

▷ Distribution**System**Operator

A guide to our governance with the Distribution Network Operator

March 2024

DSO | national**grid**



Contents

Foreword	03
Our business plan commitments	07
Our overarching DNO-DSO structure	08
DNO-DSO interactions	12
DSO supporting services and group functions	18
Next steps	19

Welcome
A guide to our
governance with the
Distribution Network
Operator

Foreword

This document sets out the progress National Grid has made in developing our governance structures to demonstrate independence between the Distribution Network Operator (DNO) and Distribution System Operator (DSO).



Joint foreword from Ben Godfrey, Director of Distribution System Operator, and Phillipa Slater, Director of Asset Management and Operations.

In the first year of our new regulatory price control (R110-ED2), we have continued evolving our DSO capabilities so we can meet the expectations of our stakeholders. We have begun the functional separation of the DSO and established executive-level DSO leadership. We have taken significant steps towards putting in place clear accountabilities between the DNO and DSO. These steps are set out in this document.

We have strengthened our approach to independent oversight by establishing our DSO Panel. The Panel will hold us to account on the transparency of our decision making and in achieving value from the DSO. We have also set out a timeline for our approach to strengthening risk management, compliance, and audit of our key processes across the DNO and DSO. This commitment is part of our ambition to provide clarity and build trust that our DSO is delivering in the right way.

Close collaboration between the DNO and DSO is fundamental to the safe and secure operation of the electricity network and to facilitate the transition to a decarbonised energy network. At National Grid, our vision is to be at the heart of a clean, fair and affordable energy future. This guides us in how the DNO and DSO work together in the most effective way.

At our recent Governance for Net Zero engagement event, our stakeholders told us how important transparency of

decision making is – they value being able to provide input into the development of our processes. This document is our next step in providing this transparency, and we will provide more detail over the coming months, as we develop our decision making frameworks.

Ben Godfrey – Director of Distribution System Operator

Phillipa Slater – Director of Asset Management and Operations

Introduction and purpose

This document is intended to:

- articulate our approach to how perceived and potential conflicts of interest between the DSO and DNO functions will be managed
- describe the difference in roles between the DSO and DNO, and the key interactions between these two functions
- explain the extent of separation between the DSO and DNO, and how this benefits our stakeholders in the current regulatory landscape

We want to help stakeholders navigate the relatively new functions of the DSO as it operates alongside the DNO. We also aim to be open and transparent, with a view to obtaining feedback on our evolving approach.

Who we are

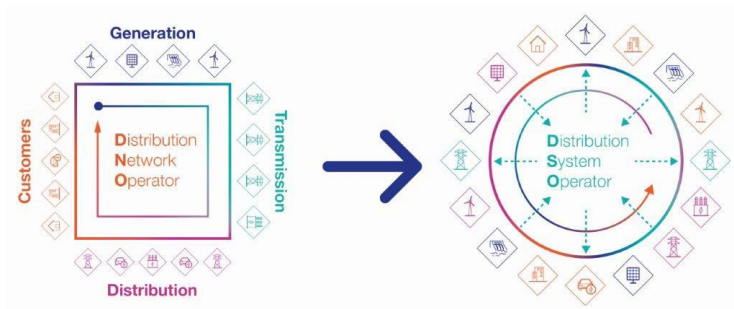
National Grid Electricity Distribution (NGED) is the largest electricity distribution company in the UK, serving eight million homes and businesses across the Midlands, South West

England and South Wales. Our network covers densely populated residential areas and widely dispersed rural communities. We operate from the Lincolnshire coast in the East Midlands, through to Gloucestershire in the West Midlands, to Cardiff and Swansea in South Wales, and down into the South West to the counties of Somerset, Devon and Cornwall.

We manage a network of more than 188,000 substations, over 225,000 kilometres of underground cables and overhead lines, and nearly 1.4 million poles and towers, spanning 55,000 square kilometres.

The DNO is responsible for performing five core tasks:

- 1 **New network:** build new electricity infrastructure where needed
- 2 **Reliability and supply:** keep the power flowing by operating and protecting our assets
- 3 **Maintain and repair:** fix the network if equipment gets damaged or is faulty
- 4 **Connections:** manage connecting customers to our network
- 5 **Customer and community:** deliver on our social contract to deliver services for all customers, including the vulnerable



DSO roles and responsibilities

The DSO has three core roles which were established by Ofgem in a series of consultations and explained in their [guidance published in 2023](#)¹:

- 1 Planning and network development
- 2 Network operation
- 3 Market development

Our DSO charter outlines our [DSO vision and commitments](#) across these three roles, as shown in the diagram pictured².



¹ <https://www.ofgem.gov.uk/publications/decision-proposed-modifications-riio-2-electricity-distribution-licences>

² <https://www.nationalgrid.co.uk/downloads-view-reciteme/649243>

Context

The energy sector is undergoing a significant and exciting period of change as the UK works towards a net zero future. At the local level, decarbonisation, digitalisation and decentralisation are progressing at pace.

Our role as an electricity DNO is to operate a safe and reliable network that keeps the lights on for our customers. Historically, when demand has increased, DNOs have responded by building

more network. The role of the DSO is to make sure a broader range of options are considered and used where they offer value for money to consumers.

When considering how to manage a constraint on the network, the DSO first considers and assesses alternative flexibility-based solutions. This ‘flexibility first’ approach has the potential to create conflict between the roles of DNO and the DSO. Therefore, it’s really important for us to be clear about the division of responsibilities between DNO and DSO, particularly regarding

the three DSO roles set out by Ofgem in its [RIIO-ED2 Final Determination](#)³ and confirmed in [decisions and guidance](#) following this⁴.

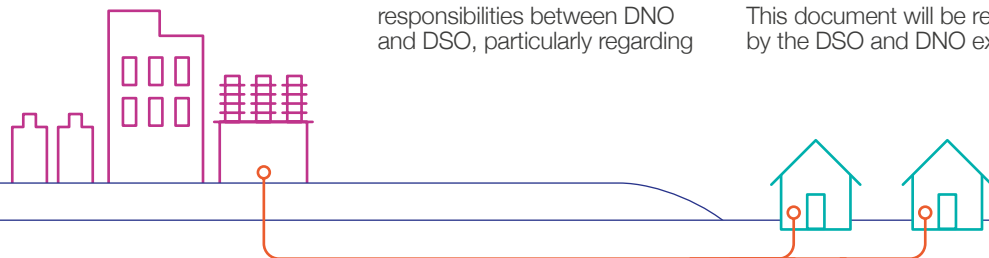
Audience and review

This document is intended to provide transparency to stakeholders on our DSO and DNO processes, and allow stakeholders to provide views on how we are managing perceived conflicts of interest in a meaningful way.

This document will be reviewed by the DSO and DNO executive

annually. We will seek views on relevant DSO/DNO interface issues through our programme of workshops and events throughout the year.

There are detailed operational policies that support this publication that are used by [DSO and DNO teams to inform decision making](#).⁵



³ RIIO-ED2 Final Determinations | Ofgem

⁴ [Decision on the proposed modifications to the RIIO-2 Electricity Distribution licences](#) | Ofgem

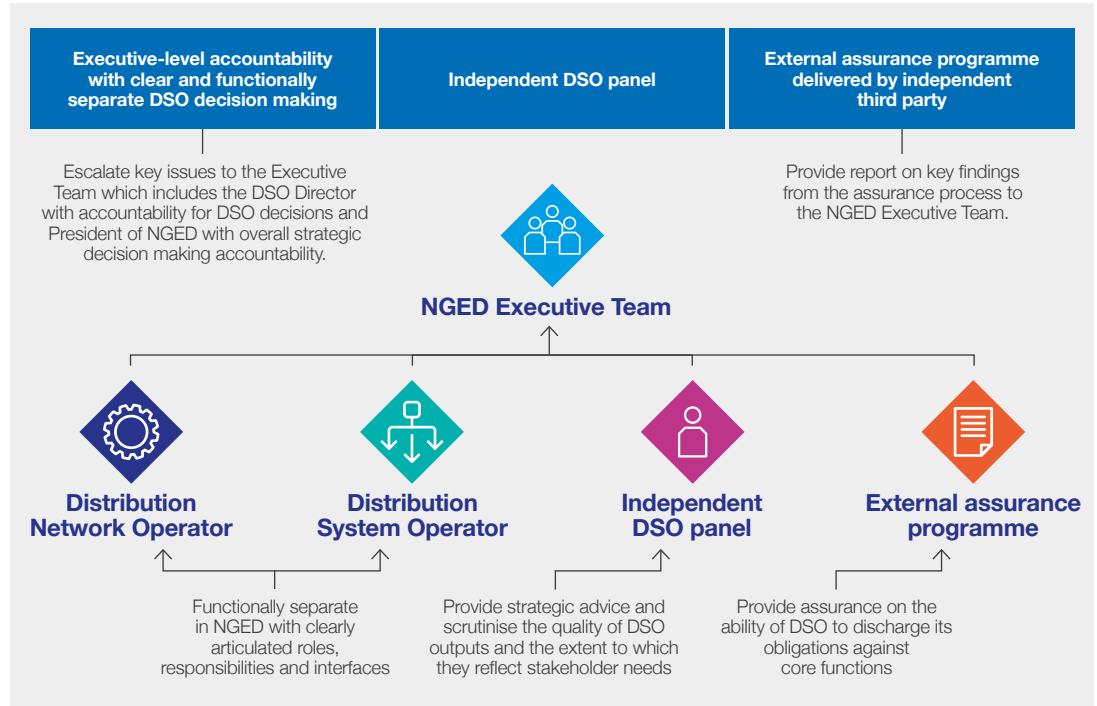
⁵ The DSO's policy documents are published at National Grid - Documents: <https://www.nationalgrid.co.uk/documents/tech-info/dso>

Our business plan commitments on DSO governance

Our business plan made three main commitments on DSO governance:

- 1 Establish functional separation
- 2 Set up an independent panel
- 3 Develop an external assurance programme

We have been developing our approach on these commitments, which you can read about in the next two pages, covering functional separation and DSO governance more broadly.



Our overarching DNO-DSO structure

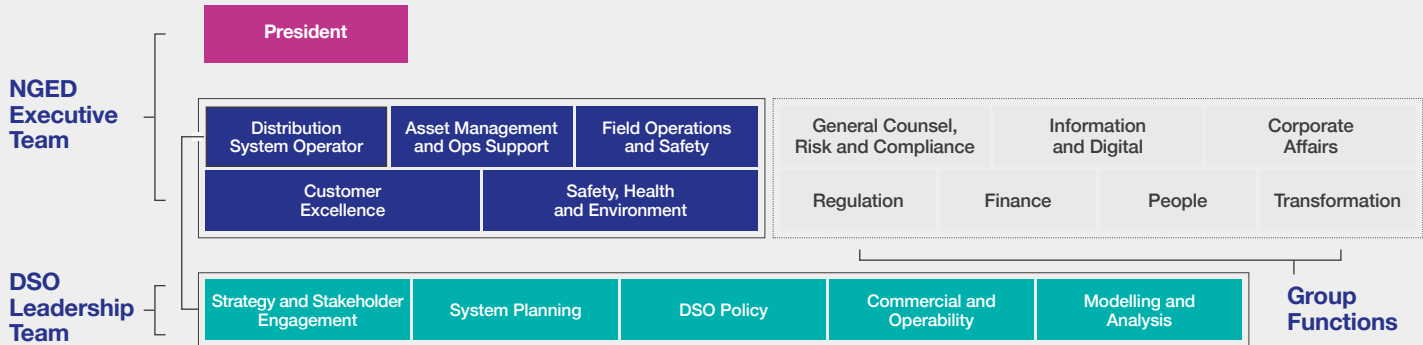
National Grid has taken significant steps over the past two years to implement meaningful, functional separation of the DSO functions from those of the DNO. We've done this while keeping the DSO within the National Grid Electricity Distribution (NGED) licenced business.

We believe this approach strikes the best balance across the following objectives:

- mitigating potential or perceived conflicts of interest
- facilitating transparency in decision making
- supporting the sharing of data, knowledge and services between DNO and DSO functions
- keeping costs to consumers down while delivering a quality service

We recognise that this is a learning phase for the provision of DSO functions. We will keep our approach to separation under review and will continue to seek stakeholder views on this.

We have established separate DSO teams within the NGED structure, and board-level accountability for DSO responsibilities.



Functional separation



While the DNO and DSO remain a single legal entity, the functional separation takes the following form.



A distinct DSO organisational structure within the DNO

This comprises separate operational DSO teams, with clear responsibility for DSO roles. These teams report into a Director of DSO, who forms part of the NGED executive leadership structure. You can find further details about the DSO structure and team functions in our [DSO Charter](#).⁶

External scrutiny

Establishing a DSO Panel with an independent chair and Panel members, and assurance of independence in DSO decision making through external audits. You can find out more about these later in this document.

Information access

DNO and DSO data is presumed open across the DSO and DNO according to the data principles established by Ofgem. In cases where any data, which isn't publicly available, is not currently readable across both parts of the business by default, we will work to make that happen. Where data is commercially sensitive, we will control access by making sure read and edit permissions are relevant to an individual's role within the organisation.

Finance

The DSO is treated as a separate function within the NGED business, and personnel costs of the DSO function are reported separately.

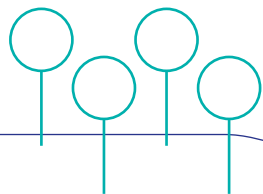
Regulatory reporting

The DSO has separate reporting in the annual Regulatory Reporting Pack. This includes separate line items for flexibility, numbers of low-carbon technologies accommodated, and volumes of reinforcement capacity delivered.

Branding

We have implemented a distinct DSO visual identity to differentiate the DSO from the rest of the NGED business while maintaining the brand recognition of National Grid Group as a supportive parent company. This is aimed at giving stakeholders clarity on what part of National Grid they are engaging with.

⁶ DSO Charter: <https://www.nationalgrid.co.uk/downloads-view-reciteme/649243>



DSO governance, transparency and scrutiny



DSO Panel

Over the course of RIIO-ED2 (April 2023 – March 2028), National Grid committed to introducing measures that will ensure independent oversight and external assurance of its DSO. This includes appointing and convening an independent DSO Panel in an advisory capacity⁷.

The Panel will perform both ‘critical friend’ and forward-looking advisory roles to the DSO. It will provide constructive challenge to DSO activities and forward plans to ensure these are high quality and reflect the needs of stakeholders. The panel will also review the effectiveness of DSO governance structures to make sure the DSO is operating independently from the DNO and may recommend improvements to these structures.

The panel will provide a view on the transparency of the DSO’s decisions and compliance with frameworks and policies, as well as whether these policies are fit for purpose. In carrying out its remit, the DSO Panel may commission and review the external auditing reports referred to in the next paragraph. It may also commission research and analysis relevant to effective DSO operation. We will publish further information about how the Panel will operate, including terms of reference, later this year.

Risk, compliance and audit

We will develop our capacity and approach to audit to align with the broader National Grid risk management and compliance approach outlined below. Assurance of our DSO processes and policies⁸ including

implementation of the functional separation of DNO and DSO roles, will ultimately be delivered through regular external audit. We are working hard to improve maturity of our internal assurance processes before reaching this milestone.

Our intention is to move to the ‘Three Lines’ model for internal risk management and compliance, shown on page 11.

This internal process will prepare us for external audit. External audit will provide assurance of our DSO processes and policies, including implementation of the functional separation of DNO and DSO roles. Our indicative timeline for reaching external audit is outlined in the diagram (right). This staged approach draws on wider business knowledge from across the National Grid Group.

External audit timeline

Q1 FY25

Complete first line assurance across DSO and DNO policies

Q2/3 FY25

Complete second line assurance across DSO and DNO policies

Q4 FY25

Internal audit completed on DSO and DNO policies

Q2 FY26 onwards

External assurance of DSO and DNO policies

⁷ This is different to the DSO Performance Panel, which is appointed by Ofgem to assess DSO’s performance

⁸ <https://www.nationalgrid.co.uk/documents/tech-info/dso>

Risk Management and Compliance: Three Lines model

Business – First Line

Risk Management role: Empowered and value-adding business operators who engage in risk taking as part of operational activities and management.

Risks: Identifies, evaluates, quantifies, mitigates and reports risks.

Controls: Establishes, implements and operates the majority of controls to mitigate those risks. Identifies, documents and implements actions to improve controls where required through self-assessment processes.

Business Assurance – Second Line

Risk Management role: Experienced advisors who provide independent, objective and constructive challenge to the activities of the First Line.

Risks: Creates and manages the Risk Framework, against which the First Line identifies and manages risks.

Controls: Creates and manages the control framework, which supports the implementation and operation of controls in the business. Also provides assurance over elements of the framework, in coordination with Third Line activities.

Internal Audit – Third Line

Risk Management role: Providers of independent assurance on the overall design and operating effectiveness of the Risk Framework and its components.

Risks: Provides independent assurance on the effectiveness of embedding the Risk Framework across the first and second lines.

Controls: Provide independent assurance on the effectiveness of the control framework in the Second Line and control functions on the First Line.

Escalation procedure

As the DSO develops its functions and processes, there is potential for challenge between the DNO and DSO functions. Usually, any issues will be resolved at an operational level. This is based on the evolving procedural frameworks and decision making processes we have set out in this publication and other policies we have referenced.

Where there is potential conflict, there is a process to escalate these risks and to allow a strategic decision and potentially a change in policy to happen. This could be where decisions appear to pose significant risks to either DNO or DSO obligations, or where there are other issues which require strategic consideration.

In the first instance, the NGED executive will provide decision making at strategic level on issues of potential conflict.

DNO-DSO interactions: Role 1

We are developing a suite of policy documents that set out the split in responsibilities between DNO and DSO parts of the business across these three roles. Although these technical documents set out and formalise internal working procedures, we have published them so they are available for our stakeholders to read. In this next section, we describe the split in responsibilities across the three DSO roles, summarising our internal policies.

Role 1: Planning and network development

This DSO role instructs the following activity:

Activity 1.1: plan efficiently in the context of uncertainty, taking account of whole-system outcomes, and promote planning data availability.

DNO vs DSO roles in system planning

Responsibility for system planning is split between the DNO and the DSO. Where the responsibility lies depends on what issue triggers the need to plan. Generally, planning around routine changes, maintenance, or work caused by urgent triggers are the responsibility of the DNO.

Examples of these could be a straightforward new connection, a system fault that causes a loss of power to customers, or a safety issue.

Planning around triggers relating to more strategic issues, such as growth in demand or changes to generation, are the responsibility of the DSO. These DNO-DSO interfaces and responsibilities are formalised and further detailed in the DSO's published

Ofgem has determined three core DSO roles⁹:

- 1 Planning and network development
- 2 Network operation
- 3 Market development

policy¹⁰. Corresponding network design, asset management and new connections provisions are formalised in other policy documents published by the DNO¹¹.

The division of responsibility for system planning decisions between DNO and DSO is dependent on the type of trigger for network build. The diagram on page 13 describes this in more detail.

To ensure a flexibility-first approach is embedded in our business processes, the DSO retains the load related expenditure budget for general reinforcement, meaning each scheme requires DSO approval before commencing.

DNO-DSO coordination in system planning

The system planning process requires close coordination between the DNO and the DSO. For example, the DNO needs to keep the DSO informed of new connections, so the DSO can decide if strategic network reinforcement – known as an enhanced scheme – is beneficial. This liaison between DNO and DSO is managed through regular system planning coordination meetings. Both the DNO and the DSO have an obligation to report and update on activity within their respective remits.

DNO vs DSO roles in strategic system planning

Although strategic planning is led by the DSO, it relies on the DNO to provide inputs and implement outcomes of decisions. The breakdown in roles for strategic system planning, and the modelling that supports this is set out in the diagram on page 15.

⁹ https://www.ofgem.gov.uk/sites/default/files/docs/2020/12/ed2_ssm_d_overview.pdf

¹⁰ <https://www.nationalgrid.co.uk/downloads-view-reciteme/639834>

¹¹ National Grid - Technical Information: <https://www.nationalgrid.co.uk/tech-info>

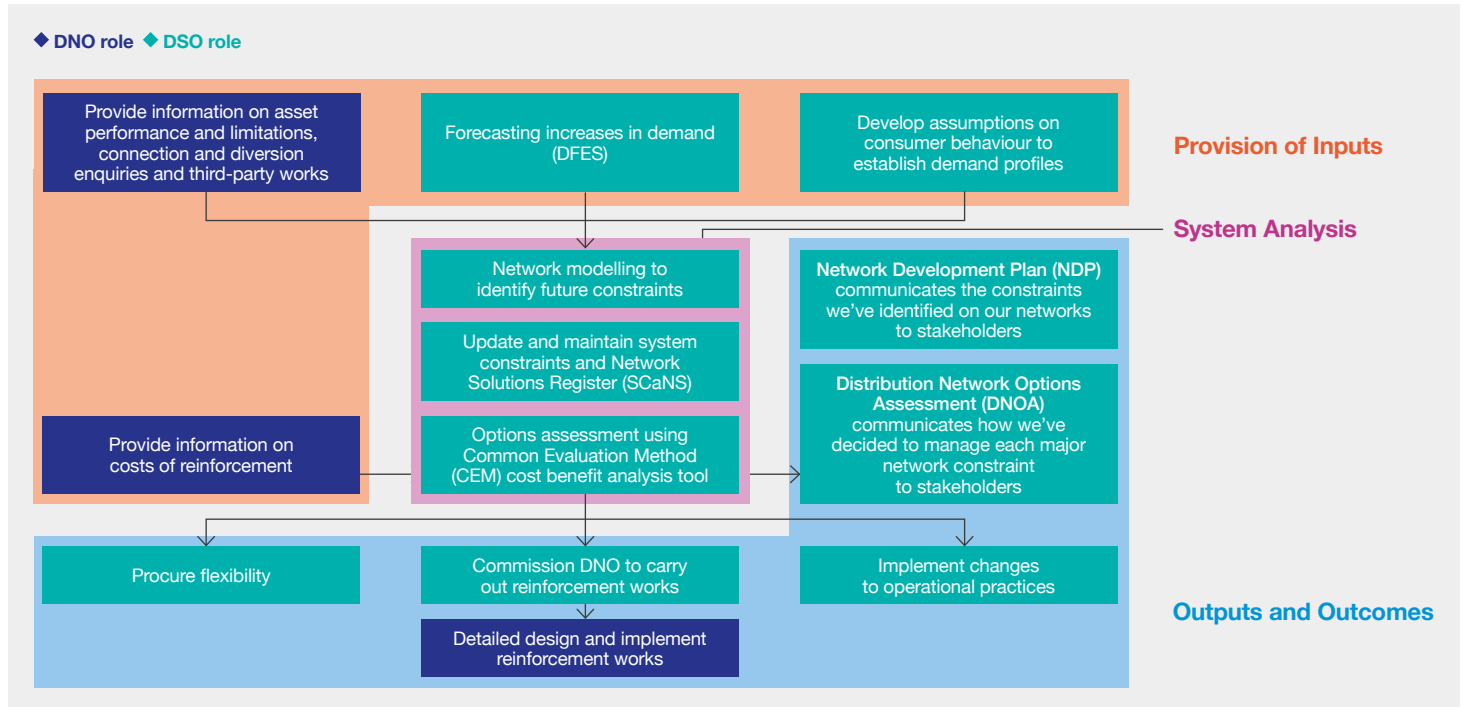
Role 1 continued: Split in responsibilities for system planning

The DNO makes routine or urgent system planning decisions. The DSO makes strategic and longer-term system planning decisions.



Role 1 continued: Split in responsibilities for strategic system planning

While the DSO leads Strategic System Planning, there is still a division of roles across the DNO and DSO.



DNO-DSO interactions: Role 2

Role 2: Network operation

This role contains two activities:

- **Activity 2.1:** promote operational network visibility and data availability
- **Activity 2.2:** facilitate efficient dispatch of distribution flexibility services

Operational network visibility

Roles under this activity are split between the DNO and DSO.

The DNO is responsible for the development of the NGED Data Strategy, which is due to be published in regulatory year 2024/25. The DSO will engage and work with the DNO to ensure this reflects data issues within its remit.

The DNO also manages provision of information on all unplanned

outages, which are available via the [outage portal](#)¹². Planned outages do not routinely affect customers, but where they do, the DNO is responsible for informing them, consistent with guaranteed standards of service. The DNO also manages our [generator portal](#)¹³, which provides a range of information to generators including on planned outages and curtailment.

Constraints data is published by the DSO in the [Network Development Plan](#)¹⁴. The DSO also leads engagement through the [Open Networks Forum Primacy group](#)¹⁵, which seeks to develop processes for data sharing with the Electricity System Operator (ESO), including how we address issues with market distortion and revenue stacking.



Dispatch of distribution flexibility services

In general, the DSO plans dispatch decisions about flexibility services, and also curtailment where this is non-routine.

Occasionally, it is necessary for flexibility services or non-routine curtailment to be dispatched in response to events during the real-time Control Phase, which is done by the DNO. Network

operations is a rapidly evolving role. We will regularly review our approach, particularly the division of responsibilities between DSO and DNO.

These DNO-DSO interfaces and responsibilities are formalised in our [published policy](#)¹⁶. Corresponding network control and operational safety provisions are also formalised in DNO policy documents. As the DNO-DSO interactions mature, the DSO's role in real-time management, i.e. in the Control Phase, may increase.

¹² <https://powercuts.nationalgrid.co.uk/>

¹³ <https://generation.nationalgrid.co.uk/>

¹⁴ <https://www.nationalgrid.co.uk/dso/network-development-plan>

¹⁵ [https://www.energynetworks.org/publications/on-primacy-rules-for-eso/dno-coordination-ver-1.0-\(mar-2023\)](https://www.energynetworks.org/publications/on-primacy-rules-for-eso/dno-coordination-ver-1.0-(mar-2023))

¹⁶ DSO7 (Distribution System Operations)

<https://www.nationalgrid.co.uk/downloads-view-reciteme/649890>

DNO-DSO interactions: Role 2 continued

Network operation and dispatch

We have established an Energy Management Centre within the DSO's Commercial and Operability department to lead on this role. This complements the existing control centre, which sits within the DNO. You can find more detail about the split between these on the right.

Effective network operation has three stages:

- 1 **Preparatory work:** the Operational Planning Phase and the Programming Phase in industry codes
- 2 **Real-time work:** the Control Phase – the response to faults, weather, and other events, whenever they happen
- 3 **Retrospective work:** the Post Control Phase

We have established boundaries for operational decision making between the DNO and the DSO. This initial structure is intended to minimise DNO interaction with flexibility in order to minimise potential for conflict of interest.

◆ DNO ◆ DSO		Real time		
Timescale	Years to months ahead of real time	From 8 weeks up to 24 hours ahead of real time	From 24 hours ahead, up to real time	After the real time period
Operational phase	Operational Planning Longer-term planning for maintenance, replacement or reinforcement	Programming More detailed planning and refinement of plans based on current load levels and profiles and addressing emerging faults	Control Implementation of plans and management of faults	Post Control Review and evaluate actions
DNO	Plans curtailment by default, except where instructed by the DSO		Implements plans for curtailment and flexibility and manages faults	
DSO	Plans curtailment by exception, when there is an opportunity to improve curtailment performance or potential for flexibility to be used			All post-event analysis on curtailment & flexibility
	Plans dispatch of all flexibility services			
	Develops overarching operational policy regarding flexibility services and curtailment, and related security of supply issues			

DNO-DSO interactions: Role 3



Role 3: Market development

This role contains two activities:

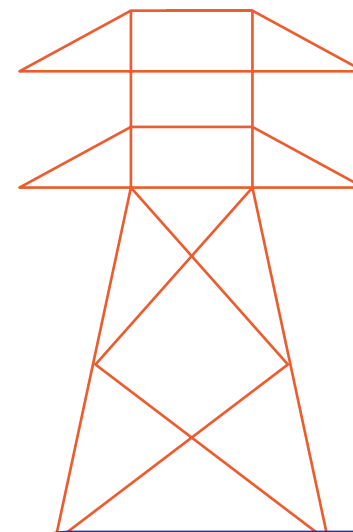
- **Activity 3.1:** provide accurate, user-friendly and comprehensive market information
- **Activity 3.2:** embed simple, fair and transparent rules and processes for procuring distribution flexibility services

We have established a Flexibility Commercial team within the DSO's Commercial and Operability department to lead on this role. As a new business activity within the DSO, the Flexibility Commercial team has limited interaction with the DNO.

The design, establishment and operation of new flexibility markets, along with the extensive stakeholder engagement that supports this, is the responsibility of the DSO's Commercial and Operability department.

The reporting of data to develop flexibility markets and encourage participation in these, is delivered by System Planning. This team is part of the DSO. The Commercial and Operability team publishes data on the results of flexibility procurement opportunities.

Interactions between the DSO and the DNO in this activity are focused around the DSO's use of the DNO's customer records to verify distributed energy resource assets and connection details of potential flexibility service providers. We intend to formalise this DNO-DSO interface in the next regulatory year, which we will make available to our stakeholders.



DSO supporting services and group functions

DSO supporting functions

The DSO provides the following services to the DNO:

Modelling and analysis

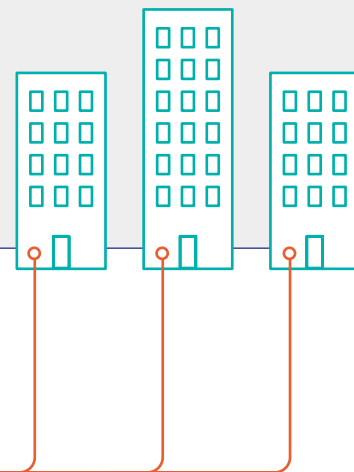
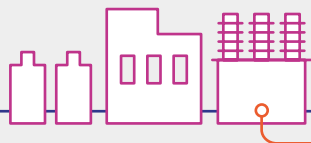
- Provision of network models and analysis tools to support DNO activity on connections and outage planning
- Curtailment studies for DNO connection planners
- Transmission-distribution interface management analysis to support the Statement of Works process

DSO Policy

- Representation of NGED on panels and working groups that are of shared interest
- Subject matter expertise in development of DNO policies

Services group functions provide to the DSO

- Finance: financial advice and services. The DSO is treated as a separate business unit within NGED, and costs of the DSO function are reported separately
- Legal services
- Human Resources including recruitment
- Information technology systems and support
- Procurement of goods and services, contract management
- Corporate strategy: provides expertise and skills to facilitate development of strategy within NGED; and supports alignment of DNO and DSO strategy across the Group
- Regulatory strategy: provides support in understanding and addressing regulatory changes where they relate to new roles, or institutions or changes in regulatory governance
- The DSO has separate reporting in the Regulatory Reporting Pack, including separate line items for flexibility, numbers of low-carbon technologies accommodated, and volumes of reinforcement capacity delivered



Next steps

This document sets out the initial steps we have taken to functionally separate the DNO and DSO within NGED. We will provide opportunities for stakeholders to engage, understand and provide views on this document in the coming months.

1

Over the course of the next year, we expect to set out our decision making frameworks in more detail and address the 'how' of our decision making process for routine and operational decisions by the DSO.

Where decisions are less clear in terms of who makes them or what the outcome should be, we plan to provide some examples of these to highlight any challenges we are facing between the DNO and DSO.

2

We will also articulate at a strategic level how decisions are made, for example where more fundamental conflicts between DNO and DSO could exist.

3

We will continue to seek stakeholder views on all of this as we develop and evolve ways of working for the new functions under the DSO.

Thank you

We'd really like to hear from you – our communities, consumers, customers, employees, investors and stakeholders.

We want to make sure we're focusing on the right areas and delivering the right results.

Email

nged.energyplanning@nationalgrid.co.uk

LinkedIn

[National Grid Electricity Distribution](#)

Web

nationalgrid.co.uk

nationalgrid.co.uk/dso

National Grid Electricity Distribution plc
Avonbank
Feeder Road
Bristol
BS2 0TB
nationalgrid.co.uk