Centrica plc
Regulatory Affairs
Millstream
Maidenhead Rd
Windsor
SL4 5GD
www.centrica.com

Steven McMahon
Deputy Director, Electricity Distribution
Ofgem,
10 South Colonnade,
Canary Wharf,
London E14 4PU.

10 February 2022

Sent by email to: RIIOED2@ofgem.gov.uk

Dear Steven,

Call for Evidence on the Electricity Distribution Business Plans for RIIO-2

Thank you for the opportunity to respond to the above call for evidence. This is a non-confidential response on behalf of the Centrica Group.

Facilitating Net Zero:
The electricity distribution network operators' (DNOs) business plans are focused on delivering investment to facilitate Net Zero targets being met. We agree this is the correct focus. We welcome the emphasis on the 'Flexibility First' approach to the provision of additional network capacity as there are significant savings to be derived from the deployment of flexibility to make additional network capacity available instead of traditional engineering solutions.

We have identified three areas in which the plans need to be improved to support flexibility services, to facilitate Net Zero targets being met:

- DNOs should be prevented from providing balancing services in competitive markets or that can otherwise be provided commercially unless it can be demonstrated that the consumer benefit outweighs the costs over the long term.
- The DSO function propositions should be strengthened by embedding decision-making independence and mechanism to mitigate conflicts of interest.
- The Major Connections strategies contain initiatives that should be beneficial to network users by making the connections processes more efficient, but they need to be improved in certain areas.
- Uncertainty mechanisms based on capacity made available should be used to provide in-period allowances for load-related and strategic investment.

Delivering value for money:
The DNOs have proposed significant increases in baseline expenditure - of about 26% - across the sector compared to the RIIO-ED1 price control, as shown in Table 1. The scale of the increases

in funding that consumers are required to provide emphasises an even greater need to ensure the RIIO-ED2 settlement, including the financing arrangements, represents value for money and are in consumers' best interests.

Table 1 - Average Annual Expenditure

	RIIO-ED1 (£m)	RIIO-ED2 (£m)	Increase
ENWL	268.6	358.2	33%
NPG	469.0	619.2	32%
SPEN	510.3	644.4	26%
SSEN	606.6	845.8	39%
UKPN	846.8	927.8	10%
WPD	1,050.0	1,336.0	27%
Sector	**3,751.3**	**4,731.4**	**26%**

The DNOs' cost of capital proposals should reflect the outcome of the Competition and Markets Authority's (CMA's) determination of the RIIO-2 transmission and gas distribution price control licence modification appeals, which were concluded only a few months prior to submission of the business plans. The companies have not reflected the outcome of the appeals in some areas and, therefore, have proposed baseline returns that are materially higher than the CMA's determination (4.55%) or Ofgem's working assumption (4.65%) (see Table 2). We estimate allowing the DNOs' proposals instead of adopting Ofgem's working assumption would require consumers to fund additional revenues of £1.43bn over the RIIO-ED2 period. The proposed baseline returns are overly generous and are not in consumers' best interests.

Table 2 – Proposed allowed cost of equity

	Cost of equity
ENWL	> 4.79%
NPG	> 5.8%
SPEN	6.21%
SSEN	5.9%
UKPN	> 5.5%
WPD	4.96%

The cost of capital proposals are overly generous and need to be revised to avoid over-remunerating the companies:

- The electricity distribution sector is unlikely to face overall higher systematic risk compared to the transmission and gas distribution sectors and, as such, higher asset betas are not justified.

Also:

- The proposed upward adjustments to the cost of debt across the sector are not justified.
- An explicit downward adjustment to the cost of equity to reflect the reduced risk to which the DNOs are exposed because of uncertainty mechanisms that transfer risk away from companies to consumers.

Revenue unpredictability needs to be appropriately managed:
We previously highlighted the expected increased unpredictability of expenditure allowances due to a greater number of uncertainty mechanisms and automatic adjustments proposed, relative to RIIO-1.[1]

Ahead of setting the RIIO-1 Draft Determinations, Ofgem completed a review of volatility in network charges. A conclusion of Ofgem's 2012 review of measures to mitigate network charging volatility arising from the price control settlement is that '*the prospective benefits in terms of reduced supplier risk are likely to be large, and any offsetting cost in terms of NWO cash-flow risk is minimal*'[2].

Following this review, Ofgem concluded that increased predictability of revenue improves suppliers' ability to accurately price network charges into consumers' bills and will therefore benefit consumers. For RIIO-ED1, measures were implemented to mitigate revenue volatility:

- a two-year lag for of over- or under-recovery reconciliation, revenue or volume driver adjustments, cost pass-through true ups, incentive performance rewards/penalties; and
- a 15-month notice period for network tariff changes.

Any changes to the existing arrangements need to be justified, including consideration of whether the changes could increase unpredictability – this could increase supplier risk premiums, which would be to the detriment of consumers

Our assessment of the companies' business plans in the key areas identified above is presented in the following sections.

We hope you find these comments helpful. Please contact me if you have any questions.

Yours sincerely,

Gregory Edwards
Network Regulation Manager
Centrica Regulatory Affairs & Policy

[1] In our responses to the RIIO-ED2 Methodology Consultation and to Draft Determinations for the RIIO-2 transmission and gas distribution price controls.
[2] "Decision in relation to measures to mitigate network charging volatility arising from the price control settlement", paragraph 1.20:
https://www.ofgem.gov.uk/sites/default/files/docs/2012/10/cv_decision_0.pdf.

Appendix 1: The prevention of distortion caused by DNOs providing balancing services

We continue to believe DNOs should not be permitted to provide balancing services in competitive markets or to provide balancing services that can otherwise be provided commercially unless it can be demonstrated that the consumer benefit outweighs the costs over the long term. We have previously raised concerns about how network companies participating in commercial markets can lead to consumer detriment. For example, we highlighted the 'hidden' costs associated with Electricity North West Limited (ENWL) providing balancing services to the Electricity System Operator (ESO) using the Customer Load Active System Services (CLASS) technology.[3] The operation of some balancing markets may have been distorted because of 'out of merit' dispatch as a result of the 'hidden' costs and may have led to the ESO procuring CLASS when it was not efficient to do so.

The DNOs' business plans, combined with previous statements on CLASS,[4] indicate that most DNOs intend to use CLASS to provide balancing services to the ESO in RIIO-ED2 if Ofgem approves its use. If this is permitted, the distortive effect of balancing markets would be significantly greater because of the sector-wide deployment of CLASS, which would lead even to greater market inefficiencies. Additionally, most DNOs that plan to use CLASS do not explain how they would address the inherent conflict of interest that would be created by them competing in competitive flexibility markets alongside their connected customers. This conflict of interest can also distort competitive markets. These issues need to be fully considered when Ofgem consults further on the use of CLASS and ahead of Draft Determinations so that the RIIO-ED2 settlement does not give rise to factors that can distort balancing services markets.

We have similar concerns about other ways in which some elements of the DNOs' plans can stifle the development of or distort competitive markets. These are discussed below.

Active Network Management:

We have concerns about DNOs' plans to aggregate the use Active Network Management (ANM) to provide balancing services to the ESO or to displace their own the competitive procurement of flexibility services. For example, Northern Powergrid (NPG) plans to investigate the use of ANM to provide services directly to the ESO.[5] Other DNOs intend to use voltage-control and/or ANM to provide load-control services to themselves, thereby displacing the need for competitive flexibility procurement.[6] ANM schemes should be restricted to only those scenarios in which using flexibility services to resolve network constraints is infeasible and should be time-limited.

[3] In our response to Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control.

[4] Providing CLASS services to the ESO was part of SPEN's June 2020 DSO Strategy, however in the absence of an Ofgem decision on CLASS, SPEN has not included any CLASS specific outputs or expenditure in its final RIIO-ED2 submission. NPG's business plan says it will seek to provide ancillary services to the ESO using CLASS. SSEN and WPD's plans say they will consider the decision to use CLASS once there is clarity on its regulatory treatment.

[5] Northern Powergrid's Business Plan (Annex 4.2 DSO Strategy) page 81.

[6] For example, SSEN will reduce LV customer demand via voltage control otherwise known as "Conservation Voltage Reduction" which it is classifying as an "energy efficiency measure" (see SSEN's Business Plan page 76).

Aggregation:
In the *RIIO-ED2 Sector Specific Methodology Decision,* Ofgem directed that DNOs must "not procure flexibility services on behalf of the ESO or otherwise act as the commercial route to ESO markets for flexibility providers".[7] Some plans appear not to reflect this direction. For example, NPG's Distribution System Operation strategy (deliverable DSO4.4) includes a plan for the ESO to procure services from distributed energy resources (DER) through its DSO function, with NPG acting as the aggregator. Apart from not reflecting Ofgem's direction, NPG's outline for this service does not contain a mechanism to mitigate the inherent conflicts of interest.

UKPN suggests that its dynamic Distribution Market Platform would provide a similar service but does not guarantee that the platform would be independently operated. However, UKPN states that the platform would not be the only route for DER to access the ESO's balancing markets.[8] If a DNO intends to provide a market platform that may be used by DER as a route to the ESO's markets, the platform must be independently operated at 'arms-length' from the DSO/DNO.

[7] "RIIO-ED2 Methodology Decision: Overview"; paragraph A1.25.
[8] UKPN's Business Plan (DSO Strategy) page 8.

Appendix 2: Assessment of the Distribution System Operation propositions

This aspect of our response focuses on issues relating to the DSO propositions. We comment on:

- elements of some propositions that should be replicated across the sector where appropriate; and
- areas of the propositions that should be improved.

A summary assessment of each DNO group's DSO proposition is also included.

The following are the primary factors we considered when assessing the propositions:

- governance arrangements, including mitigation of conflicts of interests and compliance arrangements;
- the extent to which key functions such as network planning and investment decision-making remain embedded in the DNO,
- provision and ease of access of network data;
- neutrality of the operation of flexibility market, including the extent of the (enduring) use of ANM instead of procuring services from DER, market platform operations and merit order arrangements;
- transparency relating to flexibility dispatch decisions and other operational decisions;
- opportunities to review and challenge flexibility dispatch and network investment; and
- performance monitoring and reporting.

The DNOs have taken materially different approaches in some respects to implementing the DSO functions - ranging from functional separation (e.g. WPD) to full legal separation (UKPN). There are also instances in which DNOs propose to deliver to different timescales even when similar approaches are adopted for a given aspect of DSO implementation. The differences in approaches could be problematic because they may lead to operational inefficiencies for network users and stakeholders that operate across multiple regional areas. We recommend standardisation and that the 'gaps' are narrowed as soon as possible, subject to the outcome of Ofgem's review of DSO arrangements.

The different approaches to implementing the DSO functions and to cost allocation (e.g. LV monitoring costs may or may not have been allocated to the DSO) makes comparing costs difficult. However, UKPN proposes to spend £224m on DSO activities during RIIO-ED2. UKPN's approach – legal separation – is comparable to the legal separation of the ESO within the National Grid group, for which Ofgem allowed restructuring cost of £49.3m and average annual costs of £9.1m[9]. The ESO's costs may be a reasonable starting point for assessing the efficiency of the proposed DSO costs.

The different approaches to implementing the DSO functions can create a risk to varying degrees of companies choosing to optimise overall performance against financial incentives at the company level rather than delivering levels of performance that exceed baseline expectations

[9] "Future Arrangements for the Electricity System Operator: Response to Consultation on SO Separation"; page 27: https://www.ofgem.gov.uk/sites/default/files/docs/2017/08/future_arrangements_for_the_electricity_system_operator_-_response_to_consultation_on_so_separation.pdf. In 2016/17 prices.

relating to the DSO. This 'boundary effect' could result in consumer value being lost. We encourage Ofgem to consider how company-level optimisation which does not represent consumers' best interests can be mitigated.

Areas of the DSO propositions that should be replicated across the sector where appropriate:

- Sufficient separation between the DNO and DSO functions (e.g. SPEN, UKPN).
- Clear rules that govern the DNO-DSO interface that embed market neutrality (e.g. UKPN).
- Network planning and investment decision-making being embedded in the DSO function (e.g. SSEN).
- Transparency of the 'merit' order for flexibility and ANM to manage constraints (e.g. ENWL).
- An assurance function responsible for auditing compliance and facilitating an independent audit of investment decision-making processes (e.g. NPG).
- A mechanism for managing conflicts of interest (e.g. SPEN).
- The use of third-party platforms to procure flexibility volumes (e.g. WPD).
- A dedicated compliance function (e.g. ENWL).
- A process that allows investment decisions, including when the DSO chooses a DSO service (e.g. CLASS), to be challenged (e.g. ENWL).
- Independent audit of investment decisions (e.g. SSEN).
- A stakeholder panel for monitoring performance and representing stakeholders' interests (e.g. ENWL).

Areas of the DSO propositions that should be improved:

- AMN and flexibility should be assessed equitably rather than a pseudo 'ANM first' approach being adopted (e.g. ENWL).
- Low voltage constraint heatmaps should be delivered earlier than 2025 (e.g. ENWL).
- DNOs should not provide balancing services in competitive markets (e.g. CLASS) or that can otherwise be provided commercially unless it can be demonstrated that the consumer benefit outweighs the costs over the long term (e.g. ENWL).
- Key activities such as the management of data platforms and investment planning should be embedded in the DSO function (e.g. NPG).
- ANM and customer flexibility dispatch systems should not be integrated (e.g. NPG).

Individual assessments:

Company:	ENWL

Summary:

- Separate DSO Directorate which went 'live' in December 2021.
- Dedicated Board with the Director reporting to ENWL's CEO and Board.
- Dedicated Compliance Officer.
- Stakeholder Panel for evaluating performance.
- Responsibility for forecasting, network planning, data, automation, curtailment, deployment of flexibility and managing conflicts of interest.

Areas which we welcome:

- Clear roles and responsibilities for the DSO Directorate- e.g. whether the DSO should be responsible for the replacement of some asset types.
- A process that allows CBA or investment decisions, including when the DSO chooses a DSO service (e.g. CLASS), to be challenged.
- The Stakeholder Panel will have a role in engagement and evaluating performance (published report), as well as engagement. It is expected the Panel will be established before the start of RIIO-ED2.
- Support for the data 'presumed open' approach and other recommendations made by the Energy Data Taskforce.
- A move to short-term purchasing of flexibility and will use contracts longer than a year only if little or no competition exists.
- Transparency of the 'merit' order for flexibility and ANM to manage constraints and will consider if the 'merit' order should be managed by a third party.
- Curtailment risk trading.
- The use of APIs for the deployment of flexibility instead of a reduced reliance on hard controls.
- Publication of data, methodologies and rules for decision making and reporting of outcomes of investment decisions.
- Third parties will be allowed to propose solutions to identified network needs.
- Plans to facilitate curtailment liability trading and other secondary trading and the provision of curtailment indices for 'flexible' connections.
- A good range of DSO performance metrics and regular reporting.

Areas in which improvements can be made:

- The DSO Compliance Officer's report should be published instead of being shared with only the Board and Stakeholder Panel.
- The 'merit' order methodology is not yet available so we cannot assess whether flexibility and ANM will be treated equitably.
- Its more widespread use of ANM schemes (a pseudo 'ANM first' approach) may impede DER being able to provide services to the ESO.
- Low voltage constraint heatmaps will not be delivered before 2025
- The intention to use CLASS technology, if its use is permitted by Ofgem, could cause market distortions.

Company:	NPG

Summary:

- Dedicated DSO business unit with some activities being delivered by the DNO (e.g. data platforms, investment planning).
- Co-location of DSO and DNO investment planning and system coordination functions.
- Stakeholder Panel that can challenge major investment decisions.
- Provision of balancing services to the ESO using its own assets and acting as a conduit for DER to provide services to the ESO are under consideration.

Areas which we welcome:

- An assurance function within the business unit which will be responsible for auditing compliance and facilitating an independent audit of investment decision-making processes.

Areas in which improvements can be made:

- The DSO governance arrangements need to be strengthened e.g. the investment planning and system coordination functions will remain part of the Engineering function while data and digitalisation (including the management and maintenance of platforms) will be provided by the IT shared function.
- The intention to use CLASS technology if its use is permitted by Ofgem and to use ANM to provide balancing services to the ESO could cause market distortions.
- Its more widespread use of ANM schemes (a pseudo ‘ANM first’ approach) may impede DER being able to provide services to the ESO.
- The integration of ANM and customer flexibility dispatch systems instead of the flexibility dispatch system being provided by a third party (as proposed by other DNOs such as UKPN)
- Clarity is needed about its intention to allow local flexibility service providers to interface with the ESO, to allow for joint procurement between the ESO and DSO.

Company:	SPEN

Summary:

- Separate DSO Directorate to be implemented before the start of RIIO-ED2.
- Dedicated DSO Director reporting to SPEN's CEO.
- Responsibility for delivering DSO functions including network planning, network development, network operation and market development.
- Load-related investment decisions over £2m will be externally assured and published.
- Expert Stakeholder Panel.
- Conflict-of-Interest Management Plan.
- Decision-making framework prepared with stakeholder input, reviewed annually with stakeholder input.

Areas which we welcome:

- DSO Directorate responsible for DSO functions including network planning, network development, network operation and market development.
- Bespoke governance arrangements and process for raising issues, which will be published.
- Conflict-of-Interest Management Plan which will explain the interactions between flexibility and ANM will be published.
- Support for flexibility contracts of varying durations.
- The use of APIs for the deployment of flexibility.
- Support will be offered to aggregators and third-party platform operators, to allow them to 'plug-in' to the flexibility procurement process.
- Development of a 'DER Service Checker' for the so that stakeholders can find out whether ANM restrictions will prevent balancing services being delivered to the ESO.

Areas in which improvements can be made:

- Load-related investment decisions below £2m should also be externally assured and published.

Company:	SSEN

Summary:

- Separate DSO Directorate was implemented in RIIO-ED1.
- Focus on developing DSO functions and managing network capacity investment decisions.
- Stakeholder Board.
- Investment decisions will be published and independently audited.

Areas which we welcome:

- Investment decisions will be published and independently audited.
- Business separation staff training and awareness.
- Training so that staff can recognise and know how to report breaches of business separation compliance.

Areas in which improvements can be made:

- Reduction of demand on LV networks as an energy efficiency measure ('Conservation Voltage Reduction') can distort markets for flexibility services.
- The intention to use CLASS technology if its use is permitted by Ofgem and to use ANM to provide balancing services to the ESO could cause market distortions.

Company:	UKPN
Summary:	
• Separate legal entity within UKPN Group with its own governance and controls. • DSO-DNO Operational Agreement. • Independent DSO Supervisory Board will review and approve key DSO investment decisions, provide assurance and represents the views of customers and stakeholders.	
Areas which we welcome:	
• 'DSO-DNO Operational Agreement' will govern the key interactions, processes and roles (similar to the System Operator Transmission Owner Code) will be made publicly available. (The agreement has not yet been developed.) • Separate DSO control room • Independent Supervisory Board. • Recognition that legal separation will help foster the culture change needed for DSO entity to deliver value for consumers • Publication of a monthly dispatch decision transparency report and a day-ahead operational plan. •	
Areas in which improvements can be made:	

Company:	WPD
Summary:	
• Functional separation of DSO entity completed in 2021. • DSO Operations Director will provide executive level accountability and board level visibility. • Independent DSO scrutiny panel to be implemented before the end of RIIO-ED1. • Separate DNO and DSO control rooms.	
Areas which we welcome:	
• The third-party 'Flexible Power' platform to procure flexibility volumes is already in use • The online data hub already contains several datasets which can be accessed via the Common Information Model	
Areas in which improvements can be made:	
• The DSO proposition appears to exclude the network operation and development functions. If so, the DSO proposition should be revised to include these functions. • Implementing the standardised flexibility contract developed by the Energy Networks Association should be considered to meet instead of exceed baseline expectations.	

Appendix 3: Assessment of the Major Connections strategies

This aspect of our response focuses on issues relating to the DNOs' proposed Major Connections strategies. We comment on:

- elements of some strategies that should be replicated across the sector;
- areas of the strategies that should be improved; and
- the schedules for delivery of the commitments made in the strategies.

The DNOs have taken materially different approaches in some respects to delivering their connections activities during RIIO-ED2. The differences in approaches could be problematic because they may lead to operational inefficiencies for network users and stakeholders that operate across multiple regional areas. We recommend standardisation and that the 'gaps' are narrowed as soon as possible. We also recommend that the DNOs carefully review their resource requirements, to ensure that they are able to efficiently satisfy the expected growth in demand for connections. The expected growth could arise because of various factors such as a change to the connection charging boundary.

Areas of the strategies that should be replicated across the sector:

- An increase in the scope of connections that could be delivered by independent connections providers (e.g. UKPN): this could allow for connections activities to be completed more quickly.
- The provision of connections-related network information available in near real time, including capacity and constraint data (e.g. SPEN): this initiative will enable us to undertake basic optioneering (e.g. location) without involving the DNO. This should shorten the time needed to submit queries to the companies.
- A single point of contact or dedicated account management (e.g. SPEN).
- 'Self-serve' (e.g. UKNP, NPG): the automation of various elements of the connections process should improve the efficiency of the connections process by, for example, reducing the number of queries submitted to the DNOs for manual intervention of shortening the time needed to assess whether a connection being considered is feasible. NPG proposes to make some of the tools its staff uses to assess connections available to customers while UKPN proposes to make network records available in a format that allows customers to interact with the network data through their own applications.
- Low-voltage heat maps (e.g. NPG). The DNOs' 'heat maps' showing constraints in relation to connections should be expanded to include information showing how constraints on the transmission network could affect the delivery on connections on the distribution networks.

Areas of the strategies that should be improved:

- Lack of standardisation across the industry: this is a key issue for us as we operate across several regional areas. Consistent approaches to connections across the sector, such as the format and information requirements for applications, would enable the connections process

to become more efficient, thereby allowing connections to be delivered more quickly. Few references are made to standardisation with the exception of WPD.

- Expansion of flexible connections: whilst we welcome DNOs providing better information about flexible connections, including the probability of interruption and ensuring connecting customers understand the implications of a flexible connections, the use of ANM schemes should be a temporary and time-limited measure until the necessary network reinforcement works are completed. We consider this important because the provision of flexible connections can weaken the case for investment in distributed energy resources.
- ENWL's strategy does not reflect improvements proposed in other strategies such as providing more granular data and closer to real-time and providing self-serve capabilities.
- Some initiatives the DNOs propose that are considered as "exceeding baseline" expectations reflect what should be considered to be baseline expectations. These include:
    - SPEN will make its processes "clear and easily understood".
    - NPG making its heatmaps more dynamic and user-friendly.
    - UKPN presenting data in a "specific usable format".

Delivery of commitments:
The delivery of commitments made in the strategies dictates when customers can benefit from improved connections processes. It is for this reason we welcome the earlier delivery for the following:

- NPG: several of its commitments are due to be delivered within the first two years of RIIO-ED2
- SSEN: the majority of its baseline deliverables are expected to be business-as-usual before the start of RIIO-ED2 with only one deliverable expected beyond the second year of the RIIO-period.

We would encourage the other DNOs to fast-track the delivery of their commitments to align with the NPG's and SSEN's delivery schedules because the delivery of similar commitments but to different schedules will introduce inefficiency for those stakeholders that operate across multiple licence areas.

Other changes that should be made to connections requirements:

- Improvement of the stakeholder survey template: the survey template should be designed to be as user-friendly as possible and capture written feedback on connections delivery. Our experience of completing survey responses for the Incentives on Connections Engagement in RIIO-ED1 suggests the response rates have been lower than they otherwise should have been because of the template was not user-friendly and did not solicit views on the delivery of connections processes. This, in turn, may have led to DNOs not being able to fully identify the 'pain points'.
- Publication of survey responses: all DNOs should be encouraged to share verbatim comments from their surveys/engagement because this will help stakeholders to develop a better understanding of emerging issues.
- Measurement of performance for non-contestable activities: we think it would be best practice for the DNOs to capture non-contestable activities in their strategies and reporting. Measuring

performance across all relevant market segments, instead of just the non-contestable market segments, should make it easier to survey stakeholders that may not be familiar with the distinction between market segments.

- Publication of metrics on the volumes of applications and other supporting evidence: we think it would be beneficial for the DNOs to publish relevant metrics, in order to facilitate emerging trends to be identified. This would help to establish an understanding of:
    - the demand for various types of connections;
    - the impact of the Access Significant Code Review on the demand for connections;
    - the impact of the various fees on the demand for connections;
    - whether queries and applications are being handled efficiently;
    - whether the self-serve provision is effective; and
    - the uptake of the various technologies, such as batteries and electric vehicles.

Appendix 4: Assessment of some aspects of the financing proposals

This section of our response focuses on some elements of the DNOs' financing proposals. It is of concern that the DNOs proposals are not aligned with relevant aspects of the CMA's determination of the RIIO-2 transmission and gas distribution price control licence modification appeals which concluded in October 2021.

Asset beta for the cost of equity:

The companies' cost of equity proposals are materially higher than Ofgem's working assumption (4.65%) and the CMA's determination (4.55%) (which are also based on the methodology that was examined by the CMA). The difference is partially attributable to the proposed asset betas. Ofgem set an asset beta of 0.349 for the RIIO-2 transmission and gas distribution price controls, which was upheld by the CMA during the recent price control licence modification appeals. The companies have proposed betas asset betas as follows:

Table 3 – Proposed asset betas

DNO group	Range
ENWL	0.37 – 0.40
NPG	0.37 – 0.40
SPEN	0.368 – 0.398
SSEN	0.37 – 0.40
UKPN	0.37-0.41
WPD	0.35 – 0.37

The DNOs suggest that electricity distribution is a riskier activity than electricity transmission, gas transmission and gas distribution by, for example:

- UKPN states that the electricity distribution sector is riskier than gas distribution because "*it is widely recognised that electricity distribution sector is fundamental to enabling the Net Zero transition and is likely to be the energy sector most impacted by it, particularly in the short to medium term. As a result, the sector is likely to be operating in a more dynamic policy environment than other sectors.*" [10]
- SPEN states that "*both SPD and SPM have higher capex to RAV ratios than GDNs…implying greater relative capex size and higher investment risk*". SPEN also presents data indicating that the capex to RAV ratio for its regions is expected to be around 11-12%, whereas the equivalent ratio for GDNs is suggested to be 6-7%".[11]

The above statements do not substantiate the DNOs' claims that the electricity distribution sector is exposed to higher systematic risk than the other energy network sectors. Indeed, there are several risks to which transmission (TOs) and gas distribution (GDNs) companies are exposed but the DNOs are not. These are summarised below.

[10] UKPN's Business Plan (Appendix 25a: Financial information) page 3.
[11] SPEN's Business Plan (Annex 5D.1: Finance) pages 15-16.

The uncertainty about the medium- and long-term future of gas networks means that they are likely to face heightened demand risk compared to DNOs:
The gas network companies face uncertainty around their medium- and long-term futures. The UK needs to decarbonise home heating in order to meet its legally binding Net Zero targets. As a consequence, home heating will either need to be electrified or natural gas will need to be replaced with hydrogen, or a combination of the two. Heat networks may also play a greater role in future, reducing the demand for gas supplied by the gas network companies. If home heating is electrified to a large degree, then the GDNs may play either a very small role, supplying gas to certain properties and localities which are particularly expensive to electrify, or GDNs may play no role at all.

The potential for reduced demand for gas in the medium- to long-term could create the risk that investors continue to invest in gas network assets that may eventually become stranded while the expected increased demand for electricity does not create a similar risk for investors in electricity network assets.

Transmission companies typically carry out large projects on the scale that the DNOs do not:
This is important because large and complex projects can sometimes face higher risks, especially construction risks, than smaller and simpler projects that the network businesses deliver routinely and repeatedly. This construction risk associated with large projects is not entirely diversifiable and is likely to be implicitly embedded within the asset beta estimates for the TOs. However, DNOs typically do not deliver such large projects and, as such, are less exposed to this type of construction risk. We have identified investment in new 'High Value Projects' in the business plans of about £51m[12], compared to investment of £430m for a single project to be delivered by National Grid Electricity Transmission (NGET) during RIIO-ET2.[13]

DNOs may have a greater range of tools for addressing constraints on their networks:
Rather than just expanding capacity through tradition reinforcement, DNOs can use flexibility services, including demand side response, storage and distributed power generation, to resolve capacity constraints on their networks in certain circumstances. This means that DNOs do not face the same risks as other network operators because they may be able to substitute different kinds of solutions for one another, thereby mitigating against the likelihood of cost overruns.

The above risks which the DNOs do not face mean that, all else being equal, the asset beta of the DNOs should be lower than for the GDNs and TOs. Additionally, in relation to some of the specific arguments advanced by the DNOs:

- In SPEN's analysis, the differences in capex to RAV ratios are not large and indeed seem immaterial. The differences estimated are not of a similar magnitude to the differences in capex to RAV ratios that were used to justify a different cost of capital for SHETL at RIIO-T1, for example. To the extent SHETL's circumstances were considered different and needed to be addressed, the mechanism employed was a bespoke approach to calculating debt allowances rather than an uplift on beta. SPEN has not presented

[12] WPD submitted projects worth £30m and ENWL submitted projects worth £21m.
[13] The Hinkley-Seabank project. See page 8 of: https://www.nationalgrid.com/uk/electricity-transmission/document/131771/download.

evidence explaining how the higher capex to RAV ratios leads to heightened risk and whether an uplift of the asset beta is the most efficient way of managing that risk.

- Any regulatory uncertainty that may increase the asset beta for DNOs is equally applicable, if not more applicable, to the GDNs, for the reasons outlined above. Consequently, UKPN's argument that the electricity distribution sector is riskier than other sectors because of regulatory uncertainty does not appear robust.
- Even if it is the case that DNOs face some higher risks than GDNs, the CMA stated "*We consider that investors have the ability to diversify risks associated with Net Zero, and that in turn assets which may be negatively impacted by Net Zero risk require an increase to the beta. As a result, we conclude that beta is not the right place to consider any specific risks in gas networks.*"[14] This implies that any additional risks faced by DNOs should not be reflected in the asset betas, but rather considered separately.

Company-specific adjustments to the cost of debt:

Some of the DNOs argue for a company specific uplift to the allowed cost of debt, reflecting specific characteristics of their business. For example:

- ENWL argues that it faces a higher cost of debt due to it being an infrequent issuer of debt and because of greater exposure to the transition to CPIH inflation indexation. ENWL contends that it requires an uplift of 5 bps to compensate for the greater exposure to CPIH inflation indexation and 18-23 bps for being an infrequent issuer. ENWL further argues that the uplift to the cost of debt for being an infrequent issuer should apply to both new and embedded debt, not just new debt. ENWL also discusses some possible mechanisms, including changes to the cost of debt indexation mechanism, to reflect the differing frequency of its debt issuance[15].
- NPG argues that it should receive a higher allowed cost of debt because it is smaller company such as NGET. NPG also argues that 75% of notional debt should be funded on a nominal basis rather than a real basis, implying higher cost of debt during RIIO-ED2.[16] NPG indicates that its nominal cost of debt should be 39 bps higher than Ofgem has allowed.[17]
- SPEN's supporting paper states it should receive a higher allowed cost of debt because it issues debt infrequently relative to some other network companies. [18]
- SSEN argues that SHEPD should be provided with a small company premium on the allowed cost of debt for RIIO-ED2.[19]
- WPD argues that it believes its allowed cost of debt should be increased to include a small company premium.[20]

[14] "Final determination: Volume 2A: Joined Grounds: Cost of Equity"; paragraph 5.587: https://assets.publishing.service.gov.uk/media/617fe5468fa8f52980d93209/ELMA_Final_Determination_Vol_2A_publication.pdf..
[15] ENWL's Business Plan (Annex 28C: Alternative Cost of Capital) pages 66-67.
[16] NPG's Business Plan (Annex 7.2 Financing) page 6.
[17] NPG's Business Plan (Annex 7.2 Financing) page 13.
[18] SPEN's Business Plan (Annex 5D.2) page 63.
[19] SSEN's Business Plan (Annex 19.1 Finance and Financeability) page 24.
[20] WPD's Business Plan (SA 0 9 Supplementary Annex Financing our plan) page15.

However, the evidence advanced by the DNOs in support of their claims is not compelling. We discuss below.

Company size vs infrequent issuance:
With the possible exception of ENWL, the DNOs which are arguing for an uplift to the cost of debt are not small. The others are all quite sizeable companies and much larger than those which have been awarded small company premia on the cost of debt by economic regulators in the past, with the exception of RIIO-GD2.

The premium for infrequent issuance is not directly related to size, but rather to the fact that the companies are less well recognised by debt investors. Infrequent issuers of debt may be subject to additional due diligence and risk premia being included because they are less well known to the lenders simply because due diligence would be conducted infrequently. It is not necessary that a small company that is well known to lenders should automatically receive an uplift to the cost of debt because of its size. We think it is unlikely DNOs will not be well known to lenders because:

- SPEN, SSEN, WPD and NPG are parts of very large corporate groups of companies and, therefore, are more likely to be well known and understood by investors.
- All the DNOs, including ENWL, benefit from being part of an industry of DNOs: the DNOs are subject to a regulatory framework with a long track record, which is well understood by investors and closely monitored by credit ratings agencies. The smaller DNOs also benefit from the familiarity that investors have with their larger peers: when an investor conducts due diligence on an investment in ENWL (for example), that investor has already researched the industry it is lending to or the business model of ENWL. There are many synergies and read across from investing in one DNO to another DNO, such that it is difficult to see why ENWL – or any DNO – should be perceived as an infrequent issuer.

Treatment of embedded debt:
ENWL's arguments for an uplift due to its higher proportion of embedded RPI-linked debt and for an uplift to be applied to its embedded debt would effectively require customers to provide funding for past financing decisions that could be considered inefficient. We do not believe allowing either uplift would be in consumers' best interests because doing so would require consumers to bear risks they are not well placed to manage. In addition, allowing either uplift would not seem consistent with principles of good economic regulation: companies are responsible for their own financing decisions (within the constraints of licence conditions) and bear the risks and rewards of their financing strategies. This is one of the reasons why Ofgem and other economic regulators base financeability assessments on a notional company rather than the actual financing arrangements.

Company-specific adjustments:
Several of the DNOs are seeking company specific adjustments on the basis that they are different from the average company. All of the proposed adjustments are upwards. Ofgem needs to ensure that any company specific adjustments are applied in a balanced and symmetrical way: if there is a legitimate case for an uplift some companies because they are different from the average company, a downward adjustment should be made to other companies because they

are different, but opposite, to those companies which receive an uplift. The net cost to GB consumers should be zero i.e. if some pay more, then others should pay less. For example, it does not seem appropriate that many companies in the industry can claim to be infrequent issuers due to their small size but yet no company can benefit from being frequent issuers due to its relatively large size.

Ofgem should carefully scrutinise the evidence put forward by DNOs for company-specific adjustments to the cost of debt, to ensure that any such adjustments are in consumers' best interests. Ofgem should have regard as to whether company-specific uplifts to the cost of debt are consistent with companies being responsibility for their financing strategies and structures and whether companies are responding to the incentives to finance themselves efficiently. Ofgem should also consider whether any company-specific uplifts to the cost of debt should be applied symmetrically, on the basis that companies will be dispersed around the 'average' in either direction.

Appendix 5: Uncertainty Mechanisms

This aspect of our response focuses on some of the bespoke uncertainty mechanisms (UMs) proposed by the DNOs. Whilst we support the use of uncertainty mechanisms in general, we have identified some that:

- have not been justified, and
- disproportionately de-risk companies by protecting them from managing their business risk, and risk to consumers.

The greater use of UMs in RIIO-2 changes the balance of risk between companies and consumers by reallocating some risk from companies to consumers, compared to the RIIO-1 counterfactual. The greater use of UMs is not meant to disproportionately de-risk companies by protecting them from managing their business risk. Companies may seek ways of transferring risks they would typically bear to consumers. If those proposals are accepted, it is necessary to reduce consumer funding for risk remuneration accordingly e.g. through a downward adjustment to the cost of capital.

We also think there is an overlap in scope for some UMs (e.g. SPENs' 'subsea cables' and 'Hebrides' UMs). If accepted, those mechanism need to be more tightly defined to prevent 'boundary' issues. We comment on some mechanisms below.

Company:	ENW and SSEN	Title:	Ash Dieback removal
Purpose:	To provide funding for vegetation management associated with Ash Dieback		
Mechanism:	Volume driver (ENW) or reopener (SSEN)		
Scope:			

We do not think this proposal has been justified. The companies have not presented evidence to demonstrate why the risk associated with Ash Dieback is beyond the risks typically associated with vegetation management. The companies also have not presented evidence to demonstrate why the risk associated with Ash Dieback is beyond the companies' control and has both increased and is material. SSEN highlights this issue is not region-specific and affects other sectors with above ground assets[21]. However, only three[22] of the 14 DNO regions have proposed a mechanism that reduces the extent to which they are exposed to this risk, and two of those three regions contain the lowest concentration of ash trees across the electricity distribution sector[23]. Also, none of the transmission or gas distribution companies proposed a similar mechanism in their RIIO-2 business plans.

[21] "This issue is not regional specific, but rather industry wide, affecting all electricity distribution companies, as well as other utilities and infrastructure sectors with above ground assets, such as highway and rail agencies". See SPEN's Business Plan (Appendix 17.1) page 69.
[22] ENW, SEPD and SHEPD.
[23] ENWL and SEPD contain the lowest and second lowest concentrations. See SPEN's Business Plan (Appendix 17.1) Figure 6.7.

Company:	SPEN	Title:	Digitalisation
Purpose:	To provide funding for additional digitalisation requirement		
Mechanism:	Not defined		
Scope:			

This proposal has not been justified. SPEN has not identified a specific trigger for the need for additional funding or what the additional funding would be required for. Further, it is not clear from SPEN's IT and Digitalisation Strategy that there are gaps which would require additional funding to be addressed. We note no other DNO group has proposed a similar mechanism. We consider this proposal speculative.

Company:	SPEN	Title:	Severe Weather 1 in 20 Event reconciliation
Purpose:	To provide funding for responding to and managing the consequences arising from severe weather events		
Mechanism:	In-period reconciliation		
Scope:			

We do not think this proposal has been justified. We accept it may be difficult to predict the frequency of severe weather events. However, SPEN has not provided evidence to demonstrate why it would not be able to manage the impacts of severe weather events given it has increased network resilience and refined its response strategy.[24] SPEN also has not provided evidence to demonstrate why a disproportionate increase in expenditure is to be expected. Further, we consider the managing these impacts to be risks which network companies typically face and have been remunerated for. No other DNO has proposed a mechanism to manage these risks.

There may be merit in this proposal if it can be robustly justified, is sufficiently evidenced and shown be in consumers' interests. The UM transfers risk away from the company to consumers and a downward adjustment to the cost of capital would be required to reflect the reduced risk to which the company will be exposed.

Company:	SSEN	Title:	Subsea Cables
Purpose:	To provide funding for reactive replacement works and revised decommissioning requirements		
Mechanism:	Volume driver and reopeners		
Scope:	• Reactive replacement works required following cable faults • Provision of remote power generation in the event of cable faults • new cable decommissioning requirements initiated by Marine Scotland or the equivalent public authorities in England		

We do not think the elements relating to reactive replacement works and the provision of remote power generation have been justified. SSEN has not presented evidence to demonstrate why there may be an increased risk of reactive replacement work, that the increased is material and why the risk cannot be managed by the company. Also, SPEN has not justified why it is no longer appropriate for these risks to be managed as they have been in RIIO-ED1 (through ex-ante

[24] SPEN's Business Plan (Annex 5B.1 Uncertainty Mechanisms) paragraph 9.1.2.

allowances). We consider the risk associated with subsea cables to be a risk the company has typically faced and has been remunerated for.

SSEN acknowledges the UM would transfer risk away from the company to consumers because the company would no longer bear volume risk:

> "Turning to our UM proposals themselves, our proposed volume driver for reactive replacement will also share risks between us and our customers. The volume uncertainty over reactive works will be borne by customers, who will contribute additional funding should this be required. We will bear the risk that outturn unit costs are higher than the agreed UCAs, which could arise if reactive cost premiums are higher than anticipated, although there is also the potential for outturn unit costs to be lower than the agreed UCAs."[25]

However, SSEN has not proposed a downward adjustment to the cost of capital to reflect the risk transfer. If this proposed UM is accepted, a downward adjustment to the cost of capital is required to reflect the reduced risk to which the company will be exposed.

[25] SSEN's Business Plan (Annex 17.1: Uncertainty Mechanisms) page 58.

Appendix 6: Uncertainty mechanisms to fund load-related and strategic investment

The DNOs have proposed different approaches to how the uncertainty mechanism(s) should fund load-related and strategic investment during RIIO-ED2 should be designed and operated. The proposals fall into two broad categories: based on network capacity made available or based on the number of low carbon technology devices (LCTs) that have been connected. We do not support UMs based on the volume of LCTs that have been connected.

UMs based on capacity made available are preferable since the LCT volume drivers weaken the link between what all network users require – network capacity – and DNO investment. Using LCT volume drivers could create a scenario in which network capacity needed for different purposes, such as for using LCTs versus organic growth in demand, could be funded differently and with different incentive mechanisms applied. The 'boundary effects' between different funding routes and incentive mechanisms relating to the provision of capacity could lead to unintended consequences, such as differing levels of service according to usage. Using UMs based on capacity made available would avoid this concern.

LCT volume drivers could also potentially lead to DNOs favouring certain technology types. LCT volume drivers may encourage a DNO to pursue initiatives to connect what it considers to be the optimum volume of LCTs (from its perspective). Encouraging the connection of an optimum number of LCT devices may well be a desirable outcome. However, DNOs should not pick 'winners'. Network companies should remain neutral market facilitators and the price control framework should be designed to maintain this principle. UMs based on capacity made available would avoid this concern.

Additionally, UMs based on capacity made available complement other aspects of the DNOs proposals. For example, DNOs will be required to treat flexibility and traditional investment equally, both of which provide additional capacity, when assessing the need for investment. Funding provided via UMs based on capacity made available may make it easier for DNOs to directly compare investment options.