review process includes drafting document updates, consulting stakeholders, and holding live and online events to present changes in the new version. The aim is to ensure the document remains relevant and effective in guiding operational decision-making.

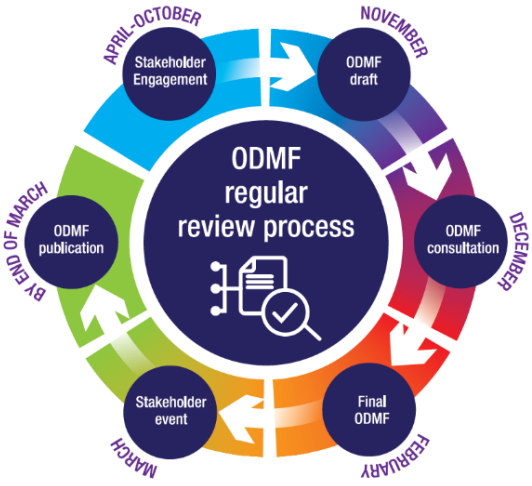

Figure 10-1 - Our ODMF review and update process

11. Engage with us

If you want to speak to the team about our Operational Decision Making or Flexibility Services, please get in touch at flexible.contracts@enwl.co.uk.

We encourage feedback and collaboration to continuously improve our processes and services.