RIIO-ED2 RIGs Environment and Innovation Commentary

Version 1.0

2023/24

Scottish and Southern Electricity Networks (SSEN)

1. Summary – Information Required

One Commentary document is required per DNO Group. Respondents should ensure that comments are clearly marked to show whether they relate to all the DNOs in the group or to which DNO they relate.

Commentary is required in response to specific questions included in this document. DNOs may include supporting documentation where they consider it necessary to support their comments or where it may aid Ofgem's understanding. Please highlight in this document if additional information is provided.

The purpose of this commentary is to provide the opportunity for DNOs to set out further supporting information related to the data provided in the Environment and Innovation Reporting Pack. It also sets out supporting data submissions that DNOs must provide to us.

2. Worksheet by worksheet commentary

At a worksheet by worksheet level there is one standard question to address, where appropriate, as follows:

- **Allocation and estimation methodologies**: DNOs should detail estimates, allocations or apportionments used in reaching the numbers submitted in the worksheets.

  This is required for all individual worksheets (ie not an aggregate level), where relevant. Not all tables will have used allocation or estimation methods to reach the numbers. Where this is the case simply note "NA".

  Note: this concerns the methodology and assumptions and not about the systems in place to check their accuracy (that is for the NetDAR). This need to be completed for all worksheets, where an allocation or estimation technique was used.

In addition to the standard commentary questions, some questions specific to each worksheet are asked.

E1 – Visual Amenity

Allocation and estimation methodologies: detail any estimations, allocations or apportionments to calculate the numbers submitted.
SSEH and SSES: Project costs have been allocated on a project-by-project basis. The total expenditure for these projects has been allocated based upon the appropriate activity driver with no apportionment or estimations.

Explanation of the increase or decrease in the total length of OHL inside designated areas for reasons other than those recorded in worksheet E1. For example, due to the expansion of an existing, or creation of a new, Designated Area.
SSES: SSES reported cost with no deliverables in regulatory year 2023/24 as all live projects in this regulatory year are planned for completion in future years of RIIO-ED2. The negative cost showing in New Forest AONB National Park is an accrual of a small cost for a project completed and claimed in 2022/23. The negative cost showing in North Wessex Downs AONB is an accrual of a small cost spent in 2022/23. This project is due to complete in 2024/25. **SSEH**: 5.45km of third-party Overhead line was removed from the Knoydart National Scenic Area during a cleansing activity. **SSES**: 16.18km of third-party Overhead line was removed from The Dorset AONB during a cleansing activity.

E3 – BCF

Allocation and estimation methodologies: detail any estimations, allocations or apportionments to calculate the numbers submitted.
SSEH and SSES: Emissions source figures used to calculate the associated estimated emissions submitted for SSEH and SSES have been extracted from a few sources which include our asset management system Maximo. The only area where we have used estimation principles is in calculating the electrical load for substations in both SSEH and SSES areas which are then used to derive the associated estimated emissions. The estimating principle is described in this narrative under Building Energy Usage.

BCF reporting boundary and apportionment factor DNOs that are part of a larger corporate group must provide a brief introduction outlining the structure of the group, detailing which organisations are considered within the reporting boundary for the purpose of BCF reporting. Any apportionment of emissions across a corporate group to the DNO business units must be explained and, where the method for apportionment differs from the method proposed in the worksheet guidance, justified.
SSEH and SSES: SSEN Distribution is part of the wider corporate group SSE plc. There is no apportionment of emissions across the corporate group. E3 - BCF reporting relates to SSEH and SSES only. However, energy usage within shared buildings is allocated using our Corporate Recharge model which is consistent in all submissions to Ofgem.

BCF process The reporting methodology for BCF must be compliant with the principles of the Greenhouse Gas Protocol.[1] Accounting approaches, inventory boundary and calculation methodology must be applied consistently over time. Where any processes are improved with time, DNOs should provide an explanation and assessment of the potential impact of the changes.
SSEH and SSES: We have followed Ofgem's classification of carbon sources and are compliant with the Greenhouse Gas Protocol. All conversion rates are extracted from specific annexes listed in the UK Government (DEFRA/DESNZ) Greenhouse Gas (GHG) conversion factors for company reporting. The 2023 UK Government GHG Conversion Factors for Company Reporting ("ghg-conversion-factors-2023-full-set" have been used throughout in the calculation of SSEN Distribution's 2023/24 GHG emissions.

[1] Greenhouse gas protocol

Commentary required for each category of BCF

For each category of BCF in the worksheet (ie Buildings Energy Usage, Operational Transport etc) DNOs must, where applicable, provide a description of the following information, ideally at the same level of granularity as the Defra conversion factors:

- the methodology used to calculate the values, outlining and explaining any specific assumptions or deviations from the Greenhouse Gas Protocol
- the data source and collection process
- the source of the emission conversion factor (this shall be Defra unless there is a compelling case for using another conversion factor. Justification should be included for any deviation from Defra factors.)
- the Scope of the emissions ie, Scope 1 or 2
- whether the emissions have been measured or estimated and, if estimated the assumptions used and a description of the degree of estimation
- any decisions to exclude any sources of emissions, including any fugitive emissions which have not been calculated or estimated
- any tools used in the calculation
- where multiple conversion factors are required to calculate BCF (eg, due to use of both diesel and petrol vehicles), DNOs should describe their methodology in commentary
- where multiple units are required for calculation of volumes in a given BCF category (eg, a mixture of mileage and fuel volume for transport), DNOs should describe their methodology in commentary, including the relevant physical units, eg miles.

DNOs must provide any other relevant information here on BCF, such as commentary on the change in BCF, and should ensure the baseline year for reference in any description of targets or changes in BCF is the Regulatory Year 2019-20. DNOs should make clear any differences in the commentary that relate to DNO and contractor emissions.

<u>Building Energy Usage</u> (Scope 2)

SSEH and SSES:

Buildings – Electricity, Other Fuels

Data for electricity consumption and gas consumption for buildings is collected through the invoices received from multiple energy providers and stored at SSE Group system.

For shared buildings energy usage (both electricity and gas) is allocated using our Corporate Recharge model, which uses property service footprints and Group approved allocation metrics to divide sites between different Business Units. This has been consistent in all submissions to Ofgem.

The annual grid average conversion factor from the 2023 DEFRA/DESNZ dataset was used to provide the buildings electricity footprint. The gross calorific value has been applied consistently for the conversion of gas figures, also from DEFRA/DESNZ dataset The table below shows the electricity and fuel consumption, their carbon equivalent emissions and the footprint change against the previous year.

Increases have been guided by an increase of energy consumption and a higher carbon emission factor.

		Electricity (kWh)	Gas (kWh)	tCO2e	% Change (tCO2e)
SSEH	2020/21	1,694,758.70	103,833.00	414.21	-
	2021/22	1,887,499.86	78,204.98	415.10	-
	2022/23	2,392,716.27	97,931.18	480.58	10.54%
	2023/24	2,513,769.11	58,344.48	531.21	
SSES	2020/21	1,762,914.18	122,007.11	433.44	-
	2021/22	2,491,446.11	156,991.82	557.76	-
	2022/23	2,770,163.78	153,815.06	563.77	15.66%
	2023/24	3,024,809.34	140,585.13	652.08	

Substation Energy

Substations have been separated into three categories for energy usage estimations:

- HV: 6.6kV – 20kV
- EHV: 22kV – 66kV
- 132kV (SSES only), as 132kV is a Transmission voltage in Scotland.

All SSEN Distribution substations are registered as unmetered supplies so in calculating the total BCF, the substation energy consumed - which is calculated from our own estimate framework (detailed below) - is deducted from the total system losses to avoid double counting. A best estimate framework for the energy consumption at these sites has been used. Principles and assumptions used in this estimation are detailed below.

Substation Numbers

The number of substations in each category is taken from our asset management system, Maximo. The numbers are split between our licensees to give figures for both SSEH and SSES. Out of area substations are excluded.

Estimating Principles

Electrical demand in a substation comes from a combination of elements such as space heating, panel heaters, lighting of buildings, battery chargers, mains, transformer coolers and site security equipment (flood lighting, CCTV cameras etc). Between SSEH and SSES, usage described above can vary due to the geographical location and differences in climates.

For substation electricity calculation, we use total numbers of substations at EHV voltage and above multiplied by a factor which is created through the estimated principles to give us an estimated usage. For HV substations however due to the classification of indoor/outdoor categorisation on Maximo, we assume 3.5% of the total of all HV substations have the equipment mentioned above installed, therefore we multiply this value by a factor which is created through the estimated principles to give us an estimated usage. We believe this gives a more realistic view on the substation electricity usage as we believe not all our indoor substations would use the factors described above. Work is ongoing to align our substation categorisation within Maximo against our other core systems such as EO and PowerOn, to enable us to move away from the 3.5% estimate.

The appropriate 2023 DEFRA/DESNZ conversion factor has been used to convert the kWh of electricity used into tonnes of carbon dioxide equivalent (tCO2e).

<u>Operational Transport</u> (Scope 1)

SSEH and SSES:

Road

The volume of fuel (litres) consumed by operational vehicles is captured using fuel cards and is reported separately for SSEH and SSES. Each vehicle is assigned a fob key that tracks the amount and type of fuel at the pump. Vehicles are assigned to both areas and a report from the fuel card system is available. We do not report freight separately from passenger operational transport, so all operational travel has been reported under passenger transport.

The appropriate 2023 DEFRA/DESNZ conversion factor has been used to convert the volume of fuel consumed into tCO2e.

The volume figures and emissions are shown below:

		Petrol (litres)	Diesel (litres)	tCO2e	% Change (tCO2e)
SSEH	2022/23	27,189.24	1,588,641.90	4,122.27	8.13%
	2023/24	25,951.85	1,752,808.82	4,457.60	
SSES	2022/23	16,835.28	2,557,334.47	6,577.65	14.84%
	2023/24	23,989.28	2,986,974.46	7,553.79	
TOTAL	2022/23	44,024.52	4,145,976.37	10,699.92	12.26%
	2023/24	49,941.13	4,739,783.28	12,011.39	

Fuel consumption against the previous year increased with a higher demand for transport for multiple jobs.

Emissions related to fully Electric Vehicles (EV) have not been included at the footprint. The data tracking for those is limited and the emissions are currently immaterial against the total BCF. We expect it to increase as the fleet is updated throughout the years and it will become a part of the report.

Rail

Rail journeys are not applicable to our operational transport Scope 1 or 2 emissions.

Sea

Sea journeys are not applicable to our operational transport Scope 1 or 2 emissions.

Air

Helicopters are used to monitor our network, especially during storms to assess network damage. The use of helicopters to monitor our network and assess damage is essential in ensuring continuity and security of supply.

Actual litres of aviation fuel consumed during hours flown in both SSEH and SSES were provided by the contractors at the end of the year and used in conjunction with the 2023 DEFRA/DESNZ GHG conversion factor to determine associated tCO2e.

The air operational transport figures are shown below:

		Litres	tCO2e	% Change (tCO2e)
SSEH	2022/23	36,200.00	92.13	-3.40%
	2023/24	35,000.00	88.99	
SSES	2022/23	51,325.00	130.63	74.26%
	2023/24	89,525.00	227.63	
TOTAL	2022/23	87,525.00	222.76	42.14%
	2023/24	124,525.00	316.62	

The increased winter storm activity seen during 2023/24 has resulted in more GHG emissions than the previous reporting year.

Fugitive Emissions (Scope 1)

SSEH and SSES:

SF_6

Emissions of SF_6 are recorded in our Asset Management System and represent the amount of SF_6 used to top-up assets during fault repair, routine maintenance or commissioning of assets that use SF_6 as an insulating medium. The appropriate 2023 DEFRA/DESNZ GHG conversion factor was used to calculate the associated GHG emissions in tCO2e. The following table shows how much SF_6 was leaked and their associated emissions.

		SF_6 (kg)	tCO2e	% Change (tCO2e)
SSEH	2022/23	3.85	87.78	-36.82%
	2023/24	2.36	55.46	
SSES	2022/23	202.71	4,621.79	-23.39%
	2023/24	150.67	3,540.75	
TOTAL	2022/23	206.56	4,709.57	-23.64%
	2023/24	153.03	3,596.21	

The 2.36 kg of SF_6 emitted in SSEH and 150.67 kg emitted in SSES during 2023/24 were due to natural leakage and subsequentially required top-ups as part of normal maintenance and cold snaps that exacerbated leaks. To counter this, improved monitoring and analysis have been developed to track the poorest performing assets and SSEN Distribution has begun targeting investment to replace these where repair is not suitable. Limited market availability of SF_6 alternatives has also restricted opportunities to reduce our SF_6 bank. SSEN Distribution has also been working collaboratively with other TNOs and DNOs via the ENA to establish our position to gradually phase out the SF_6 assets with alternatives in line with the proposed regulation, Regulation (EU) No 517/2014.

In addition, SSEN Distribution has successfully implemented the business process to seamlessly initiate the asset replacement or intervention via CNAIM trigger in line with SSEN Distribution's asset classes approach.

Fuel Combustion (Scope 1)

We record the volume of fuel used in jobs to provide back-up generation on our distribution networks. Data is registered by the responsible for that job, it is composed by location, time, quantity and fuel.

SSEH and SSES:

Mobile Generation

Mobile generation is primarily required as backup to ensure continuity and security of supply when works requiring a network outage are taking place, or to provide temporary restoration of supplies to customers during faults. Diesel is the main fuel being used at mobile generation, but Hydrotreated Vegetable Oil (HVO)has been used for the past year too as a less carbon intense alternative.

Gas Oil is no longer used at Mobile Generation.

The appropriate 2023 DEFRA/DESNZ GHG conversion factor was used to calculate the associated GHG emissions in tCO2e. The following table shows the consumption of different fuels and the total emissions associated to them.

		Diesel (litres)	Gas Oil (litres)	Petrol (litres)	HVO (litres)	tCO2e	% Change (tCO2e)
SSEH	2022/23	1,622,987.41	147,105.24	182.97	0.00	4,557.54	-43.56%
	2023/24	1,015,443.00	0.00	0.00	596,946.00	2,572.10	
SSES	2022/23	3,896,682.63	2,219,301.64	0.00	0.00	16,089.19	-57.01%
	2023/24	2,752,964.61	0.00	0.00	23,739.00	6,916.47	
TOTAL	2022/23	5,519,670.04	2,366,406.88	182.97	0.00	20,646.73	-54.04%
	2023/24	3,768,407.61	0.00	0.00	620,685.00	9,488.57	

2023 DEFRA/DESNZ conversion factor figures were smaller for the period, and usage was reduced compared to 2022/23.

SSEH:

Fixed Generation (Diesel)

Our fixed (embedded) generation is primarily required as a backup in the event of network faults to ensure security of supply to our islanded communities. Our 7 power stations are located on the islands off the North of Scotland. No fixed generation sites are in the SSES license area.

Data is collected by measuring the fuel in the tanks and tracking fuel deliveries. Consumption is the difference between monthly readings.

The appropriate 2023 DEFRA/DESNZ GHG conversion factor was used to calculate the associated GHG emissions in tCO2e. The following table shows the gas oil consumption and GHG total emissions.

		Gas Oil (litres)	tCO2e	% Change (tCO2e)
SSEH	2022/23	811,469.00	2,238.49	225.31%
	2023/24	2,642,834.00	7,282.09	

The gas oil used during 2023/24 was utilised at our embedded generation stations operated to maintain continuity and security of supply for customers in our island communities during power outages caused by planned or unplanned works, including storms. The increase in GHG emissions from 2022/23 is due to storm activity experienced during 2023/24.

<u>Losses</u> (Scope 2)

SSEH and SSES:

Figures for network losses have a two-year lag given the industry reconciliation process, however, an estimate is produced at the end of the reporting year and converted to tCO2e using the appropriate 2023 DEFRA/DESNZ conversion factor. The following table shows the losses and their associated GHG emissions.

		Losses (kWh)	tCO2e	% Change (kWh)	% Change (tCO2e)
SSEH	2022/23	488,700,797.97	94,504.96	1.02%	8.17%
	2023/24	493,681,832.38	102,228.81		
SSES	2022/23	1,527,894,213.40	295,464.18	0.29%	7.40%
	2023/24	1,532,381,376.38	317,316.78		
TOTAL	2022/23	2,016,595,011.37	389,969.14	0.47%	7.58%
	2023/24	2,026,063,208.76	419,545.60		

Losses are proportional to the amount of energy that flows through our network, and the emissions associated are a function of the generation mix. In 2023/24, network losses increased compared to 2022/23 mainly due to a stabilisation of the cost-of-living crisis, with consumers consuming more electricity. Additionally, the 2023 DEFRA/DESNZ conversion factor is higher than the 2022 conversion factor, due to a decreased proportion of renewable generation, resulting in an increase in tCO2e associated with the losses. The 2022/23 kWh, and therefore associated emissions, were updated following reconciliation in 2023/24.

E4 – Losses Snapshot

Allocation and estimation methodologies: detail any estimations, allocations or apportionments to calculate the numbers submitted.
SSEH and SSES: **LV & 11kV upsizing minimum cables** The bullet points below detail workings used to calculate losses savings from increasing the size of cables. • Column N-R (Volumes): Volume of cable upsized is taken from the cost and volume reporting pack. A percentage modifier is applied so that volumes represent the amount of cable that has been upsized due to application of the losses policy. The percentage modifier is calculated using cable procurement data. It is assumed that purchase orders for cables within each regulatory year correspond to installation of cables in year of purchase. 2022/23 has been used as the baseline year as the losses policy on minimum upsizing of cables was altered after this year. • Column AC-AG (Estimated Distribution Losses benefits over 'Baseline Scenario'): Losses reductions have been estimated using actual LV and 11kV demand data along with cable resistance data to calculate the MWh savings per km of cable installed. This is then multiplied by the volume to calculate savings for the regulatory year. Losses reduction figures are divided by two in the first year of implementation. This is because installation of cables occurs throughout the year, half of which occur in the second half of the year. To account for this the final MWh figure has been divided by two in the first year of implementation only. Losses reductions are cumulative and multiplied up over consecutive years in the price control. **Low Loss transformers** The bullet points below detail workings used to calculate losses savings from replacing 33kV ground mounted transformers with energy efficient versions that meet the EU Ecodesign Directive Tier 2 standard. • Column N-R (Volumes): Volume of transformer installations is taken from the cost and volume reporting pack. • Column AC-AG (Estimated Distribution Losses benefits over 'Baseline Scenario'): Losses reductions have been estimated using the minimum peak efficiency index on a standard load profile. Tier 2 Transformer efficiencies have been taken from the Minimum Peak Efficiency Index values in the EU Ecodesign Directive. Efficiencies of current installed "baseline" transformers vary depending on the specification of the installation. It is assumed on average that baseline transformers are 0.1% less efficient than Ecodesign Tier 2 minimum requirements. The MWh savings per year is then multiplied by the volume to calculate savings for the regulatory year. Losses reduction figures are divided by two in the first year of implementation. This is because installation of transformers occurs throughout the year, half of which occur in the second half of the year. To account for this the final MWh figure has been divided by two in the first year of implementation only. Losses reductions are cumulative and multiplied up over consecutive years in the price control. **Pre-1960 transformer replacements** The bullet points below detail workings used to calculate losses savings for replacing pre-1960s 6.6kV/11kV transformers with energy efficient versions that meet the EU Ecodesign Directive Tier 2 standard.

- Column N-R (Volumes): Volume of Pre-1960 transformer installations are extracted from our asset management system.
- Column AC-AG (Estimated Distribution Losses benefits over 'Baseline Scenario'): Losses reductions have been estimated using the minimum peak efficiency index on a standard load profile. Tier 2 Transformer efficiencies have been taken from the Minimum Peak Efficiency Index values in the EU Ecodesign Directive. Efficiencies of current installed “baseline” transformers vary depending on the specification of the installation. It is assumed on average that baseline transformers are 0.12% less efficient than Ecodesign Tier 2 minimum requirements. The MWh savings per year is then multiplied by the volume to calculate savings for the regulatory year. Losses reduction figures are divided by two in the first year of implementation. This is because installation of transformers occurs throughout the year, half of which occur in the second half of the year. To account for this the final MWh figure has been divided by two in the first year of implementation only. Losses reductions are cumulative and multiplied up over consecutive years in the price control.

Substation energy efficiency upgrades
The bullet points below detail workings used to calculate losses savings for substation building improvements to reduce energy usage.

- Column N-R (Volumes): Volume of substations refurbished is provided from project engineers.
- Column AC-AG (Estimated Distribution Losses benefits over 'Baseline Scenario'): Losses reductions have been estimated as the product of the area upgraded (m2) and the estimated energy saving (kWh/m2) for the implemented measures including spray roof insulation, double glazing, heating and lighting occupancy sensors. Losses reductions are cumulative and multiplied up over consecutive years in the price control.

Relevant Theft of Electricity
The bullet points below detail workings used to calculate losses savings for reducing energy theft and unmetered properties through MPAN rectification.

- Column N-R (Volumes): Volume of MPAN rectification is based on the number of resolved energy theft (or identification of unmetered property) cases per year. One MPAN = One resolved case. This is broken down further into domestic and non-domestic cases.
- Column AC-AG (Estimated Distribution Losses benefits over 'Baseline Scenario'): Domestic and Non-Domestic MWhr savings are taken from the Common Distribution Charging Methodology (CDCM) model. Table “1053: Volume forecasts for the charging year” is used to estimate the MWhr savings per MPAN. Losses reduction figures are divided by two in first year of implementation. This is because rectification of MPANS occurs throughout the year, half of which occur in the second half of the year. To account for this the final MWhr figure has been divided by two in the first year of rectification only. Losses reductions are cumulative and multiplied up over consecutive years in the price control.

Programme/Project Title Please provide a brief summary and rationale for each of the activities in column C which you have reported against.
SSEH and SSES: **LV & 11kV upsizing minimum cables** LV cables have been upsized from 95 sqmm to 300 sqmm and 11kV cables have been upsized from 70 sqmm to 300 sqmm specifically to reduce losses. While upsizing of cables is more expensive, the reduced losses over the life span of the cable makes it the preferred solution as shown in the CBAs. **Low Loss transformers** When replacing transformers, we are using models that meet the Tier 2 minimum requirements as stated in the EU Ecodesign Directive. These models are more efficient, delivering a loss saving. **Pre-1960 transformer replacements** There are still some pre-1960s transformers on our network. These are recognised to be less efficient than modern equivalents. As these transformers are selected for replacement (based on a condition assessment), we are replacing with models that meet the Tier 2 minimum requirements of the EU Ecodesign Directive. **Substation energy efficiency upgrades** Refurbishing our substations to ensure they are energy efficient will reduce substation electricity consumption and as a result reduce losses. **Relevant Theft of Electricity** Theft of electricity is a major cause of losses. We have a team within SSEN Distribution that is specifically dedicated to identifying electricity theft to reduce these losses. It is by far the largest activity within SSEN Distribution that contributes to the reduction in losses.

Primary driver of activity If, in column E, you have selected ‘Other’ as the primary driver of the activity, please provide further explanation.
Other is selected in LV and 11kV cable technical losses because there are multiple primary drivers for installing cables including Primary Reinforcement (CV1), Secondary Reinforcement (CV2), Fault Level reinforcement (CV3), Asset Replacement (CV7) and Faults (CV26).

Baseline Scenario Please provide a brief description of the 'Baseline Scenario' inputted in column K for each activity.
SSEH and SSES: **LV & 11kV upsizing minimum cables** The baseline scenario used is based on the previous policy of using smaller standard cable sizes i.e. 95 sqmm cables for LV and 75 sqmm cables for 11kV. **Low Loss transformers** The baseline scenario used is replacing transformers like for like, i.e with models that do not meet Tier 2 of the EU Ecodesign Directive. **Pre-1960 transformer replacements** The baseline scenario used is leaving the inefficient pre-1960s transformers in place. **Substation energy efficiency upgrades** The baseline scenario used is not completing the substation building improvements to improve energy efficiency. **Relevant theft of electricity** There is no baseline used as each year electricity theft is discovered, we reduce losses. It is therefore not applicable to include a baseline.

Use of the RIIO-ED2 CBA Tool DNOs should use the latest version of the RIIO-ED2 CBA Tool for each of the activities reported in column C. Where the RIIO-ED2 CBA Tool cannot be used to justify an activity, DNOs should explain why and provide evidence for how they have derived the equivalent figures for the worksheet. The most up-to-date CBA for each activity reported in the Regulatory Year under report must be submitted.
The RIIO-ED2 CBA tool is used for LV and 11kV cables, low loss transformers, pre-1960 transformers and substation energy efficiency upgrade. No CBA exists for relevant theft of electricity as this is settled on the number of MPAN resolutions as detailed in the first section.

Changes to CBAs If, following an update to the CBA used to originally justify the activity in column C, the updated CBA shows: • a negative net benefit for an activity, but the DNO decides it is in the best interests of consumers to continue the activity, or • a substantively different NPV from that used to justify an activity that has already begun. the DNO should include an explanation of what has changed and why the DNO is continuing the activity. For example, where the carbon price used in the RIIO-ED2 CBA Tool has changed from that used to inform the decision such that the activity no longer has a positive NPV.
N/A

Cost benefit analysis additional information Please include a reference to the file name and location of any additional relevant evidence submitted to support the costs and benefits inputted into this worksheet. This should include the most recent CBA for each activity reported in column C in the Regulatory Year under report.
LV & 11kV upsizing minimum cables LV Cable Upsizing CBA 2023.24.xls 11kV Cable upsizing CBA 2023.24.xls **Low Loss transformers** 33kV Transformer CBA 2023.24.xls **Pre-1960 transformer replacements** 308_SEPD_NLR_HV_TRANSF_CLEANOFGEM CBA.xls 308_SHEPD_NLR_HV_TRANSF_CLEANOFGEM CBA.xls **Substation energy efficiency upgrades** 6_SSEPD_ENV_LOSSES_CBA.xls

E5 – Smart Metering

Allocation and estimation methodologies: detail any estimations, allocations or apportionments to calculate the numbers submitted.

SSEH and SSES:

Smart Meter Communication Licensee Costs (pass through)

Values submitted relate to actual costs incurred as invoiced by the Data Communications Company (DCC) and costs associated with external audits as defined on the Smart Energy Code (SEC).

Smart Meter Information Technology Costs (pass through)

The values submitted relate to the actual expenditure incurred on additional IT assets and services which are specifically associated with the systems required to access, store, process and use smart meter data.

It should be noted that costs incurred include costs from the previous adapter (this handles smart meter traffic we receive and send) required for ongoing support, plus costs relating to the implementation of our new adapter in the same period. In addition to this, costs for the DCC licence for 2023/24 are included. Therefore, costs are higher than previous years.

License Area	SM IT Costs* (£k)	SM Communication Licence (DCC) Costs (£k)	Elective Communication (DCC) Costs (£k)
SSEH	0.42	0.82	0
SSES	1.70	2.94	0

*(Adjusted to 2020/21 prices)

Actions to deliver benefits Detail what activities have been undertaken in the relevant regulatory year to produce benefits of smart metering where efficient and maximise benefits overall to consumers. At a minimum this should include: • A description of what the expenditure reported under Smart Meter Information Technology Costs is being used to procure and how it expects this to deliver benefits for consumers. • A description of the benefits expected from the non-elective data procured as part of the Smart Meter Communication Licensee Costs. The DNO should set out how it has used this data. • A description of the Elective Communication Services being procured, how it has used these services, and a description of the benefits the DNO expects to achieve.
No benefits have been derived in this regulatory year due to the limited volume of SMETS1 and SMETS2 meters available to us and consequent lack of data available. In addition, the quality of smart meter data has delayed the realisation of benefits but is being addressed by the industry smart meter programme. As noted, we have now completed the procurement and implementation of our new smart meter adapter which has made more smart meter data available. We are now currently undertaking internal process changes, including the utilisation of smart meter data to enhance these processes, realising associated efficiencies and benefits.

Calculation of benefits Explain how the benefits have been calculated, including all assumptions used and details of the counterfactual scenario against which the benefits are calculated.
N/A

Use of the RIIO-ED2 CBA Tool DNOs should use the latest version of the RIIO-ED2 CBA Tool for each solution reported in the worksheet in the Regulatory Year under report. Where the RIIO-ED2 CBA Tool cannot be used to justify a solution, DNOs should explain why and provide evidence for how they have derived the equivalent figures for the worksheet. The most up-to-date CBA for each activity reported in the Regulatory Year under report which are used to complete the worksheet must be submitted.
N/A

Cost benefit analysis additional information Please include a reference to the file name and location of any additional relevant evidence submitted to support the costs and benefits inputted into this worksheet. This should include the most recent CBA for each solution reported in the Regulatory Year under report.
N/A