



Ofgem consultation

Separating ESO from National Grid PLC

May 2023

nationalgrid

Separating ESO from National Grid

1. Disclaimer

This annex provides a non-exhaustive summary of key operational issues and indicative initial estimates of associated operational costs identified by National Grid based on our work to date as being relevant to a potential separation of National Grid Electricity System Operator (ESO) and transfer to the Future System Operator (FSO).

It has been prepared by National Grid for the sole purpose of assisting Ofgem in communicating an initial view of the operational aspects and challenges involved in a such a separation process.

The information outlined herein is based on a limited initial internal assessment of relevant operational impacts only. It does not contain a comprehensive analysis of all issues relevant to the potential separation of ESO and transfer to the FSO. It does not seek to address all financial, risk, and other issues which will or may arise in connection with such a transfer.

The preparation of this annex has not involved a full due diligence of the ESO business, and no reliance should be placed on this annex, or the information contained herein.

All figures, costs, plans, and timings outlined herein represent preliminary estimates only, and are expected to change over time.

The estimated costs have not been calculated to reflect or limit National Grid's entitlement to compensation, loss, cost recovery or other value, and shall not be used or construed in any way that would limit National Grid's rights.

Estimates of timeframes, and what could be achieved within such timeframes, are heavily dependent on assumptions and may not be achievable if those assumptions prove incorrect.

2. Introduction

2.1 Purpose of this annex

To support Ofgem's role in protecting energy consumers, we have developed this annex which sets out National Grid's indicative approach to separating ESO (subject to ongoing negotiations with DESNZ), shows our indicative cost estimation approach, and defines the types of ongoing costs that National Grid will incur because of this transaction.

2.2 National Grid context

The Department for Energy Security and Net Zero (DESNZ) and Ofgem aim to create an expert, impartial body with an important duty to facilitate net zero while also maintaining a resilient, and affordable system. This is intended to be achieved in part by creating full independence of National Grid Electricity System Operator (ESO) from National Grid PLC through nationalisation.

2.3 Notes on our approach and cost estimates

As National Grid has not chosen to enter into this divestment of ESO, it is entitled to cost recovery based on the principle of full reparation, so as to re-establish the situation which would have existed but for the said divestment. In this Annex, we provide transparency on current projection of these costs (based on various assumptions – e.g. timeline) and the process agreed with DESNZ to recover these costs.

While significant effort has been made to capture key information and estimate costs, this annex should be treated as indicative only and non-exhaustive. We know there are areas where costs will increase, timeline risks which are not mitigated, and optionality which has not yet been fully explored. It is intended to provide the anticipated scale of the separation rather than to be assumed as a totex allowance. National Grid's actual costs will be based on real costs incurred at the time and may exceed these estimates. Contingency has not been added to these costs.

3. Proposed separation approach

3.1 Proposed separation approach

The creation of the FSO requires several elements to come together in concert (see Figure 1).

1. ESO must be purchased by HM Government from National Grid and ESO must be separated from National Grid through the work of both National Grid and ESO
2. Long term gas planning capability must be transferred from National Gas Transmission to FSO
3. FSO must integrate the acquired capabilities and build new capabilities as set out in the regulatory business plan agreed with Ofgem

In this annex, we focus on the activities and costs to separate ESO from National Grid and not the full activity to establish FSO.

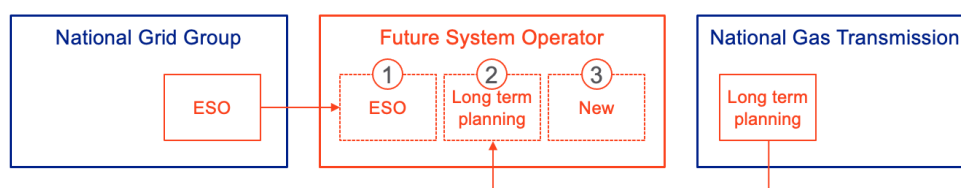


Figure 1 – The core elements required to create the Future System Operator

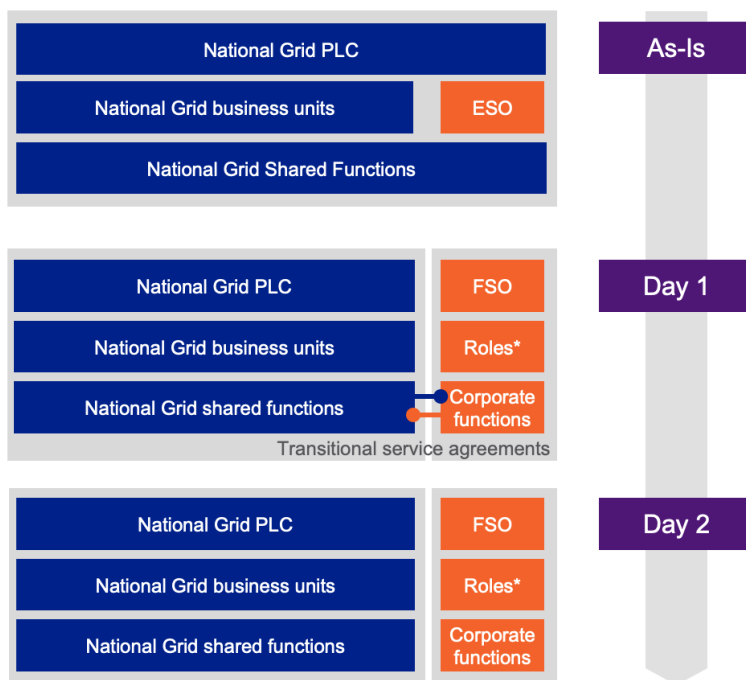
3.2 Separating ESO from National Grid

After the acquisition of ESO from National Grid by HM Government, based on initial discussions with DESNZ and related planning assumptions (as National Grid understands them), we anticipate three phases to the separation approach (see Figure 2).

This starts with the as-is position where ESO is a separate legal entity within National Grid group. ESO receives significant support from our shared functions (e.g. IT, finance, people and capability, legal) and is allocated a portion of these operational costs using the assumptions agreed with Ofgem.

At Day 1 ESO is purchased by HM Government to become the FSO and is then operationally independent from National Grid. We anticipate there being some commercial agreements such as transitional service agreements (TSAs e.g. for pensions, people, and technology), or long-term agreements (e.g. for property and operational telecommunications) remaining in place between National Grid and ESO after Day 1.

By Day 2, FSO is fully independent and separate from National Grid with the only expected longer-term commercial relationship with National Grid being some property services and operational telecommunications. We aim to achieve independent operation of FSO as soon as possible and following DESNZ's proposed timeline for the creation of FSO our planning assumption is that Day 1 will be achieved in 2024.



*Roles are the terminology agreed with Ofgem to capture the value proposition of ESO/FSO (For example, Role 1 – Control centre operations). This is not the same as people transfers.

Figure 2 – The separation phases to achieve independent operation of ESO

Throughout the separation, safe, reliable operations are paramount. We aim to deliver the separation at pace while minimising disruption to National Grid and ESO business as usual operations. We intend to transition capabilities rather than transform them. This will help us reduce separation timelines, provide a clear cost to achieve (distinguishable from RIIO-2 ambitions), and reduce dependence on National Grid for FSO operations.

3.3 Key activities to deliver separation

The level of integration required to run efficient shared services drives separation complexity. For example, IT and business services are the most complex areas where there are high levels of people, systems, process, and contract integration. Finance is heavily dependent on the enterprise resource planning (ERP) software solution which is technically complex to separate and highly integrated into many finance and operational processes. Managing the sequence and timing of separation is vital for success.

To separate ESO from National Grid, we would need to align all aspects of capability including:

- **People:** To the extent required, we aim to assist ESO in developing an FSO organisation design which fulfils DESNZ's policy objectives. After this, we will support the development of departmental plans to build the required people capability. We anticipate these plans to include a blend of National Grid employees moving over to ESO and recruitment of additional personnel before we finalise the transition with knowledge transfer to the new FSO teams to enable a successful Day 1.
- **Technology:** IT separation is by far the most complex area of the transition to FSO. We have defined the as-is application and service landscape including third party contracts and shared technology investments. We have agreed a series of design principles with ESO which includes timelines, ways of working, and governance. Our next phase is to design the to-be environment for the application and services landscape. This will include any TSA schedules, and consequential impacts for National Grid. Our integrated plan will then set out the activities, deliverables, timing, and dependencies for implementation.
- **Process:** Our structured approach starts with our capability model and process library which contains finance and business services processes. As we work through our business process master list, it will include standard operating procedures, controls (e.g. Sarbanes-Oxley), and work instructions which need to transition to FSO. We plan to overlay this with the FSO target operating model and organisation design to drive a business change impact assessment by process area. This can be used to inform the training needs analysis and business readiness activity which ensures both organisations can operate independently.
- **Information:** We will assess which data will be required by the FSO to ensure they can operate from Day 1, we plan to migrate and/or separate the data and access, and provide a framework enabling FSO to access historical information post separation should the need arise (e.g. for a regulatory query). Some activities are expected to occur after Day 1 as systems are physically separated and TSA processes (e.g. Payroll) are unwound.

4. Costs estimation approach

4.1 Approach

In December 2022, we developed a separation blueprint with ESO which provided an indicative view of the separation plan and impacts on people, processes, assets, contracts, technology, and costs. This process relied on several assumptions in relation to timeline and intended separation outcomes, based on our ongoing discussions with DESNZ and Ofgem.

In this blueprint, we set out an indicative view of the total number of full time equivalents (FTEs) who might transfer from National Grid to the FSO. We also developed an indicative view of the total cost to achieve the separation (see Table 1) and where we might incur consequential operational costs for National Grid.

It is important to note that these costs and cost ranges are estimates only. They are intended to provide the anticipated scale of the separation required and should not be assumed as a totex allowance. National Grid's actual costs will be based on real costs incurred at the time and may exceed these estimates. Contingency has not been added to these costs.

4.2 National Grid's separation cost to achieve

Function		Day 1 (£m)		Day 2 (£m)	
		High	Low	High	Low
IT	Applications	9	7	10	7
	Security	3	2	14	11
	Platforms and infrastructure	19	16	9	8
	Unstructured data	2	1	0	0
	Commercial	10	7	7	5
	ERP	44	35	-	-
	Central programme costs	6	5	8	7
	Total IT	94	73	48	39
Programme	National Grid resources	2	2	1	1
	Third party	21	21	11	11
	Separation blueprint	6	6	-	-
	Total programme	29	29	12	12
Procurement	2	1	-	-	
Pensions	8	4	2	1	
Property	1	0	-	-	
Business services	1	1	0	-	
People and culture	2	1	-	-	
Other functions*	1	1	-	-	
Grand total		138	111	62	52

*Other functions includes: finance, corporate audit, insurance, tax, treasury, legal, company secretariat, strategy and external affairs, safety health and wellbeing

Table 1 – National Grid separation cost to achieve range in outturn prices (2022/23 prices adjusted for inflation using the Green Book rates, £m)

4.3 How we formed the estimate for each activity

Together with ESO, we identified 16 business functions (e.g. IT, business services, people and culture, pensions, etc.) requiring separation activities. For each function, representatives from National Grid and ESO defined a plan and proposed costs for the separation using this approach.

- Guiding principles – Established a set of separation principles to provide a consistent basis to guide planning activities
- Design – Defined a service delivery model for each function to describe how the function operates today ('as-is'), how it might operate at deal completion ('Day 1'), and how it could operate independently ('Day 2')
- Costing – Defined our as-is position by establishing a financial and people baseline, capturing the applications and services landscape, defining third-party contracts, and understanding capital investments. Next, we identified key design principles, timelines, ways of working, and governance. To create the to-be state, we reconciled the people and third-party baselines against the financial position, captured anticipated areas for transitional service agreements, and developed a high-level separation plan and cost to achieve. We drew on recent divestment experience and input from framework partners to inform these costs. This was used to assume future costs and assess the incremental impact on running the business
- Services – Identified potential transitional service agreements (TSAs) and reverse TSAs to maintain operational integrity from Day 1 for both businesses while longer term solutions are put into place or long-term agreements established (LTAs and reverse LTAs)
- Planning – Developed high level plans to identify the key activities required to implement the separation for Day 1 and Day 2

Costs are estimates based on planning assumption and are shown in a range of low to high to cover changes of scope or requirement within specific cost items, such as changes to operational assumptions. The ranges highlight the areas of spend which are most volatile or likely to change. Actual costs will be based on costs incurred at the time. National Grid has not included any costs to cover significant external risks, such as changes to the overall destination or revisions to key planning assumptions. For planning purposes, and following DESNZ's FSO timeline, costs assume a Day 1 date in 2024.

4.4 Key cost drivers

In its RIIO-BP2 business plan, ESO set out the need to further embed digital, data and technology capability to become the net zero employer of choice. With these priorities, it follows that the top three cost areas are IT, enterprise resource planning (ERP), and programme costs.

National Grid runs a multi-national, shared operating model for our Information Technology (IT) services. ESO benefits from these shared services which include:

- Strategy, regulation, and planning – development of IT strategy and roadmaps, regulatory planning, investment planning, and governance
- Application development and maintenance – development and maintenance of all applications, through in-house or supplier supported capability
- Cyber and physical security – provision of network security, vulnerability management, operations, monitoring, security vetting and compliance
- Digital platforms, infrastructure, and networks – provision of IT tooling, critical national infrastructure (CNI), hosting, networks, and related support services
- Commercial services – including vendor and contract management

These services are made up of people and non-people (i.e. contracts) and are divided into two main portfolios (1) those which are dedicated to the ESO (known as direct services) and (2) those which are shared across all National Grid entities (known as indirect services).

1. Direct services include ESO's dedicated applications which operate front office services such as balancing, network control, and commercial market systems. This also includes specific infrastructure services required for the operation of these systems
2. Indirect (or shared) services include end user computing, such as laptops, tablets, and mobile devices. Back-office applications, such as Enterprise Resource Planning (ERP), HR, finance, tax, and treasury systems are also covered under this portfolio. These systems and services are underpinned by shared infrastructure (i.e. on premise and cloud hosting) and protected by a shared cyber and physical security capability

To establish a dedicated FSO IT function, we will need to separate the people, c. 300 applications, the hosting and infrastructure (including critical national infrastructure), networks (including operation telecommunications), contracts, processes, end user compute, cyber security, and data, while maintaining the same level of operational resilience to continue to ensure a safe and reliable operation for Great Britain's electricity system.

Enterprise resource planning software (ERP) is more than just a technology. The ERP software (based on SAP S/4 Hana for finance, SAP SuccessFactors for people, and SAP ECC for payroll) and circa 50 connected applications/interfaces provide a broad suite of back-office business processes. These business processes also extend into balancing services use of system (BSUoS), transmission network use of system (TNUoS), and connections charges billing. Success in ERP separation requires focused attention not just on technology, but also on people, processes and controls, and data. The core business processes include:

- **Procurement operations:** source to pay – purchase to pay, transactional procurement, accounts payable, etc.
- **Finance operations:** record to report – accounting services, IT investment accounting, performance reporting, tax, banking, real estate, etc.
- **Order to cash:** billing, credit management, collections and dispute management, accounts receivable etc. (including Balancing Services Use of System (BSUoS), Transmission Network Use of System (TNUoS), and connections charges).
- **HR operations:** joiners to leavers – right to work verification, background checks, onboarding, people data management, payroll, leave management, etc.

Programme costs include the National Grid team (leadership and key programme management resources) who will be supplemented by individual contractors and external delivery partners. It captures National Grid's costs to establish a transitional service agreement (TSA) office, legal support relating to separation activities, and non-IT costs relating to unstructured data. It is important to note that this estimate is prior to market testing and negotiation. The programme costs include matters such as:

- Programme management – Provide expertise on separation activity to ensure a best practice approach to separate ESO
- Planning – Support our workstream leads in creating a holistic view of separation through aligned plans, tracked interdependencies, and change management to the plan. 3rd party resources will be aligned to National Grid's operating model and will be expected to manage this programme using our change framework.
- Project management office (PMO) support – Provide support to separation workstreams. A priority focus is to support IT and ERP workstreams, ensuring alignment between business-as-usual functional and programme governance requirements

- External reporting – Provide input into government reporting as required by DESNZ, Ofgem, HM Treasury, and other external bodies, fully integrated with external assurance
- Cross cutting themes and business readiness – Ensuring there is a consistent approach and associated plans for cross cutting separation themes, including business readiness, change management, unstructured data, and TSA office management
- Transaction workstream enablement – Support the separation programme in meeting the needs of the parallel commercial workstream, ensuring separation plans align to the DESNZ’s policy objectives, and responding to changes in scope due to government legislation/priorities
- Technical integration – Support our IT teams in scoping and delivering the technical activity required to separate ESO from National Grid shared systems and processes
- Change management – Implement change management within this programme. Undertake change impact assessments to understand the impacts around people, process, and systems in the different functions as part of the end-to-end process
- Integration – We will also provide integration services, focussed on ensuring the sum of the constituent parts equals the whole delivery. This provides second line assurance that activity is scheduled to be delivered to an appropriate quality, time, and cost. Note that independent assurance is being led by DESNZ
- Unstructured data – To separate data in systems like Microsoft Teams we will identify ownership and accountability. This way, data decisions are made by the right people, through a consistent and auditable process which ensures ongoing compliance to legal and regulatory obligations. We will then separate the data to support intellectual property transfer

4.5 How we deliver value for money for consumers

These costs should be considered within DESNZ’s policy objectives and the business case supporting the role of the FSO in achieving net zero.

We have been proactive in ensuring costs are efficient by having a clear connection between the activities to separate the ESO, the deliverables, and the cost to achieve this.

In addition, we have controls in place which include:

- Assurance – DESNZ is running assurance across the programme to ensure that the policy objectives are achieved and the FSO business case remains valid
- Governance – Ofgem, with DESNZ, National Grid, ESO, and National Gas Transmission have established a Joint Implementation Coordination group to ensure overall delivery of the FSO. This includes identifying critical success factors, monitoring the joint implementation plan, reviewing project status, agreeing actions to mitigate/resolve escalated delivery risks and issues, and status reporting for transparency at ministerial level
- Competitive tender for supplier frameworks. We intend to draw on partners from our general management consultancy (GMC) and application development and maintenance (ADAM) frameworks. The GMC framework has recently completed a competitive process to refresh the participants and their rates. The ADAM framework will also refresh in the timelines of this project. During the GMC framework refresh, National Grid saw upward pressure on the rate cards of suppliers. It is anticipated that this might also be experienced through other supplier engagements
- Within the GMC, this separation activity has been competitively tendered to ensure high levels of capability aligned to an appropriate price point

- Where possible, we aim to use a fixed price contract approach to de-risk price variability (e.g. ERP separation)
- National Grid’s supplier of off payroll workers (contractors) completed a competitive tender process and contract award in 2020/2021. Within this agreement, National Grid can benchmark worker rate cards to ensure rates are market standard and competitive. We are monitoring the impact of off payroll working as this could apply upward pressure on rate cards

4.6 How we divide work efficiently between National Grid colleagues and suppliers

Note these allocation splits are based on National Grid’s planning assumptions and will change as actual costs are incurred.

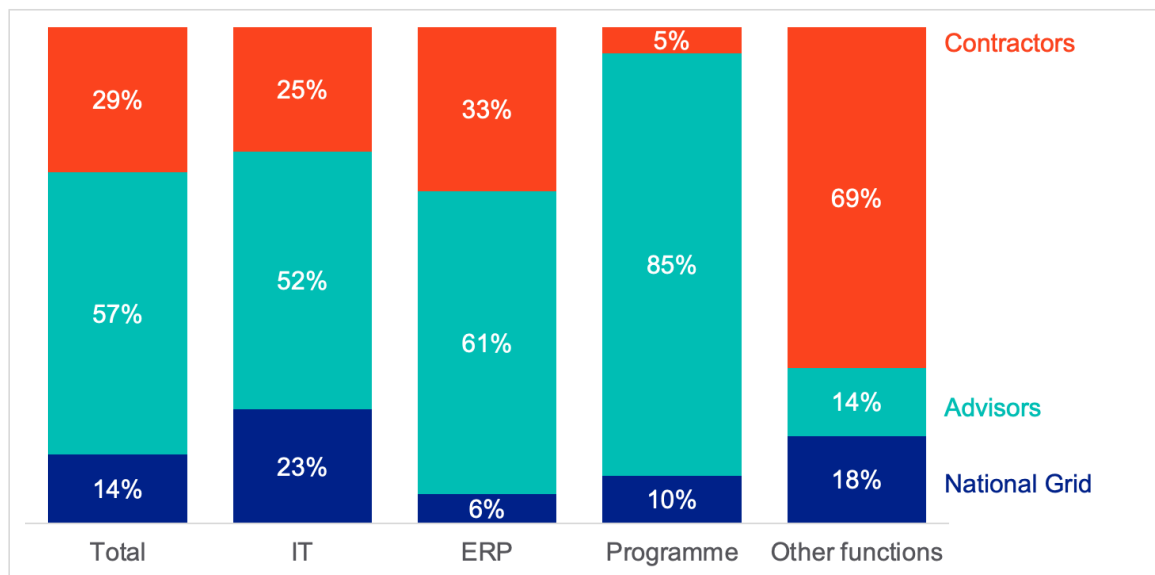


Figure 3 – Resource allocation split as a percentage of cost to achieve

To maintain an efficient cost base, National Grid does not hold a large permanent workforce who can move to support the ESO separation. Instead, a core team of subject matter experts are supplemented by advisors and contract resources.

We use advisors, where:

- They are an incumbent supplier who manages and maintains an existing/enduring capability and have deep domain knowledge
- They provide supplementary capability such as technical integrations, mergers and acquisition experience, additional scale, or programme support for example
- They have recent experience separating National Gas Transmission which gives them high levels of knowledge and insight about National Grid, its operating environment, and technologies

We use off-payroll workers where:

- There is a need to fulfil a particular individual requirement, e.g. a programme manager, analyst, or business process lead
- A niche skill is needed which isn’t readily available through commodity suppliers, e.g. CNI

5. Consequential costs

5.1 Approach

This is a divestment which National Grid has not chosen to enter into, that means we are ultimately entitled to cost recovery based on the principle of full reparation, so as to re-establish the situation which would have existed but for the said divestment.

The purpose of this section is to set expectation that consequential costs will be incurred because of the separation activity.

To take advantage of the economies of scale, National Grid operates a shared services model to provide services efficiently to each relevant business unit within the group. During the legal separation of ESO from National Grid Electricity Transmission (NGET) in 2019, we agreed to deliver certain strategic shared services activities to ESO under a dedicated business partner arrangement. In parallel, transactional shared services activities continued to be delivered by the relevant central teams with appropriate processes and governance arrangements in respect of their delivery in place in line with ESO licence requirements. These services are charged to ESO in line with the methodology agreed with Ofgem.

As ESO separates from National Grid, there is a risk of consequential operational costs for National Grid because of the separation. These are (1) ongoing incremental run the business costs driven by people and third party spend dis-synergies due to the smaller scale of the retained business (especially in IT and digital) and (2) one-off loss of funding for National Grid IT projects committed to through RIIO-T2.

In this Annex, we share the types of costs that will be incurred, show the mitigations which will be put in place, and define the anticipated cost recovery approach which was developed by DESNZ and Ofgem. However, the consequential costs are not included in this consultation as it is not possible to estimate these at the current stage of the process. Ofgem will publish a further consultation on the anticipated costs later.

5.2 Consequential cost risks for National Grid

- People – The nature of a shared service business model within a multi-national organisation means that not all shared colleagues allocated to ESO will be able to move to FSO to support ongoing operations
- Contracts – Where a contract benefits from volume discounts it may be that the separation of ESO reduces the discount available e.g. third-party licences where ESO is the primary consumer
- Pensions – Depending on the approach agreed with DESNZ to separate pensions, it may be that National Grid incurs additional liabilities associated with former employees.
- Property – While most ESO locations are expected to transfer to FSO, one exception is ESO's Faraday House office in Warwick as this is a partitioned wing of National Grid's office. Costs for this location are allocated to ESO. If FSO's were to leave, this could create a consequential cost to National Grid
- Capital expenditure in technology – National Grid's RIIO-2 technology investment plan includes capital expenditure in shared technology infrastructure. National Grid may still need to make the investment with reduced contribution, thereby impacting RIIO performance. An example includes lifecycle replacements of network equipment

5.3 Mitigations

We plan to reduce the impact of these consequential costs, mitigating them in part, or in full where possible. Note that the cost to achieve these mitigations is not included as part of the cost of separation, but will be considered, where appropriate, as a component of consequential costs incurred.

Longer term, National Grid's revised efficient baseline which includes the loss of scale impact will be justified as part of RIIO-T3 (for National Grid Electricity Transmission), or equivalent regulatory process such as RIIO-ED2 reopener or RIIO-ED3 (for National Grid Electricity Distribution).

6. Close

In this annex, we have set out National Grid's indicative approach to, and anticipated scale of, the separation of ESO from National Grid. As we move into detailed planning and implementation, we anticipate some of these assumptions may be adapted to better achieve DESNZ's policy objectives and ensure safe, reliable operations.

National Grid aims to support FSO in their important duty to facilitate net zero while maintaining a resilient, and affordable system.

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