

Distribution System Operation Review Panel Annual Report 2023-24

Introduction

This report covers the work of the independent Northern Powergrid Distribution System Operation (DSO) Review Panel (DRP) from its inauguration in August 2023 through to end March 2024.

Summary

Northern Powergrid's DSO Review Panel was launched as a sub-group of its Customer Engagement Group (CEG¹), with the appointment of a Chair, in August 2023. Since then, the main activities have been recruiting the members of the panel, mobilisation, establishing ways of working and reviewing the key steps in the Flexibility First Decision Making Framework².

Northern Powergrid is in the early stages of establishing and embedding Flexibility First decision making, having held 3 tenders over the last 18 months, resulting in awarding 4 contracts. Considerable effort has gone into documenting processes and communicating them to stakeholders. Within this context we have identified a couple of opportunities to increase transparency and openness of data to assist flexibility service providers and other stakeholders.

1. Establishing the DRP and Ways of Working

Northern Powergrid is committed to delivering DSO functionality, including the use of flexibility solutions to defer or avoid conventional network reinforcement solutions wherever appropriate. Its Flexibility First policy³ is to employ flexibility services as a solution in preference to network reinforcement wherever it can demonstrate it is the most efficient and economical overall outcome for customers.

Northern Powergrid's ED2 business plan includes a DSO strategy to invest in systems and people to deliver a smarter and more flexible energy system for customers to decarbonise efficiently. The DRP has been established to fulfil DSO strategy initiative 3.3⁴, which included a commitment to making its decisions transparent via a stakeholder panel who could comment on and challenge major investment decisions and decision-making processes. Its purpose is to provide independent scrutiny and challenge of the decision-making process and the associated outcomes to ensure that decisions on the selection between flexible and conventional asset-based solutions are in line with published policies; and that the selections are just and inclusive so that no customers are left behind.

¹ At the end of 2023 Ofgem advised that Customer Engagement Group's would be renamed Independent Stakeholder Groups. For the purposes of this report the old name has been used.

² Distribution Network Options Assessment Methodology, Figure 6
<https://northernpowergrid.opendatasoft.com/explore/dataset/distribution-network-options-assessment-dnoa/information/>

³ The Flexibility First policy, DRP TOR and details of the DRP membership can be found on the DRP webpage <https://www.northernpowergrid.com/dso-review-panel>

⁴ [Page 34 of DSO_strategy.pdf \(northernpowergrid.com\)](#)

It was agreed by the CEG in June 2023 that the DRP should be formulated as a sub-group of the CEG, maintaining strong links between the two scrutiny panels and with overlap of membership. A Terms of Reference³ for the DRP was subsequently agreed with the CEG in August 2023.

Following an open recruitment process using a recruitment consultancy for the CEG Chair role, the DRP Chair, Jo Coleman, was selected from the shortlisted candidates and appointed in August 2023, together with 2 existing members of the CEG, Mike Kay and Graham Oakes who contribute skills in network engineering, flexibility and data. Open recruitment for additional members utilising a recruitment consultancy commenced shortly afterwards and three additional members – Claire Addison, David Lynch and George Day were appointed in December 2023. They bring expertise in flexibility procurement and regulation, fuel poor households and vulnerable customers, and network regulation and systems thinking³.

Two mobilisation sessions have been held to familiarise the panel with the Energy Systems function within Northern Powergrid, which holds responsibility for DSO functions, and the Flexibility First Decision Making Framework.

Independence and transparency are key principles underpinning all the CEG and DRP's work. As well as the Conflicts of Interest Register, summaries of meetings will be published on the DRP's webpage.

2. Work completed to date

The DRP work to date has focussed on building an understanding of the whole Flexibility First decision making framework, including key network development business processes and how they underpin flexibility first decisions.

Following recruitment and mobilisation, the full DRP has met once in February 2024, at which it reviewed the key optioneering and decision-making steps in the Flexibility First Decision Making Framework. This included consideration of the:

- End to end network development process, including flexibility options evaluation
- Common Evaluation Methodology (CEM) tool and its results
- LV flexibility value calculation
- 2023 autumn HV & LV flexibility tender sites, ceiling prices and results

A deep-dive on the forecasting of customer needs and network needs assessment has also been held and reviewed the:

- Distribution Future Energy Scenarios (DFES) methodology
- Network constraints, impact analysis and resulting network development plan
- Distribution Network Options Assessment (DNOA)
- Quantification of flexibility services required (location, magnitude and duration)

The Engineering Justification Papers (EJPs) for all parts of the network being considered for flexibility or reinforcement due to load related issues in the next 1-2 years have been reviewed. In addition, the EJPs for assets being brought forward in the current price control period (ED2) for replacement or refurbishment due to health-related issues have also been sighted.

The DRP has also critiqued the draft report for a Cost Benefit Analysis of Northern Powergrid's DSO function undertaken by external consultants for Northern Powergrid.

Finally, as part of broader CEG stakeholder engagement activities, DRP members have observed and provided feedback on relevant external engagement webinars, including:

- Transparency in Network Planning
- 2023 DFES
- Flexibility Services Strategy 2024

3. Observations and Initial Recommendations

Northern Powergrid began tendering for flexibility services in Autumn 2022 and had awarded four contracts as a result of the Spring 2023 and Autumn 2023 tenders. It transitioned to the Piclo platform for flexibility procurement in the second half of 2023 and used it to tender for a further 3 HV and 10 LV sites in Autumn 2023. It also requested Expressions of Interest for 7 HV sites for services to be delivered in 2027/28.

In contrast to some DNOs, many of the geographical areas that Northern Powergrid serves are not yet seeing a net increase in electricity consumption leading to network overloads. De-industrialisation and efficiency improvements have more than offset the relatively slow uptake of electric vehicles and heat pumps (in contrast to the UK average). As such, capacity headroom to accommodate demand growth exists across much of the primary network and limited load-related expenditure is currently needed. Northern Powergrid's forecasts for uptake of low carbon technologies later in the ED2 planning period indicate that loads will increase, driving the need for reinforcement. Northern Powergrid aims to defer or avoid all of the purely load related investment through flexibility procurement and in doing so will have the processes, systems and skills in place to procure flexibility at scale when load growth accelerates. Likewise, beginning to engage with domestic and industrial customers providing flexibility is providing important learnings for future engagement, for when either Northern Powergrid or ESO⁵ scale up market access.

The DSO team at Northern Powergrid has welcomed the challenge and scrutiny of the panel and been open and forthcoming about the nascency of its Flexibility First processes and the challenges faced.

Northern Powergrid has developed and documented the key steps in the Flexibility First process and has begun testing these. The Autumn 2023 tender round is the first tender round that the DRP has observed. It was also the first time the tender process has been fully operated through the Piclo market platform, resulting in partial fulfilment of flexibility demand; with enough flexibility procured that no load-related asset interventions have needed to be triggered. Northern Powergrid is optimistic that (for the concerned sites) the remaining gap between flexibility needed and procured can be filled through subsequent tender rounds. It will also improve its ability to manage and dispatch flexibility in near-real-time (e.g. for day-ahead and intraday dispatch of flexibility services) in the future (planned for 2025), which will make its flexibility market more attractive to some flexibility providers. The DRP supports this staged approach to procuring flexibility and applying a learning by doing approach for Northern Powergrid, flexibility service providers and customers across the region.

Northern Powergrid has also undertaken a concerted program of external engagements to communicate the flexibility processes and related outcomes to stakeholders. These

⁵ The Energy System Operator (ESO) is a major procurer of flexibility, such as its Demand Flexibility Service.

have been well executed and, overall, appreciated by stakeholders, although they can become opportunities for stakeholders to raise issues other than flexibility. Northern

Powergrid is tackling this by clearly stating the topics that will be addressed and signposting upfront where stakeholders can find information on other issues. It has also committed to provide additional expertise, where possible, to cover these off-topic issues. When a considerable number of questions have been raised at an event a Questions and Answers document has been circulated to all registered attendees shortly after the event. Further planned engagements targeting specific stakeholder groups will complement the broad approach to engagement observed to date.

Review of the Flexibility First Decision Making Framework has not identified any major concerns, but the DRP considers that there are opportunities to increase the clarity and transparency of the processes within it and to assist flexibility service providers and other stakeholders by making more of the raw data available publicly. Specific recommendations are:

1. Northern Powergrid should share as much data as possible that could impact the plans of flexibility service providers. One example of this is asset health data. Although the Network Development Plan⁶ includes planned asset health interventions, the DRP considers that stakeholders could derive more value in accessing and interpreting the raw data themselves and hence would benefit from seeing a heat map of all health indices.
2. The Flexibility First Code of Practice (CoP) is a relatively high-level document. The steps within it are further detailed in a variety of places (e.g. the DNOA methodology) such that it is quite difficult to piece together the full details. The DRP recommends that a mapping of the hierarchy and relationships between the various CoPs and methodologies is produced (possibly through an update to the suite of Network Development CoPs) and published.

4. Forward plan

The DRP has identified the following areas for deeper review in the next 6 -12 months:

- The regulatory framework which sets the drivers for Northern Powergrid's investments and Flexibility First policy, including the operation of the CEM tool framework for comparing the benefits of flexibility against network investment solutions.
- The results and implications of the DSO Cost Benefit Analysis undertaken.
- The impact of procuring flexibility services on customers, both those who participate and those who don't.
- The process of baselining customer demand in contracted flexibility services.
- The methodology for calculating LV flexibility services demand and price ceiling.
- An internal audit scheduled to complete in Q2 2024 on Flexibility First decision making and its recommendations.

We will also continue to observe the ongoing procurement of flexibility services and the outcomes in terms of asset interventions avoided as well as utilisation of contracted flexibility services, ongoing external engagement relevant to flexibility and openness and transparency of related publications

⁶ <https://northernpowergrid.opendatasoft.com/explore/dataset/npg-network-development-plan-report-and-methodology/information/>