ofgem
Making a positive difference for energy consumers

Guidance

RIIO-ET2 regulatory instructions and guidance: Glossary v1.1

Publication date:	19th November 2021	**Contact:**	Niall MacDonald
		Team:	RIIO-ET
		Tel:	020 7901 7423
		Email:	niall.macdonald@ofgem.gov.uk

RIIO-ET2 regulatory instructions and guidance: Glossary v1.2 SSENT

Publication date:	29th August 2022	**Contact:**	Alan White (Chris Wilson)
		Team:	SSENT
		Email:	alan.white@sse.com (christopher.wilson@sse.com)

RIIO-ET2 regulatory instructions and guidance: Glossary v1.3 All TOs

Publication date:	20th December 2022	**Contact:**	Alan White, Senamiso Mathobela & Neil Watson
		Team:	All TOs
		Email:	SSENT – alan.white@sse.com NGET – Senamiso.Mathobela@nationalgrid.com SPT – Neil.Watson@spenergynetworks.co.uk

RIIO-ET2 regulatory instructions and guidance: Glossary v1.4 All TOs

Publication date:	27th February 2024	**Contact:**	Alan White, Senamiso Mathobela & Neil Watson
		Team:	All TOs
		Email:	SSENT – alan.white@sse.com NGET – Senamiso.Mathobela@nationalgrid.com SPT – Neil.Watson@spenergynetworks.co.uk

This document is part of the regulatory instructions and guidance (RIGs) for RIIO-T2 for use by the three electricity transmission owners - National Grid Electricity Transmission plc, SP Transmission Ltd and Scottish Hydro Electric Transmission plc - to enable them to complete the annual reporting requirements associated with the RIIO-ET2 transmission price control from 1 April 2021 to 31 March 2026.

This document is for people who are filling out the "Costs & Volume" Regulatory

Reporting Process (C&V RRP) data templates and want to know general and specific terms for reporting data and activity.

Contents

Foreword

This document contains the glossary for the electricity transmission price control. This guidance applies to reporting during the RIIO-ET2 period.

The Glossary version 1.2 updated by SSENT takes account of internal review with T2 RRP stakeholders and wider engineering / commercial teams. The focus of this review and update is to provide greater definition within each category and enhance clarity of what is to be included, excluded and how volumes and cost will be allocated, along with what supporting narrative elements that are required.

The Glossary version 1.3 updated by All TOs takes account of review with TO stakeholders, engineering and commercial teams. The focus of this review and update is to provide alignment between TOs and to continue to develop the Glossary document to further enhance clarity of what is to be included, excluded and how volumes and cost will be allocated, along with what supporting narrative elements that are required. TO specific assumptions have also been added where deviations from original glossary or other TOs is to occur. It is assumed this Glossary document relates to Tables: Scheme_C&V_Load_Actuals, Scheme_C&V_NonLoad_Actuals, Scheme_C&V_Load_Allowances and Scheme_C&V_NonLoad_Allowances.

1. Introduction

1.1. This document is part of the regulatory instructions and guidance (RIGs) for RIIO-ET2. The term RIGs refers to a collection of documents - our instructions and guidance, and the Cost & Volumes Regulatory Reporting data template (RRP) and commentaries the electricity transmission owners (TOs) have to fill out.

1.2. This document is one of a series of annexes and contains descriptions of terms used in the RRP. It should therefore be read in conjunction with the relevant annex and reporting pack.

Guidance on Allocation of Costs and Volumes to Activity

1.3. Where work activity on an asset involves tasks that span at least one work activity definition, i.e. asset replacement, refurbishment or maintenance, TO's should employ suitable and appropriate cost allocation methodologies such as those cited in the TO specific notes below to capture the costs and volumes for that activity

SSENT Note – Our cost allocation methodology allows us to capture asset and cost allocation at work activity level and we will report on this basis, we have not captured against the highest level or predominant activity as we feel this is inaccurate.

NGET Note – We have captured cost and volumes at the work activity level, and we will report on this basis. We will report volumes and costs for the following categories: Addition, Disposal, New Build, Refurb Major, Refurb Minor, and Replacement.

SPT Note – SPT's methodology allocates costs to the assets at the Asset Possibility level.

1.4. Faults are a distinct category. Activities defined in para 1.6.

Where a particular task could be considered common to several assets, e.g. extensionof an earth grid, TO's should employ suitable and appropriate cost allocation methodologies such as those cited in the TO specific notes below to capture the costs associated with that task or assets that form part of that intervention.

SSENT Note – Our cost allocation methodology allows us to allocate costs which cover multiple assets, over those asset categories, and not by the priority noted above. We feel this is important as it allows for a more accurate representation of costs by category.

NGET Note – Where possible we will seek to allocate common costs across all of the principal assets that they relate to.

SPT Note – We will always endeavour when allocating costs to relevant assets, ensure that such means is determined by the quantum analysis associated with such works, thus ensuring the capture of accurate and robust unitary costings.

Table 1: Asset Intervention Definitions

Intervention	Definition	Impact on Asset Health	Trigger / Driver	Scope	Examples
New	Installation of a new asset.	Reset	Customer or network need	New asset arriving on site.	New section of overhead line required to connect a new customer
Replacement (Pre-emptive or when Repair is uneconomic)	Replacement of an existing asset due to it being at its end of life or uneconomic to repair.	Reset	Asset risk / performance / failure	New asset arriving on site.	In situ replacement of a transformer with a modern equivalent unit
Refurbishment (Major) (Pre-emptive)	Planned activities that change asset condition.	Improve	Asset risk / performance	Predominantly undertaken off-site, refurbished **asset** arriving on site.	Major overhaul of an air-blast circuit breaker undertaken at a refurbishment centre
Refurbishment (Minor) (Pre-emptive)	Planned activities that change asset condition.	Improve	Asset risk / performance	Predominantly undertaken on-site, refurbished/new **components** arriving on site.	Tower steelwork recovery. Gas circuit breaker strip-down and seal replacement
Repair (Reactive)	Activities which takes place on detection of a defect and return the asset to its normal	None / Improve	Asset defect	On-site works; components (e.g. replacement parts) arriving on site. Unless repair is uneconomic, then Replacement.	replacement of a faulted cable sealing end; replacement of a single vibration damper
Fault (Reactive)	Activities which take place after a fault has occurred and are required to, or carried out prior to, returning that asset to service. Follow up works post RTS are classed as Repair.	None	Asset Failure, Fault	On-site works; components (e.g. replacement parts) arriving on site. Unless repair is uneconomic, then Replacement.	Any post fault intervention on any asset that is carried out prior to returning that asset to service.
Maintenance (Pre-emptive)	Planned activities required to achieve asset life and ensure asset performance.	None	Policy	On-site works: - 'consumable' components (e.g. gaskets) arriving on site.	12-yearly major maintenance of a circuit breaker
Inspections (Pre-emptive)	Planned activities to routinely inspect assets for safety/legislative	None	Policy / legislation	Generally planned and delivered on a site or route basis.	Overhead line foot patrols; Substation routines, e.g. pre-winter checks; Written Schemes of Examination
Disposal	Disposal of an existing asset due to it being at its end of life or uneconomic to repair.	Reset	Asset risk / performance / failure	System reconfiguration	Reconfiguration of network that allows disposal of a certain asset (for e.g. Transformer)

1.5. Where assets are not listed individually within the Regulatory Reporting pack they should typically be considered as Bay Equipment and considered a consequential asset associated with the highest value defined asset listed in the RRP. Any intervention restricted to those assets alone should be considered a Repair or Maintenance activity against their associated highest value defined asset listed in the RRP. Where these assets could be considered common to several assets, the associated costs should be allocated to the highest level asset as prioritised in 1.6 above. Where intervention on these assets occurs as part of an intervention on a defined asset listed within the RRP costs should be recorded against that asset and activity.

SSENT Note – We have defined a Bay Equipment allocation within Section 2, costs allocated against Bay Equipment will be re-allocated over all associated assets which relate directly to that bay. We feel this is required to provide more accurate cost reporting against assets.

1.6. For the purposes of Bay Equipment: a Bay shall be defined as an isolatable portion of asubstation, (i.e. between disconnectors, or between disconnector and line or cable entry) containing an asset whose function is not solely to provide isolation and earthing facilities; i.e. for the evasion of any doubt, a Transformer, Circuit Breaker, Reactor as examples.

1.7. When recording costs against an asset intervention, all costs associated with carrying out or facilitating that intervention activity should be included. E.g. removal of existing apparatus, removal and installation of bay equipment not defined within the glossary,

removal and installation of control cabinets, plant hire, plant delivery costs etc. These examples are not intended to form an exhaustive list. Where costs are common across several assets, it would be anticipated that these costs would be allocated appropriately across all assets affected.

1.8. We expect the Licensees to provide joint commentary on how they are ensuring consistency in their approaches to completion of the RRP

2. Definitions (Updated by TOs)

Section summary

The purpose of this section is to provide definition instructions for completing the Cost & Volumes Regulatory Reporting Pack worksheets.

SSENT Note - The original OFGEM Definitions listed under T2 Transmission Glossary version 1.1 have been expanded, generally enhanced or superseded below in line with SSENT review of the RIGS, ET2 RRP document and the most current Asset Possibilities list found within the ET2 RRP.

The format of these definitions is a heading confirming the asset category, asset subcategory heading, a brief definition description of the asset then the following items:

INCLUDES: Confirmation of all items to be included in reporting in this category
EXCLUDES: Confirmation of all items to be excluded from reporting in this category
VOLUME COUNT ASSUMPTIONS: Confirmation of measurement type and assumptions of measurement.
TO SPECIFIC ASSUMPTIONS: Any specific assumptions made by SSEN for the purposes of volumes, cost allocation or methodology.
NARRATIVE REQUIREMENTS: Details of items to be defined in the narrative in relation to volumes or cost.

Voltage Definitions for following items noted as (All Voltages): -

132kV Systems

The lower boundary of the 132kV system should be taken as the supply terminals of the TOs customers supplied at 132kV or the transformer-side terminals of switchgear controlling the secondary (lower voltage) side of 132kV/lower voltage transformers. If no switchgear exists between the secondary side of the 132kV transformer and the primary side of an EHV or HV system transformer, the lower boundary should be taken as the secondary-side terminals of the 132kV/lower voltage transformer. The lower voltage busbars and their protection equipment at 132kV/lower voltage substations are not included.
The upper boundary of the 132kV system should be taken as the 132kV terminals of higher voltage /132kV transformers.

275kV Systems

The lower boundary of the 275kV system should be taken as the supply terminals of the customers supplied at 275kV or the load-side terminals of switchgear controlling the secondary (lower voltage) side of 275kV transformers. If no switchgear exists between the secondary side of the 275kV transformer and the primary side of an EHV or HV system transformer, the lower boundary should be taken as the secondary-side terminals of the 275kV transformer. The lower voltage busbars and their protection equipment at 275kV/lowervoltage substations are not included.
The upper boundary of the 275kV system defined in the lower boundary of 400kV Systems.
For the purposes of reporting 275kV systems include all AC systems with operating voltages greater than 132kV and equal to or less than 275kV.

400kV Systems

The lower boundary of the 400kV system should be taken as the supply terminals of the customers supplied at 400kV or the load-side terminals of switchgear controlling the

secondary (lower voltage) side of 400kV Transformers. If no switchgear exists between the secondary side of the 400kV transformer and the primary side of a system transformer, the lower boundary should be taken as the secondary-side terminals of the 400kV transformer. The lower voltage busbars and their protection equipment at 400kV/lower voltage substations are not included.

OHL

(All Voltages) OHL/Pole Line Fittings

Insulators and fittings on OH lines, conductor dampers, spacers.

INCLUDES: Insulator sets and associated fitting required to install insulator sets, Arcing Horns, Associated design, procurement, delivery and installation for each asset. Conductor dampers, spacers and associated fittings.

EXCLUDES: All fittings related and integral to the structure of towers and poles.

VOLUME COUNT ASSUMPTIONS: Count per set, **per circuit** (Each) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS: None.

NARRATIVE REQUIREMENTS: Type of insulators should be noted.

SPECIFIC COST ALLOCATION:
SSENT Cost Subcategories:

- **Tension Tower / Angle & H Pole**: Fittings associated with Tension Towers on a Tower line or Fittings associated with Angle Poles and H Poles on a Pole Line
- **Suspension Tower / Intermediate Pole**: Fittings associated with Suspension Towers on a Tower line or Fittings associated with Intermediate Poles on a Pole Line

(All Voltages) OHL (Pole Line) Conductor

All conductor strung on poles/T-pylons, single and double circuits, open wire and covered conductor.

INCLUDES: All conductor strung on poles/T-Pylons (of any type), single and double circuits, open wire and covered conductor. Associated design, procurement, delivery and installation for each asset. Downleads and any temporary works associated with the installation (Scaffolding/Catenary Systems and road / rail Crossings, temporary towers, temporary diversions). High Temperature Low Sag (HTLS) Conductor.
Asset replacement includes cost of de-loading and disposal of existing conductor under new conductor volumes.

EXCLUDES: Conductor strung on a Tower Line (of any type), Fittings (Insulator sets) and items associated with towers. Insulators and associated fittings.

VOLUME COUNT ASSUMPTIONS: Count linear length per kilometre (km) per circuit and by primary operating voltage, not by length of separate phases (i.e. a linear route length of 10km for a 132kV double circuit would be measured as 20km).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of conductor should be noted.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Single Circuit, Double Circuit

- **Supply**: All Costs associated with the supply of the Conductor including any testing & delivery to site.

- **Install**: All Costs associated with the Installation of the Conductor
- **Down Leads**: All Costs associated with the Supply & Installation of the Down Leads
- **De-loading**: All Costs associated with de-loading the existing Conductor *any costs shared between the de-loading of the existing Conductor and Installation of the New Conductor shall be allocated to the Installation of the New Conductor
- **Crossings**: All Costs associated with crossing roads / rail / water courses / other TO assets or other Utilities / DNO assets

(All Voltages) OHL Pole

Poles constructed of wood or concrete and small footprint steel or composite masts (both single and double circuits).

INCLUDES: Poles/T-pylons constructed of wood, concrete, steel and small footprint steel or composite masts (both single and double circuits), H-poles and everything that forms part of or is attached to those structures not individually listed or defined within this glossary. Associated design, procurement, delivery (including any specialist delivery i.e. by helicopter, to individual installation locations) and installation for each asset.

EXCLUDES: Towers (of any type), fittings related to conductors and earth wire (spacers/dampers), pole foundations, civil works.

VOLUME COUNT ASSUMPTIONS: Count per pole (Each, H-Poles = 2 no. poles) and by primary operating voltage. All types of pole are included and not counted separately.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Breakdown of pole types and volumes. Confirm location of poles and any factors which would increase cost or complicate scope of works generally.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Wood, Stout, Nests, other

- **Supply**: All Costs associated with the supply of the Pole including delivery to site (central locations / compounds).
- **Erect**: All Costs associated with the erection of the Pole including any Temporary works, delivery from compound to final location (including helicopter use) - CIVIL ACCESS WORKS (either Temporary or Permanent) to the pole excluded from this category – See either **Temporary Works** Category or **Route Access Permanent** Category

(All Voltages) OHL (Tower Line) Conductor

All conductor strung on towers, single and double circuits, single/twin/triple/quadconductor arrangements.

INCLUDES: All conductor strung on towers, single and double circuits, single/twin/triple/quad conductor arrangements. Associated design, procurement, delivery and installation for each asset. Asset includes cost of de-loading and disposal of existing conductor under new conductor volumes, Downleads and any temporary works associated with the installation (Scaffolding and road / rail Crossings, temporary towers, temporary diversions). High Temperature Low Sag (HTLS) Conductor.

EXCLUDES: Conductor strung on a Pole Line (of any type) Temporary works associated with access to the tower or route (trackway, hardstandings or crane pads – Civils). Insulators and associated fittings.

VOLUME COUNT ASSUMPTIONS: Count linear length per kilometre (km) per circuit and by primary operating voltage and MVA Rating (bandings are based on winter post-fault ratings), not by length of separate phases (i.e. a linear route length of 10km for a 132kV double circuit would be measured as 20km).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of conductor and double / single circuit should be noted.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Single Circuit, Double Circuit

- **Supply**: All Costs associated with the supply of the Conductor including any testing & delivery to site.
- **Install**: All Costs associated with the Installation of the Conductor
- **Down Leads**: All Costs associated with the Supply & Installation of the Down Leads
- **De-loading**: All Costs associated with de-loading the existing Conductor *****Any costs shared between the de-loading of the existing Conductor and Installation of the New Conductor shall be allocated to the Installation of the New Conductor
- **Crossings**: All Costs associated with crossing roads / rail / water courses / other TO assets or other Utilities / DNO assets

(All Voltages) OHL Tower

Steel lattice towers and associated equipment that forms part of or is attached to those structures not individually listed or defined within this glossary.

INCLUDES: Steel lattice towers of all types and everything that forms part of or is attached to those structures not individually listed or defined within this glossary. Associated design, procurement, delivery (including any specialist delivery i.e. by helicopter, to individual installation locations), and installation for each asset. Anti-Climbing Devices, Step Bolts, Tower ID Plate

EXCLUDES: Small footprint steel or composite masts, fittings, Arcing Horns, related to conductors and earthwire (spacers/dampers), tower foundations, civil works.

VOLUME COUNT ASSUMPTIONS: Count per tower (Each) and by primary operating voltage. All types of tower are included and not counted separately.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Breakdown of tower types and volumes. Confirm location of towers and any factors which would increase cost or complicate scope of works generally.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Terminal, Tension, Suspension

- **Terminal - Supply & Erect**: All Costs associated with the supply and the erection of Terminal Towers including any specialist equipment, testing & delivery to site compounds and final erection locations.
- **Tension - Supply & Erect**: All Costs associated with the supply and the erection of Tension Towers including any specialist equipment, testing & delivery to site compounds and final erection locations.
- **Suspension - Supply & Erect**: All Costs associated with the supply and the erection of Terminal Towers including any specialist equipment, testing & delivery to site compounds and final erection locations.
- **Leg / Panel Extensions**: All Costs associated with the Installation of leg or panel extensions.
- **Strengthening / Replacement Steelwork**: All Costs associated with the Supply & Installation of the Strengthening Steelwork
- **Painting**: All Costs associated with painting towers (including scaffolding / fall arrest equipment, clearing tower bases etc.)
- **Fittings**: All Costs associated with supply & Install of Anti Climbing Devices, Step Bolts, Tower ID Plates

(All Voltages) Earth Wire Fittings

Earth wire fittings on OH tower lines Includes – vibration dampers

INCLUDES: Earth wire fittings on OHL (tower line), low profile steel pole and NeST poles, fibre, fibre joint boxes and fibre diversions. Associated design, procurement, delivery and installation for each asset.

EXCLUDES: Vibration dampers, fittings associated with OHL (pole lines). Earthwire fittings where intervention is carried out as part of an Earth Wire replacement project and it is not possible to break out costs/volumes of fittings, costs of fittings should be recorded against the Earth Wire and volumes of fittings ignored.

VOLUME COUNT ASSUMPTIONS: Count per set of fittings (i.e. one per earth wire per tower/pole).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of earthwire fittings should be noted.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Tension, Suspension

- **Tension**: Earth Wire Fittings associated with Tension Towers on a Tower line
- **Suspension**: Earth Wire Fittings associated with Suspension Towers on a Tower line

(All Voltages) OHL (Tower Line) Earth Wire

Includes Earth Wire strung on towers.

INCLUDES: Earth Wire strung on towers, low profile steel poles, NeST poles and all dampers and bird flight diverters. Associated design, procurement, delivery and installation for each asset.

EXCLUDES: General fittings associated with earth wire which are integral to the Towers/Poles related to the installation.

VOLUME COUNT ASSUMPTIONS: Count linear length of route per kilometre (km).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of earthwire should be noted.

SPECIFIC COST ALLOCATION:
Cost Subcategories:

- **Supply**: All Costs associated with the supply of the Conductor including any testing & delivery to site.
- **Install**: All Costs associated with the Installation of the Conductor
- **De-loading**: All Costs associated with de-loading the existing Earth Wire *Any costs shared between the de-loading of the existing Earth Wire and Installation of the New Earth Wire shall be allocated to the Installation of the Earth Wire

SUBSTATION

6.6/11kV CB (GM) Primary

Ground mounted Circuits Breakers (both indoor and outdoor) which form the switchboard associated with a 132kV/HV or EHV/HV transforming substation.

INCLUDES: All ground mounted Circuits Breakers (both indoor and outdoor) which form the switchboard associated with a 132kV/HV or EHV/HV transforming substation. For example, a circuit breaker switchboard comprising two transformer incomers, a bus-section and a number of feeder circuit breakers. Associated design, procurement, delivery, installation and commissioning for each asset.

EXCLUDES: Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (6.6kV, 11kV, 13kV)(HV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker.

SPECIFIC COST ALLOCATION: None currently.

6.6/11kV Switch

Ground Mounted 11/6.6kV Switches & Fuse Switches (both indoor and outdoor)that do not form part of a Ring Main Unit.

INCLUDES: Ground Mounted 6.6/11kV Switches and Fuse Switches (both indoor and outdoor)that do not form part of a Ring Main Unit. 6.6 and 11kV pole or structure mounted switches that contain an insulation medium other than air. Associated design, procurement, delivery, installation and commissioning for each asset.

EXCLUDES: Air break switch, line sectionalisers, links, fuses and other pole mounted plant insulated only by air. Any disconnectors and earth switches that are integral to a circuit breaker, switch, RMU should not be counted as separate items. Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (HV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Switch.

SPECIFIC COST ALLOCATION: None currently.

33kV Switch

33kV (includes 22 & 25kV) Switch.

INCLUDES: 33, 25 and 22kV switches, all indoor and outdoor Ground Mounted Switches and Fuse Switches. Associated design, procurement, delivery, installation and commissioning for each asset.

EXCLUDES: Circuit breakers and Ring Main Unit (RMU). Switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted along with the circuit breaker, counted separately under the relevant item within this document.

Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (<=33kV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Switch.

SPECIFIC COST ALLOCATION: None currently.

33kV Switchgear - Other

All other switchgear (<=33kV), e.g., Disconnectors, Fault throwers, Earthing switches and Fuses.

INCLUDES: All other switchgear (<=33kV), e.g., Disconnectors, Fault throwers, Earthing switches and Fuses. Associated design, procurement, delivery, installation and commissioning for each asset.

EXCLUDES: Circuit breakers and other switchgear items, disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted along with the circuit breaker, counted separately under the relevant item within this document. Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (<=33kV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer and breakdown of included items.

NARRATIVE REQUIREMENTS: Type/manufacturer of included items.

SPECIFIC COST ALLOCATION: None currently.

33kV CB (Air Insulated Busbars)

33kV (includes 22 & 25kV) Circuit Breaker.

INCLUDES: 33, 25 and 22kV circuit breakers, connecting Busbars & conductors, clamps/connectors, labelling, mechanical interlocking, multicore & LVAC cabling to bay MK & above ground earthing, all CB design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having air (or equivalent) busbar insulation, through wall bushings. Any disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: CB that form part of a Ring Main Unit (RMU). Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (<=33kV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: Dead Tank, Live Tank

(All Voltages) CB (Air Insulated Busbars) (Ground Mounted)

CB designs with any arc extinction media having air (or equivalent) busbar insulation. Recorded as an individual unit count in RRP and by primary operating voltage

INCLUDES: Circuit Breakers (Live and Dead Tank) including design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having air (or equivalent) busbar insulation. Multicore & LVAC from the from the Circuit breaker to the Bay Marshalling Kiosk installation, through wall bushings / structure to the main Earth Ring). Localised Earthing (connection of the Asset / structure to the main Earth Ring), Any switches, disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), Bay Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room and preconstruction costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit (Each), by primary operating voltage. In Dead tank circuit breakers, any embedded CT's part of the unit shall not be included in the CT Volume Count

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker and breakdown of any integral equipment included with the CB.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

33kV CB (Gas Insulated Busbars) (ID) (Ground Mounted)

33kV (includes 22 & 25kV) Ground Mounted Circuit Breaker situated outdoor, all CB designs with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated indoor.

INCLUDES: 33, 25 and 22kV ground mounted circuit breakers, all CB design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having gas (not air; i.e. SF6 or alternative) busbar insulation situated indoor, gas to air bushings, gas carts (1 per type of gas on site). Any disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: CB that form part of a Ring Main Unit (RMU). Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (<=33kV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: SF6 Gas, SF6 Gas Alternative (Non SF6)

(All Voltages) CB (Gas Insulated Busbars) (ID) (Ground Mounted)

All CB designs with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated indoor.

INCLUDES: All CB design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated indoor, gas to air / gas to cable bushings, gas carts (1 per type of gas on site). Multicore & LVAC from the from the Circuit breaker to the Bay Marshalling Kiosk. Localised Earthing (connection of the Asset / structure to the main Earth Ring). Any disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room and preconstruction costs. Lattice support structures.

VOLUME COUNT ASSUMPTIONS: Count per Bay (Each), due to construction and nature of Gas Insulated Switchgear and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker and breakdown of any integral equipment included with the CB.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
Cost Subcategories: SF6 Gas, SF6 Gas Alternative (Non SF6)

33kV CB (Gas Insulated Busbars) (OD) (Ground Mounted)

33kV (includes 22 & 25kV) Ground Mounted Circuit Breaker situated indoors, all CB designs with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated indoor.

INCLUDES: 33, 25 and 22kV ground mounted circuit breakers, all CB design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having gas (not air; i.e. SF6 or alternative) busbar insulation situated indoor, gas to air bushings,

gas carts (1 per type of gas on site). Any disconnectors and earth switches that are integral

to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: CB that form part of a Ring Main Unit (RMU). Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), LVAC and preconstructions costs.

VOLUME COUNT ASSUMPTIONS: Count per device/unit by voltage (<=33kV).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: SF6 Gas, SF6 Gas Alternative (Non SF6)

(All Voltages) CB (Gas Insulated Busbars) (OD) (Ground Mounted)

All CB designs with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated outdoor.

INCLUDES: All CB design, procurement, delivery, installation and commissioning for each asset with any arc extinction media having gas (not air, i.e. SF6 or alternative) busbar insulation situated outdoor, gas to air bushings, gas carts (1 per type of gas on site). Multicore & LVAC from the from the Circuit breaker to the Bay Marshalling Kiosk. Localised Earthing (connection of the Asset / structure to the main Earth Ring). Any disconnectors and earth switches that are integral to a circuit breaker should not be counted as separate items of switchgear but counted as part of circuit breaker.

EXCLUDES: Bay equipment (defined elsewhere), protection, civil works, earthing (below ground), Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room and preconstruction costs.

VOLUME COUNT ASSUMPTIONS: Count per Bay (Each), due to construction and nature of Gas Insulated Switchgear and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type/manufacturer of Circuit Breaker and breakdown of any integral equipment included with the CB.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: Single, Double

(All Voltages) Disconnector (Air Insulated Busbars)

A mechanical switching device which provides, in the open position, an isolating distance in accordance with specified requirements.
Note – A disconnector is capable of opening and closing a circuit when either negligible current is broken or made, or when no significant change in the voltage across the terminals of each of the poles of the disconnector occurs.

INCLUDES: Disconnectors (all types) and related Fault throwers.

EXCLUDES: Circuit Breakers, Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room. Any disconnectors and earth switches that are integral to a circuit breaker or switch should not be counted as separate items. Supporting structures (lattice or other).

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage. In disconnectors where any embedded Earth Switches are part of the unit, the Earth switch shall not be included in the Earth Switch Volume Count.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Confirm if any earth switches are included with the disconnector.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) Earth Switch (Air Insulated Busbars)

A fixed earthing switch or device which when operated provides a means of earthing conductors of any construction type.

INCLUDES: Earth Switches, fixed Earthing devices and related Fault throwers.

EXCLUDES: Any Earth Switch integral to a Disconnector, any Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room, Portable Earthing Devices, Earth Switches which are integral to Disconnectors.

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage. Earth Switches integrated into Disconnectors shall not be included in the count.

TO SPECIFIC ASSUMPTIONS:
SSEN - Disconnectors used by SSENT include integral Earth Switches, so it is unlikely Earth Switches will be counted separately. This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Type of Busbar.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) Busbar (Air Insulated)

Low-impedance conductor to which several electric circuits can be connected at separate points. Conductor is insulated by Air.

INCLUDES: All Busbar out with the Equipment Bay, typically referred to as Main or Reserve, and also busbar runs across or between substation sites.

EXCLUDES: Within an Equipment Bay, busbar shall be treated and allocated as an undefined asset as described in paragraph 1.7 (Bay Equipment, defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m) and by primary

operating voltage, not by length of separate phases.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Double or Single (Main & Reserve) Busbar, Type of Busbar.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: Single, Double

(All Voltages) Busbar (Gas Insulated)(ID)

Low-impedance conductor to which several electric circuits can be connected at separate points. Conductor is housed within a pressurised vessel insulated by Gas (including dry air and other such mediums) and located indoors.

INCLUDES: All Busbar out with the Equipment Bay, typically referred to as Main or Reserve and busbar runs across or between substation sites.

EXCLUDES: Within an Equipment Bay, busbar shall be treated and allocated as an undefined asset as described in paragraph 1.7 (Bay Equipment, defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m) and by primary operating voltage, not by length of separate phases.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Double or Single (Main & Reserve) Busbar, Type of Busbar.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: Single, Double

(All Voltages) Busbar (Gas Insulated)(OD)

Low-impedance conductor to which several electric circuits can be connected at separate points. Conductor is housed within a pressurised vessel insulated by Gas (including dry air and other such mediums) and located outdoors.

INCLUDES: All Busbar out with the Equipment Bay, typically referred to as Main or Reserve and also busbar runs across or between substation sites.

EXCLUDES: Within an Equipment Bay, busbar shall be treated and allocated as an undefined asset as described in paragraph 1.7 (Bay Equipment, defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m) and by primary operating voltage, not by length of separate phases.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Double or Single (Main & Reserve) Busbar, Type of Busbar.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.
Cost Subcategories: Single, Double

(All Voltages) Transformer

Power Transformer.

INCLUDES: Power Transformer – everything that forms part of, is attached to, or is necessary to allow the device to fulfil its function that is not individually listed or defined within this glossary, all design, procurement, delivery, installation and commissioning for each asset. Earthing and Auxiliary transformers (EAT). Neutral Earthing Resistor (NER).

EXCLUDES: Arc suppression coils. Bay Equipment (defined elsewhere). Marshalling Kiosk, Multicore & LVAC from the Bay Marshalling Kiosk back to the Control room. Any disconnectors and earth switches that are integral to a circuit breaker or switch should not be counted as separate items.

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage and MVA Rating Range. EAT and NER are to be cost only non-volume item and not counted individually.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore. Above 240MVA (275/400kV transformers) Point on Wave (POW) should be captured under Wound Plant Protection. Earthing transformers (EAT) are to be included in this category, OFGEM had these as excluded, but not included elsewhere and allocating these to Bay Equipment would be incorrect.

NARRATIVE REQUIREMENTS: Number of Earthing Transformers to be Noted

SPECIFIC COST ALLOCATION:
Cost Subcategories: Transformer, Earthing transformer

- **Supply**: Costs associated with the Supply of the Unit (including Design Costs), Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
- **Delivery**: Costs associated with the Supply of the Unit
- **Install & Commission**: Costs associated with the Installation & Commissioning of the Unit, Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset
- **Spares**: Cost of all spares purchased for the installed units
- **Earthing Transformer**: Cost of the Earthing Transformer attached to an individual GT / SGT (to include all Supply, Installation & Commissioning costs of the EAT

(All Voltages) Shunt Reactor

A Reactor is an absorber of reactive power, thus increasing the energy efficiency of the system. It is the most compact device commonly used for reactive power compensation in long high-voltage transmission lines and in cable systems.

INCLUDES: Shunt Reactors connected in Parallel with the network.

EXCLUDES: Bay Equipment (defined elsewhere), any related FACTS equipment.

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:

SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset

has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset.
Cost Subcategories:

- **Supply**: Costs associated with the Supply of the Unit, Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
- **Delivery**: Costs associated with the Supply of the Unit
- **Install & Commission**: Costs associated with the Installation & Commissioning of the Unit, Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset

(All Voltages) Series Reactor

A Reactor is an absorber of reactive power, thus increasing the energy efficiency of the system. It is the most compact device commonly used for reactive power compensation in long high-voltage transmission lines and in cable systems.

INCLUDES: Series reactors used as current limiting reactors to increase the impedance of a power system. Often connected across sections of busbars, series reactors are used to change load flow and limit short-circuit currents in a substation.

EXCLUDES: Bay Equipment (defined elsewhere)

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION:
Cost Subcategories:

- **Supply**: Costs associated with the Supply of the Unit, Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
- **Delivery**: Costs associated with the Supply of the Unit
- **Install & Commission**: Costs associated with the Installation & Commissioning of the Unit, Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset

(All Voltages) Tertiary Connected Reactor

Reactor connected to the tertiary winding of a Power Transformer.

INCLUDES: Reactor connected to the tertiary winding of a Power Transformer (SGT)

EXCLUDES: Other types of reactor, GT Transformers. Bay Equipment (defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count per device (Each) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset

has a volume) via a separate capture and allocation method: - Bay Equipment, Asset

Multicore.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION:
Cost Subcategories:
- **Supply**: Costs associated with the Supply of the Unit, Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
- **Delivery**: Costs associated with the Supply of the Unit
- **Install & Commission**: Costs associated with the Installation & Commissioning of the Unit, Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset

(All Voltages) FACTS EQUIPMENT

Flexible AC Transmission Systems. This is generally used as a term to capture all of the various technologies associated with improving control and performance of Power Systems.

To be reports at primary voltage level, the items below define FACTS equipment for clarity

INCLUDES: The items defined below – STATCOM, SVC, Synchronous Compensator (or Condenser), MSCDN. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Reactors of all types. Bay Equipment (defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count by installation (Each) and report by primary operating voltage and MVA Rating Range.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: Rating, Type and composition of FACTS equipment installation.

SPECIFIC COST ALLOCATION:
Cost Subcategories: Static synchronous compensator (STATCOM), Static var compensator (SVC), Synchronous compensator (or), MSCDN (Mechanically switched capacitor with damping network)
- **Supply**: Costs associated with the Supply of the Unit, Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset
- **Delivery**: Costs associated with the Supply of the Unit
- **Install & Commission**: Costs associated with the Installation & Commissioning of the Unit, Factory Acceptance Testing (SAT) to be captured with the Installation & Commissioning of the Asset

STATCOM (Static Synchronous Compensator)(400kV, 275kV) -

Shunt connected reactive compensation equipment which is capable of generating and/or absorbing reactive power, whose capacitive or inductive output current can be controlled independently of the AC system voltage.

SVC (Static Var Compensator) –

Shunt connected static var generator or absorber whose output is adjusted to exchange capacitive or inductive current so as to maintain or control specific parameters of the electrical power system (typically bus voltage).

Synchronous Compensator (or Condenser) -

Synchronous Generator connected to the grid via a step-up transformer. Benefits include short-circuit power and system inertia, steady state and dynamic voltage control, and reactive power control of dynamic loads.

MSCDN (Mechanically Switched Capacitor with Damping Network) -

Mechanically Switched Capacitor with Damping Network. (a simple but low speed solution for voltage control and network stabilisation under heavy load conditions).

(All Voltages) VT

Standalone Voltage Transformer, within AIS substation environment, used for the purposes of protection, measurement or control.

INCLUDES: Standalone Voltage Transformer (includes Capacitive Voltage Transformers (CVT) and Inductive Voltage Transformers (IVT),DVT), within AIS substation environment, used for the purposes of protection, measurement or control. Multicore & LVAC from the from the VT to the Bay Marshalling Kiosk. Localised Earthing (connection of the Asset / structure to the main Earth Ring).

EXCLUDES: Bay Equipment (defined elsewhere). Power Voltage Transformers (PVT).

VOLUME COUNT ASSUMPTIONS: Count per single phase device (Each – three phase = 3 no.) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) CT

Standalone Current Transformer, within AIS substation environment, used for the purposes of protection, measurement or control.

INCLUDES: Standalone Current Transformer, within AIS substation environment, used for the purposes of protection, measurement or control. Multicore & LVAC from the from the CT to the Bay Marshalling Kiosk. Localised Earthing (connection of the Asset / structure to the main Earth Ring).

EXCLUDES: Bay Equipment (defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count per single phase device (Each – three phase = 3 no.) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: None.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) High Accuracy Metering (HAM) Combined CT/VT

Standalone High Accuracy Metering (HAM) Combined CT/VT Transformer, within AIS substationenvironment, used for the purposes of metering.

INCLUDES: Standalone High Accuracy Metering Combined CT/VT Transformer, within AIS substation environment, used for the purposes of metering. Multicore & LVAC from the from the HAM to the Bay Marshalling Kiosk. Localised Earthing (connection of the Asset / structure to the main Earth Ring).

EXCLUDES: Bay Equipment (defined elsewhere).

VOLUME COUNT ASSUMPTIONS: Count per single phase device (Each – three phase = 3 no.) and by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset will receive a proportion of the following Pro Rata Costs (where this asset has a volume) via a separate capture and allocation method: - Bay Equipment, Asset Multicore.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Batteries at (All Voltages) Substation

A re-chargeable battery, together with its associated charger, comprising a number of individual cells which is used to provide power to operate switchgear and protective equipment at a substation.

INCLUDES: A re-chargeable battery (all types), together with its associated charger, comprising a number of individual cells which is used to provide power to operate switchgear and protective equipment at a substation. Voltage declared as highest operating voltage at the substation, Battery Chargers and DC Distribution boards.

EXCLUDES: Substation auxiliary supplies.

VOLUME COUNT ASSUMPTIONS: Count by installation (Each) and report by highest primary operating voltage.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

CABLE

(All Voltages) Substation Cable

Under Ground Power Cable, at any voltage, installed within the substation perimeter or which extends less than 1km from the substation perimeter.

INCLUDES: Under Ground Power Cable, at any voltage, installed within the substation perimeter or which extends less than 1km from the substation perimeter. Cable Jointing

(Although Joint Boxes / Pits to be reported with Civil - Cable), Cable sealing Ends (including

Composite outdoor Termination, above ground structures, Localised Bonding & Earthing, link boxes). All design, procurement, delivery, installation and commissioning for each asset

Where required for reporting within the RRP, cable technologies are defined as:
Non-pressurised – cables utilising all solid state insulation.
Gas Compression – cables where the insulation integrity is dependent upon maintaining pressure of an inert or insulating gas.
Oil Impregnated – cables where the insulation integrity is dependent upon maintaining a head of oil.

EXCLUDES: Circuit cable.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage, not by length of separate phases. Cable sealing ends are to be cost only non-volume item and not counted individually.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of cable, cable technology (NP, GC or OI), cores per phase, sheathing material and diameter.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) Circuit Cable

An Underground Power Cable not covered by the definition of Substation Cable at any voltage.

INCLUDES: An Underground Power Cable not covered by the definition of Substation Cable at any voltage. Cable Jointing (Although Joint Boxes / Pits to be reported with Civil - Cable), Cable sealing Ends (including Composite outdoor Termination, above ground structures, Localised Bonding & Earthing, link boxes). All design, procurement, delivery, installation and commissioning for each asset

Where required for reporting within the RRP, cable technologies are defined as:
Non-pressurised – cables utilising all solid state insulation.
Gas Compression – cables where the insulation integrity is dependent upon maintaining pressure of an inert or insulating gas.
Oil Impregnated – cables where the insulation integrity is dependent upon maintaining a head of oil.

EXCLUDES: Substation cable.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage, not by length of separate phases.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Type of cable, cable technology (NP, GC or OI), cores per phase, sheathing material and diameter.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) Submarine Cable

AC Cable which is placed below the surface of the water and laid on or under the seabed or

the bed of a river or estuary whether or not designed for this purpose.

INCLUDES: AC Cable which is placed below the surface of the water and laid on or under the seabed or the bed of a river or estuary whether or not designed for this purpose. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage, not by length of separate phases.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

HVDC

HVDC Convertor

Equipment for the conversion of AC Electricity to DC Electricity and vice versa.

INCLUDES: Convertors, Filters, Smoothing Capacitors. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Converter Transformer and associated equipment.

VOLUME COUNT ASSUMPTIONS: Count as system (Each). Not to be counted as individual devices.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm devices/system elements included in volume. Confirm Converter type as LCC, VSC, etc

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Convertor Transformer

Transformer used to step up/down voltage required for DC Equipment at an HVDC installation.

INCLUDES: Transformer for DC equipment. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Transformers not related to DC equipment. HVDC Converter and associated equipment.

VOLUME COUNT ASSUMPTIONS: Count as system (Each). Not to be counted as individual devices.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm devices/system elements included in volume.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

HVDC Cable

Underground cable used for the transmission of DC Electricity between Convertor Stations.

INCLUDES: Underground cable and cable sealing ends used for the transmission of DC electricity between convertor station. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Underground cable and cable sealing ends not related to transmission of DC electricity. Subsea cable.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage (HVDC).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm type of cable and number of cable sealing ends.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

HVDC Subsea Cable

DC cable which is placed below the surface of the water and laid on or under the seabed or the bed of a river or estuary whether or not designed for this purpose.

INCLUDES: DC cable which is placed below the surface of the water and laid on or under the seabed or the bed of a river or estuary whether or not designed for this purpose. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Underground cable and cable sealing ends used for the transmission of DC electricity between convertor station which is not placed below the surface of the water and laid on or under the seabed or the bed of a river or estuary.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage (HVDC).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm type of cable.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

HVDC Overhead Conductor

DC Overhead Line conductor irrespective of structure type.

INCLUDES: DC OHL Conductor irrespective of type, associated fittings, spacers and dampers including required fixings/fittings. All design, procurement, delivery, installation and commissioning for each asset

EXCLUDES: Fittings, insulators, overhead tower or pole structures, fittings. Insulators etc should be counted as their closest AC operating voltage equivalent.

VOLUME COUNT ASSUMPTIONS: Count length per circuit kilometre (km) and by primary operating voltage (HVDC).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm type of cable.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

PROTECTION SCHEMES

Devices that protect the High Voltage electrical system from electrical faults or undesirable operating conditions, as detailed and defined below: -

Feeder Protection -

Intelligent electronic device which detects faults or other abnormal conditions in a power system or power equipment's located on specific feeder circuits under its observation and instructs tripping to minimise impact of faults.

INCLUDES: Feeder protection.

EXCLUDES: -

VOLUME COUNT ASSUMPTIONS: Count per feeder (Each), not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Wound Plant Protection -

Intelligent electronic device which detects faults or other abnormal conditions in any item of wound plant – Transformers, Reactors etc.

INCLUDES: Wound Plant Protection covering transformers, reactors. Point on Wave (POW)(Transformer related >240MW) .

EXCLUDES: Feeder protection.

VOLUME COUNT ASSUMPTIONS: Count per wound plant (i.e.1x transformer + 1xreactor = 2xwound plant protection), not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Low Impedance Busbar Protection -

Intelligent electronic device(s) which provide low impedance based protection which detects faults or other abnormal conditions in busbar systems.

INCLUDES: Low Impedance Busbar Protection.

EXCLUDES: High Impedance Busbar Protection.

VOLUME COUNT ASSUMPTIONS: Count as systems (1st main busbar protection + 2nd main busbar protection = 2).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.
NGET – Volume count assumed main unit and back up central unit = 1

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

High Impedance Busbar Protection -

Intelligent electronic device(s) which provide high impedance based protection which detects faults or other abnormal conditions in busbar systems.

INCLUDES: High Impedance Busbar Protection.

EXCLUDES: Low Impedance Busbar Protection.

VOLUME COUNT ASSUMPTIONS: Count as systems (1st main busbar protection + 2nd main busbar protection = 2), by primary operating voltage.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Substation Control Systems -

SCADA platform for substations that provides a real-time monitoring and control with Human Machine Interface.

INCLUDES: SCADA (Networks Supervisory Control and Data Acquisition) platform for substations that provides a real-time monitoring and control with Human Machine Interface, with all comprised variable Common BCU, HMI, LAN and RTU infrastructure defined in associated comments.

EXCLUDES: Cable SCADA.

VOLUME COUNT ASSUMPTIONS: Count as system (Each). Not to be counted as individual devices.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection

Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Mesh Corner Busbar Protection -

Intelligent electronic device which detects faults or other abnormal conditions in a power system or power equipment's located on Mesh Corner Busbars under its observation and instructs tripping to minimise impacts of faults.

INCLUDES: Mesh Corner Busbar Protection.

EXCLUDES: Mesh Corner Delayed Auto Reclose.

VOLUME COUNT ASSUMPTIONS: Count as systems (1st mesh corner protection + 2nd mesh corner protection = 2).

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Circuit Breaker Fail (CBF): MC & DBB Protection -

Intelligent electronic device which detects circuit breaker failure to operate and provides alternative tripping of circuits operating abnormally.

INCLUDES: CBF MC and DBB Protection.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as circuit breaker fail scheme, not be counted per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

QB Control -

Intelligent electronic device which detects faults or other abnormal conditions on Quadrature Boosters (Phase Shifting Transformers) under its observation and instructs tripping to minimise impact of faults.

INCLUDES: QB Control

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Mesh Corner Delayed Auto Reclose (DAR) -

Intelligent electronic device which detects faults or other abnormal conditions in a power system or power equipment's located on Mech Corner Busbars under its observation and provides delays auto reclose capabilities.

INCLUDES: Mesh Corner Delayed Auto Reclose.

EXCLUDES: Mesh Corner Busbar Protection.

VOLUME COUNT ASSUMPTIONS: Count per Mesh Corner, not be counted per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Operational Tripping Scheme (OTS) -

A series of Intelligent electronic devices which under fault conditions instruct tripping of known Generator (or generator groups) to avoid further system faults.

INCLUDES: Operational Tripping Scheme.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as individual schemes, not or per device or project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Auto Switching (Auto Close and Hot Standby Units) -

Intelligent electronic device which after a fault undertakes planned switching actions to minimise disruption to system operations.

INCLUDES: Auto Switching, auto close and hot standby units.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per

project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Automatic Reactive Switching (ARS) -

Intelligent electronic device(s) which after a fault or certain system operation conditions undertakes planned switching actions on reactive power assets to minimise disruption to system operations.

INCLUDES: Automatic Reactive Switching.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count per system, not be counted per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Cable SCADA System -

SCADA platform for cables that provides a real-time monitoring and control with Human Machine Interface.

INCLUDES: Cable SCADA.

EXCLUDES: Substation Control Systems (SCADA).

VOLUME COUNT ASSUMPTIONS: Count per system, not be counted per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Gas Density Monitoring (GDM) -

Intelligent electronic device(s) which provides continual monitoring of Gas density within Gas Insulated equipment. Provides Alarms and if required Tripping.

INCLUDES: Gas Density Monitoring system.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as **system**, not as individual devices or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Settlement Metering -

Intelligent electronic device which provides a high accuracy record of all amperage transfers between users of the Networks.

INCLUDES: Settlement Metering system.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count per individual intelligent electronic meter, not by bay or project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset

Back-up Protection -

Intelligent electronic device which detects faults or other abnormal conditions in a power system or power equipment under its observation and only operates if other protection equipment have not identified and resolved the fault in an accepted predefined manner.

INCLUDES: Back-up Protection.

EXCLUDES: Main protection systems noted within the Protection section of the Glossary.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - Back-up count should generally align with the number of other protection devices counted under the Protection section. This Asset (if included within project volume capture) will receive a proportion of protection multicore cabling via a separate capture and allocation method. This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Circuit Breaker Fail (CBF): MC & DBB Protection (Replacement) -

Replacement of individual CB intelligent electronic devices (IED). Does not include any other IEDs.

INCLUDES: Replacement of individual CB intelligent electronic devices (IED), removal and

disposal of existing system/device.

EXCLUDES: Other IEDs, new scope works not related to replacement.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Reactive Equipment Mechanically Switched Capacitor (MSC) -

Intelligent electronic device which detects faults or abnormal conditions in Mechanically Switched Capacitors under its supervision. May interact with other automatic reactive switching systems.

INCLUDES: Mechanically Switched Capacitor for Reactive Equipment.

EXCLUDES: Related or connected automatic reactive switching systems/devices.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Reactive Equipment: Dynamic compensation -

Intelligent electronic device which detects faults or abnormal conditions in Dynamic Reactive systems (Statcoms, SVC, etc) under its supervision. May interact with other automatic reactive switching systems.

INCLUDES: Reactive Equipment: Dynamic compensation related to Statcom, SVC.

EXCLUDES: Related or connected automatic reactive switching systems/devices.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Stand-Alone Automatic Voltage Control (AVC) -

Intelligent electronic device(s) which provide continual voltage control within a targeted voltage parameter.

INCLUDES: Stand-Alone Automatic Voltage Control, AC Digital Voltage Stabiliser and also includes all AVR.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Fault Recorder with dynamic system monitoring (Replacement)

Replacement of Intelligent electronic device(s) which provide records of faults or other abnormal conditions on circuits which are under its supervision.

INCLUDES: Replacement of Intelligent electronic device(s), removal and disposal of existing system/device.

EXCLUDES: Other Fault Recorders, new scope works not related to replacement.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

Bus Coupler & Section Protection -

Intelligent electronic device which detects faults or abnormal conditions in busbar systems specifically related to Bus Couple and Bus Section Circuit Breakers. May interact with other Busbar and Circuit Breaker Fail protection.

INCLUDES: Bus Couple and Bus Section protection.

EXCLUDES: Related or connected busbar and circuit breaker fail protection systems/devices.

VOLUME COUNT ASSUMPTIONS: Count as individual units, not be counted as system or per project.

TO SPECIFIC ASSUMPTIONS:
SSEN - This Asset (where this asset has a volume) will receive a proportion of Protection Multicore cabling via a separate capture and allocation method.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

BAY EQUIPMENT (Non reportable category)

INCLUDES: Surge Arrestors, Post Insulators, Marshalling Kiosks, Busbar within Bay, Bay Multicore cabling. Through wall bushings related to busbar

EXCLUDES: Substation assets with separate categories noted in this Glossary document / Asset Possibilities List.

VOLUME COUNT ASSUMPTIONS: Report as per guidance on reporting "assets not covered in reporting pack" in paragraph 1.7.

TO SPECIFIC ASSUMPTIONS:
SSEN - Where asset definitions above note Bay Equipment, this equipment will be captured and allocated as follows: -
Additional Asset Capture categories have been included on the [SSENT] Asset Capture template relating to Bay Equipment items, volumes and notes should be captured for these the same as any other asset on the list.
The volumes noted will not be reported under RRP but be used to capture and allocate costs to reportable assets which are related to Bay Equipment via a separate process.

NGET - Surge Arrestors and through wall bushings not considered as Bay Equipment. Instead they will be reported under Switchgear_Other. Costs relating to other non-reportable Bay Equipment assets (as detailed above) will be allocated to reportable assets that the Bay Equipment items relate.

SPT - Surge arrestors are recorded under Switchgear Other. Other equipment like multicore cable are recorded as an asset.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: Factory Acceptance Testing (FAT) to be captured with the Supply of the Asset.

(All Voltages) Surge Arrestors (See Bay Equipment item)

Devices that protect HV equipment against the effects of electrical surges caused by faults or lightning strikes.

Consider as **Bay Equipment** for the purposes of reporting, report as per guidance on reporting "assets not covered in reporting pack" in paragraph 1.7. See Bay Equipment item for allocation.

(All Voltages) Post Insulators (See Bay Equipment item)

Form part of a busbar or equipment support structure.

Consider as **Bay Equipment** for the purposes of reporting, report as per guidance on reporting "assets not covered in reporting pack" in paragraph 1.7. See Bay Equipment item for allocation.

(All Voltages) Marshalling Kiosks (See Bay Equipment item)

Enclosure employed to interface various elements of substation equipment.

Consider as **Bay Equipment** for the purposes of reporting, report as per guidance on reporting "assets not covered in reporting pack" in paragraph 1.7. See Bay Equipment item for allocation.

MULTICORE (Non reportable category)

Multicore cable is not to be reported under its own asset category, volumes will still be required to aid in cost allocation to associated assets per the below items: -

Asset Multicore -

A multicore cable, not part of a power cable, that forms part of a control scheme, which:

- is contained within the confines of a substation site
- carries signals, currents or voltages between the control panel(s) within the control room and the marshalling kiosk(s) before distribution to the HV electrical assets.

INCLUDES: Multicore cabling directly related to assets as defined in the items included withing this Glossary document and corresponding Asset Possibilities List.

EXCLUDES: Protection Multicore and Pilot Wires related to UGC and OHL.

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m), volume required for allocation to assets, not for reporting under RRP.

TO SPECIFIC ASSUMPTIONS:
SSEN - Where asset definitions in this document note Multicore (Assets), this cabling will be captured and allocated as follows: -
Additional Asset Capture categories have been included on the Asset Capture template relating to Multicore items, volumes and notes should be captured for these the same as any other asset on the list.
The volumes noted will not be reported under RRP but be used to capture and allocate costs to reportable assets which are related to Bay Equipment via a separate process.

NGET - Costs relating to non-reportable multicore assets (as detailed above) will be allocated to the reportable assets that they relate.

SPT - Multicore cable is recorded as an asset and differentiated its by voltage/rating.

NARRATIVE REQUIREMENTS: None currently.

Protection Multicore -

A multicore cable, not part of a power cable, that forms part of a protection scheme, which:

- is contained within the confines of a substation site
- carries signals, currents or voltages between the protection panel(s) within the control room and the marshalling kiosk(s) before distribution to the HV electrical assets.

Where a Marshalling Kiosk is a protected compartment or container associated with an electrical plant installation and housing terminations for alarms, trips, controls and similar devices fitted to the installation concerned.

INCLUDES: Multicore cabling directly related to protection as defined in the items included withing this Glossary document and corresponding Asset Possibilities List.

EXCLUDES: Asset Multicore and Pilot Wires related to UGC and OHL.

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m), volume required for allocation to assets, not for reporting under RRP.

TO SPECIFIC ASSUMPTIONS:
SSEN - Where asset definitions in this document note Multicore (Assets), this cabling will be captured and allocated as follows: -
Additional Asset Capture categories have been included on the Asset Capture template relating to Multicore items, volumes and notes should be captured for these the same as

any other asset on the list.

The volumes noted will not be reported under RRP but be used to capture and allocate costs to reportable assets which are related to Bay Equipment via a separate process.

NGET - Costs relating to non-reportable multicore assets (as detailed above) will be allocated to the reportable assets that they relate.

SPT - Multicore cable is recorded as an asset and differentiated its by voltage/rating.

NARRATIVE REQUIREMENTS: None currently.

Pilot Wire Overhead Multicore -

A multicore or fibre cable, not part of an earth or phase conductor main, that forms part of a protection scheme, which is suspended on poles or towers and carries signals, currents or voltages between different substation sites.

INCLUDES: Pilot Wire cabling directly related to OHL as defined in the items included within this Glossary document and corresponding Asset Possibilities List.

EXCLUDES: Asset Multicore, Protection Multicore and Pilot Wires related to UGC.

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m), volume required for allocation to assets, not for reporting under RRP.

TO SPECIFIC ASSUMPTIONS:
SSEN - Where asset definitions in this document note Multicore (Assets), this cabling will be captured and allocated as follows: -
Additional Asset Capture categories have been included on the Asset Capture template relating to Multicore items, volumes and notes should be captured for these the same as any other asset on the list.
The volumes noted will not be reported under RRP but be used to capture and allocate costs to reportable assets which are related to Bay Equipment via a separate process.

NGET - Costs relating to non-reportable multicore assets (as detailed above) will be allocated to the reportable assets that they relate.

SPT - Multicore cable is recorded as an asset and differentiated its by voltage/rating.

NARRATIVE REQUIREMENTS: None currently.

Pilot Wire Underground Multicore -

A multicore cable or fibre, not part of a power cable, that forms part of a protection scheme, which is buried with mains cables or separately carries signals, currents or voltages between different substation sites.

INCLUDES: Pilot Wire cabling directly related to UGC as defined in the items included withing this Glossary document and corresponding Asset Possibilities List.

EXCLUDES: Asset Multicore, Protection Multicore and Pilot Wires related to OHL.

VOLUME COUNT ASSUMPTIONS: Count length per circuit metre (m), volume required for allocation to assets, not for reporting under RRP.

TO SPECIFIC ASSUMPTIONS:
SSENT -Where asset definitions in this document note Multicore (Assets), this cabling will be captured and allocated as follows: -
Additional Asset Capture categories have been included on the Asset Capture template relating to Multicore items, volumes and notes should be captured for these the same as

any other asset on the list.

The volumes noted will not be reported under RRP but be used to capture and allocate costs to reportable assets which are related to Pilot Wire Underground Multicore via a separate process.

NGET - Costs relating to non-reportable multicore assets (as detailed above) will be allocated to the reportable assets that they relate.

SPT - Multicore cable is recorded as an asset and differentiated its by voltage/rating.

NARRATIVE REQUIREMENTS: None currently.

CIVIL WORKS ASSOCIATED WITH {Activity}

Civil works directly associated with the intervention in question, i.e. works that would not have been undertaken had the intervention not happened.

Count as individual supports or units associated with the definitions below and as listed in RRP.

TEMPORARY WORKS

Temporary works – storage

Any storage building/container used during the construction works which is/are not retained as a permanent asset at the end of theconstruction works.

INCLUDES: Any storage building/container used during the construction works which is/are not retained as a permanent asset at the end of the construction works.

EXCLUDES: Permanent storage building/container used during construction works.

VOLUME COUNT ASSUMPTIONS: Count as Each defined as the number of temporary compounds established for the delivery of the project **and** the m2 of the substation platform being constructed or refurbished (in the case of linear only assets, the route length of the primary asset should be used)

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS:

SPECIFIC COST ALLOCATION: None currently.

Temporary works - welfare / catering

Any welfare / catering buildings used during construction works which are not retained as a permanent asset at the end of the construction works.

INCLUDES: Any welfare / catering buildings used during construction works which are not retained as a permanent asset at the end of the construction works.

EXCLUDES: Permanent welfare / catering buildings used during construction works.

VOLUME COUNT ASSUMPTIONS: Count as Each defined as the number of temporary compounds established for the delivery of the project **and** the m2 of the substation platform being constructed or refurbished (in the case of linear only assets, the route length of the primary asset should be used)

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Temporary works – accommodation

Any accommodation buildings used duringconstruction works which are not retained as a permanent asset at the end of the construction works.

INCLUDES: Any accommodation buildings used during construction works which are not retained as a permanent asset at the end of the construction works.

EXCLUDES: Permanent accommodation buildings used during construction works.

VOLUME COUNT ASSUMPTIONS: Count as Each defined as the number of temporary compounds established for the delivery of the project **and** the m2 of the substation platform being constructed or refurbished (in the case of linear only assets, the route length of the primary asset should be used)

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Temporary works - heating/lighting/power

Any Heating Lighting and Power assets used during construction works which are not retained as a permanent asset atthe end of the construction works.

INCLUDES: Any Heating Lighting and Power assets used during construction works which are not retained as a permanent asset at the end of the construction works.

EXCLUDES: Permanent Heating Lighting and Power assets used during construction works.

VOLUME COUNT ASSUMPTIONS: Count as Each defined as the number of temporary compounds established for the delivery of the project.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Temporary access (clearance for installation and removal)

Any works to remove obstacles preventing access to site(s) of works.

INCLUDES: Any works to remove obstacles preventing access to site(s) of works. Includes tree felling & root removal, rock blasting, crushing of material for re-use, reinstatement of cleared works where applicable.

EXCLUDES: Permanent access clearance works.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the temporary access track being installed & removed **and** the m2 area of the track

TO SPECIFIC ASSUMPTIONS:
SSENT - Area should be calculated as overall length multiplied by an assumed 3.5m for minor temporary accesses and 7m for major temporary accesses

NARRATIVE REQUIREMENTS: Any specific clearance activities if applicable (e.g. rock

blasting)

SPECIFIC COST ALLOCATION: None currently.

Temporary access (roads/tracks and removal)

Any non-permanent access route (or parts of access route) used to facilitate access to the site(s) of works.

INCLUDES: Any non-permanent access route (or parts of access route) or bridges used to facilitate access to the site(s) of works. Includes all ground stabilisation, geomats or terram, culverts installed to cross water courses, imported or reused material, temporary bunding of topsoils, maintenance through the construction phase and removal of non-permanent access and reinstatement where applicable.

EXCLUDES: Permanent access road/track works.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the temporary access track being installed & removed (not to be counted twice for the installation and removal).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Confirm type of access track (i.e. stone road or plastic/steel panels) and a split of lengths if both are used. Number of bridges / culverts being installed.

SPECIFIC COST ALLOCATION: None currently.

Temporary access (drainage and removal)

Any non-permanent works to facilitate drainage for the site(s) of work.

INCLUDES: Any non-permanent works to facilitate drainage for the site(s) of work. Includes cutting ditches, temporary ponds, any temporary drainage pipes, stabilization of watercourses, rock amour, ripraps, silt collection / barriers, maintenance through the construction phase and removal & reinstatement.

EXCLUDES: Permanent works to facilitate drainage for the site(s) of work, culverts / temporary bridges installed to cross watercourses.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the temporary access track being installed & removed (not to be counted twice for the installation and removal).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Number of ponds if applicable

SPECIFIC COST ALLOCATION: None currently.

Temporary access (other)

Any non-permanent works, not defined above, used to access site(s).

INCLUDES: Any non-permanent works, not defined above, used to access site(s). Includes removal.

EXCLUDES: Any permanent works, not defined above, used to access site(s). Includes removal.

VOLUME COUNT ASSUMPTIONS: None currently.

TO SPECIFIC ASSUMPTIONS:
SSENT - This category not to be used as it is not a clearly defined category.

NARRATIVE REQUIREMENTS: None currently.

SITE ACCESS PERMANENT WORKS

Clearance

Any permanent site(s) clearance works to enable construction activities.

INCLUDES: Any permanent site(s) clearance works to enable construction activities, tree felling & root removal rock blasting, crushing of material for re-use.

EXCLUDES: Any temporary site(s) clearance and/or reinstatement works to enable construction activities.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track being installed & removed **and** the m2 area of the track.

TO SPECIFIC ASSUMPTIONS:
SSENT - Area should be calculated as overall length multiplied by an assumed 3.5m for minor accesses and 7m for major accesses.

NARRATIVE REQUIREMENTS: Any specific clearance activities if applicable (e.g. rock blasting).

SPECIFIC COST ALLOCATION: None currently.

Drainage

Any permanent site(s) drainage, including associated offsite works with independent water companies.

INCLUDES: Any permanent site(s) drainage, including associated offsite works with independent water companies. This includes pipework, septic tanks, cutting ditches, ponds / SUDS, stabilisation of watercourses, rock armour, ripraps, silt collection / barriers / interceptors, any maintenance through the construction phase.

EXCLUDES: Any temporary drainage works for site(s), culverts / bridges installed to cross watercourses.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track /road being installed & removed (not to be counted twice for the installation and removal).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Number of ponds if applicable

SPECIFIC COST ALLOCATION: None currently.

Tracks/roads

Any permanent roads or track works for site(s) access.

INCLUDES: Any permanent roads or track works for site(s) access. The interface point is the ownership boundary to independent private or public road. This may be the extension to a road or junction connections. Includes forming of bell mouths, all ground stabilisation, geomats or terram, culverts or bridges installed to cross water courses, imported or reused material, bunding of topsoils, removal of materials off-site, all road signage, road markings, speed control measures, maintenance through the construction phase

EXCLUDES: Any temporary roads or track works for site(s) access.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track / road being installed.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Road surface (Tarmac / Unsurfaced), Number of bridges / culverts being installed

SPECIFIC COST ALLOCATION: None currently.

Other

Any permanent site access works not covered above.

INCLUDES: Any permanent works, not defined above.

EXCLUDES: Any temporary works, not defined above.

VOLUME COUNT ASSUMPTIONS: None currently.

TO SPECIFIC ASSUMPTIONS:
SSENT - This category not to be used as it is not a clearly defined category.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

ROUTE ACCESS PERMANENT WORKS

Clearance

Any permanent route clearance works (OHL or Cable).

INCLUDES: Any permanent route clearance works for OHL or Cable. tree felling & root removal rock blasting, crushing of material for re-use.

EXCLUDES: Any temporary site(s) clearance and/or reinstatement works to enable construction activities.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track being installed & removed **and** the m2 area of the track.

TO SPECIFIC ASSUMPTIONS:
SSENT - Area should be calculated as overall length multiplied by an assumed 3.5m for minor accesses and 7m for major accesses.

NARRATIVE REQUIREMENTS: Any specific clearance activities if applicable (e.g. rock blasting).

SPECIFIC COST ALLOCATION: None currently.

Drainage

Any permanent route drainage.

INCLUDES: Any permanent route drainage, including associated offsite works with independent water companies. This includes pipework, septic tanks, cutting ditches, ponds / SUDS, stabilization of watercourses, rock amour, ripraps, silt collection / barriers / interceptors, any maintenance through the construction phase.

EXCLUDES: Any temporary drainage works for site(s), culverts / bridges installed to cross watercourses.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track /road being installed & removed (not to be counted twice for the installation and removal).

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Number of ponds if applicable.

SPECIFIC COST ALLOCATION: None currently.

Tracks and roads

Any permanent roads or track works for route access.

INCLUDES: Any permanent roads or track works for route access. The interface point(s) are the ownership boundaries to independent private or public roads. This may be the extension to a road or junction connections, all ground stabilisation, geomats or terram, culverts or bridges installed to cross water courses, imported or reused material, bunding of topsoils, removal of materials off-site, all road signage, road markings, speed control measures, maintenance through the construction phase

EXCLUDES: Any temporary roads or track works for site(s) access.

VOLUME COUNT ASSUMPTIONS: Count as km defined as the total km of the access track / road being installed.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Road surface (Tarmac / Unsurfaced), Number of bridges / culverts being installed.

SPECIFIC COST ALLOCATION: None currently.

Public road works and bridge strengthening

Any permanent public road and bridge strengthening works.

INCLUDES: Any permanent public road and bridge strengthening works.

EXCLUDES: Any roads or bridges constructed as access by the licence, for the project or historically.

VOLUME COUNT ASSUMPTIONS: Count as m2 of the upgraded road / bridge being undertaken.

TO SPECIFIC ASSUMPTIONS:
SSENT - Area should be calculated as overall length multiplied by an assumed 3.5m for minor accesses and 7m for major accesses.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

SUBSTATION PLATFORM

Platform Creation

The creation of the single (or multiple) level ground for substation construction.

INCLUDES: The creation of the single (or multiple) level (including fall) ground for

substation construction. This includes any permanent space for temporary welfare on site. Includes (suitable) cut used as fill.

EXCLUDES: All Piling or other forms significant or minor ground stabilisation in relation to platform creation. Excavation/processing/disposal of rock and peat.

VOLUME COUNT ASSUMPTIONS: Count as m2 of overall increase to the platform.

TO SPECIFIC ASSUMPTIONS:
SSENT - Site security fence / boundary to be used for area calculations.

NARRATIVE REQUIREMENTS: Note if a split-level site.

SPECIFIC COST ALLOCATION: None currently.

Excavation: Removal and processing/disposal of rock

The removal and processing of rock to a location not adjoining the site(s).

INCLUDES: The process of removal and processing of rock to a location not adjoining the site(s).

EXCLUDES: Cut material later used as fill is included in platform creation.

VOLUME COUNT ASSUMPTIONS: Count as Area (m3) of rock being removed.

TO SPECIFIC ASSUMPTIONS:
SSENT - The cost of processing the rock / material for use elsewhere shall be attributed to the asset / activity it is being used for.

NARRATIVE REQUIREMENTS: Note removal technique e.g. Blasting.

SPECIFIC COST ALLOCATION: None currently.

Excavation: Removal and off-site disposal of peat

The process of removal and handling of peat from site to an offsite non-adjacent site.

INCLUDES: The process of removal and handling of peat from site to an offsite non-adjacent site.

EXCLUDES: Peat being processed and removed to adjacent positions on the site.

VOLUME COUNT ASSUMPTIONS: Count as Area (m3) of peat being removed.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Ground stabilisation

The use of ground stabilisation via addition of materials toavoid removal and/or replacement of materials needed for the establishment of substation platform creation.

INCLUDES: Ground stabilisation via addition of materials to avoid removal and/or replacement of materials needed for the establishment of substation platform creation. Includes all Piling, mixing, Geomats, geostabilisation techniques. Retaining Walls.

EXCLUDES: Excavation, processing or reuse of rock (for fill) and/or peat (reused on site).

VOLUME COUNT ASSUMPTIONS: Count as Area (m3) of ground being stabilised.

TO SPECIFIC ASSUMPTIONS:
SSENT - For piling calculations, area shall be the total area of the required piling (including under buildings / bunds), for volume, the area shall be multiplied by the average pile depth.

NARRATIVE REQUIREMENTS: Note the type of ground stabilisation occurring.

SPECIFIC COST ALLOCATION: None currently.

Drainage

Any permanent substation drainage, including associated offsite workswith independent water companies.

INCLUDES: Any permanent substation drainage, including associated offsite works with independent water companies. This includes pipework, septic tanks, site interceptors, SUDS ponds, cess pits and packaged sewage treatment plants, etc.

EXCLUDES: Flood defences.

VOLUME COUNT ASSUMPTIONS: Count as m2 of overall increase to the platform.

TO SPECIFIC ASSUMPTIONS:
SSENT - Site security fence / boundary to be used for area calculations.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Site Roads & Hardstanding's

Any Substation Roads within the substation perimeter.

INCLUDES: Any roads designated for vehicular or pedestrian access within the substation perimeter, this also includes any surfaced areas for vehicle parking.

EXCLUDES: Temporary works.

VOLUME COUNT ASSUMPTIONS: Count as m of the site roads and hardstanding.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Surface Type (e.g. Tarmac / Concrete).

SPECIFIC COST ALLOCATION: None currently.

Landscaping / Screening

The installation of visual amenity works with the purpose of preventing line of sight view of the substation.

INCLUDES: Visual amenity works to prevent line of sight view of the substation including soil bunds, tree screening, site fencing.

EXCLUDES: Substation security fencing, clearance works in relation to access, platform creation (cut and fill).

VOLUME COUNT ASSUMPTIONS: Count as m3 of overall increase to the platform.

TO SPECIFIC ASSUMPTIONS:

SSENT - Site security fence / boundary to be used for area calculations.

NARRATIVE REQUIREMENTS: Note any high cost specifics e.g. screening.

SPECIFIC COST ALLOCATION: None currently.

Trenching and multicore

The installation of trenches and ducting (lined) which allows for multicore and other auxiliary serves (excluding drainage) across the substation platform.

INCLUDES: The installation of trenches and ducting (lined) which allows for multicore and other auxiliary services (excluding drainage) across the substation platform. Includes all excavation, disposal, backfill and ducting (lining).

EXCLUDES: Any works associated with platform creation.

VOLUME COUNT ASSUMPTIONS: Count as approximate km length of trenching / ducting of multicore / auxiliary cabling **AND** m2 of overall increase to the platform.

TO SPECIFIC ASSUMPTIONS:
SSENT - Site security fence / boundary to be used for area calculations.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

BUILDINGS

Buildings – Asset

Buildings that are for the sole purpose of housing an asset.

INCLUDES: Buildings that are for the sole purpose of housing an asset. All associated excavation, foundations, sub and superstructures including doors, windows, staircases and internal accesses, fire control, HVAC systems and lighting.

EXCLUDES: Security alarms / security systems and Ground Stabilisation carried out across platforms or under buildings.

VOLUME COUNT ASSUMPTIONS: Number of Buildings **AND** m2 floor area (footprint of building) of buildings.

TO SPECIFIC ASSUMPTIONS:
SSENT - Count all storeys when calculating the building floor area.

NARRATIVE REQUIREMENTS: Note the individual building areas in the narrative and if the buildings are single storey / double storey.

SPECIFIC COST ALLOCATION: None currently.

Buildings - Non Asset

Buildings not housing assets and not used for Welfare or Storage use.

INCLUDES: Buildings not housing assets and not used for Welfare or Storage use, a standalone Control Building would be captured here. All associated excavation, foundations, sub and superstructures including doors, windows, staircases and internal accesses, fire control, HVAC systems, lighting and plumbing.

EXCLUDES: Security alarms / security systems and Ground Stabilisation carried out across

platforms.

VOLUME COUNT ASSUMPTIONS: Number of Buildings **AND** m2 floor area (footprint of building) of buildings.

TO SPECIFIC ASSUMPTIONS:
SSENT - Count all storeys when calculating the building floor area.

NARRATIVE REQUIREMENTS: Note the individual building areas in the narrative and if the buildings are single storey / double storey.

SPECIFIC COST ALLOCATION: None currently.

Buildings - Combined Use

Buildings with multifunctional (asset & non asset) use.Combined GIS halls and control buildings for example.

INCLUDES: Buildings with multi-functional (asset and non asset) use. Combined GIS halls and control buildings for example. All associated excavation, foundations, sub and superstructures including doors, windows, staircases and internal accesses, fire control and HVAC systems, lighting and plumbing.

EXCLUDES: Security alarms / security systems and Ground Stabilisation carried out across platforms.

VOLUME COUNT ASSUMPTIONS: Number of Buildings **AND** m2 floor area (footprint of building) of buildings.

TO SPECIFIC ASSUMPTIONS:
SSENT - Count all storeys when calculating the building floor area.

NARRATIVE REQUIREMENTS: Note the individual building areas in the narrative and if the buildings are single storey / double storey.

SPECIFIC COST ALLOCATION: None currently.

Buildings - Welfare/Storage (permanent)

Buildings with the sole use ofproviding permanent welfare and storage facilities on site.

INCLUDES: Buildings with the sole use of providing permanent welfare and storage facilities on site. All associated excavation, foundations, sub and superstructures including doors windows, staircases and internal accesses, fire control, HVAC systems, lighting and plumbing.

EXCLUDES: Security alarms / security systems and Ground Stabilisation carried out across platforms.

VOLUME COUNT ASSUMPTIONS: Number of Buildings **AND** m2 floor area (footprint of building) of buildings.

TO SPECIFIC ASSUMPTIONS:
SSENT - Count all storeys when calculating the building floor area.

NARRATIVE REQUIREMENTS: Note the individual building areas in the narrative and if the buildings are single storey / double storey.

SPECIFIC COST ALLOCATION: None currently.

PHYSICAL SITE SECURITY

Building hardening

Any works to an existing building which are specific to the CNI requirements of the site as defined by the CNI guidance for the site.

INCLUDES: Any works to an existing building which are specific to the CNI requirements of the site as defined by the CNI guidance for the site.

EXCLUDES: Any works to an existing building which are not specific to the CNI requirements.

VOLUME COUNT ASSUMPTIONS: Count as the number of buildings with interventions.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Clearance

Clearing works to enable any Security related works.

INCLUDES: Clearing works to enable any Security related works.

EXCLUDES: Clearance works not directly for Security works which relate to access, platform creation of assets.

VOLUME COUNT ASSUMPTIONS: Count as the m2 of are being cleared.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

General Security

Any works associated with the General (non – CNI) site security.

INCLUDES: Any works associated with the General (non – CNI) site security.

EXCLUDES: CNI related security works.

VOLUME COUNT ASSUMPTIONS: Count as the number of sites with interventions.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

CABLES

Substation Cable

All civil works associated with the installation or laying of a cable.

INCLUDES: All civil works associated with the installation or laying of a substation cable

(Under Ground Power Cable, at any voltage, installed within the substation perimeter or which extends less than 1km from the substation perimeter). Joint Boxes & Pits, Civils associated with Cable Sealing Ends (Plinths & foundations associated with structures).

EXCLUDES: Ducting (lining) of trenches for LVAC, Multicore or ancillary cabling. Access tracks for cable installation.

VOLUME COUNT ASSUMPTIONS: Count per KM unit length, by number of cores per phase and cable rating.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Direct Buried, Trough or ducted cable.

SPECIFIC COST ALLOCATION: None currently.

Circuit Cable

All civil works associated with the installation or laying of a cable.

INCLUDES: All civil works associated with the installation or laying of a circuit cable (an Underground Power Cable not covered by the definition of Substation Cable at any voltage). Will include any excavation (including Rock, peat, sand), HDD (directional drilling), troughs, ducts, backfill or specific insulating material, disposal of excess or contaminated material and reinstatement of ground for Circuit Cables. Cable/Fibre Joint Boxes & Pits, Civils associated with Cable Sealing Ends (Plinths & foundations associated with structures).

EXCLUDES: Ducting (lining) of trenches for LVAC, Multicore or ancillary cabling. Access tracks for cable installation.

VOLUME COUNT ASSUMPTIONS: Count per KM unit length, by number of cores per phase and cable rating.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: Excavation Type: Direct Buried, Trough or ducted cable. Ground Type: Rural (predominantly through agricultural land), Semi Rural (Field and road verges, parkland, made ground), Urban (Roads, Pavements & the Urban Environment).

SPECIFIC COST ALLOCATION: None currently.

Submarine cable

All civil works associated with the installation or laying of a cable.

INCLUDES: All civil works associated with the installation or laying of a cable (AC Cable which is placed below the surface of the water and laid on or under the seabed or the bed of a river or estuary whether or not designed for this purpose).

EXCLUDES: Civil works for laying of cable which does not align with the definition of AC submarine cable above.

VOLUME COUNT ASSUMPTIONS: Count per KM unit length, by number of cores per phase and cable rating.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Cable Bridge

An above-ground structure which carries power cables and/or pilot cables external to substation sites.
INCLUDES: Cable bridges carrying power/pilot cables external to substation sites, associated access, security, fire protection, purpose- built free-standing structures and structures attached to or part of third party assets.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count as individual structures as stated in RRP

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Cable Tunnel

A tunnel (accessible by personnel) either underground or contained within an existing structure, containing power cables and/or pilot cables external to substation sites.

INCLUDES: Cable tunnel and associated access, security, drainage, lighting, ventilation, fire protection, communications, and structural integrity.

EXCLUDES: Ducting.

VOLUME COUNT ASSUMPTIONS: Count as individual structures as stated in RRP.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

WOUND PLANT

Transformer

Any permanent structure used to support a power transformer and any directly associated assets specific to the transformer.

INCLUDES: Any permanent structure used to support a power transformer and any directly associated assets specific to the transformer. For indoor installed transformers only include works not covered under Buildings above. Deluge systems, pipework, hydrants and associated tanks. Noise enclosures.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Shunt Reactor

Any permanent structure used to support a Shunt Reactor and any directly associated

assets.

INCLUDES: Any permanent structure used to support a Shunt Reactor and any directly associated assets. For indoor installed shunt reactors only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Series Reactor

Any permanent structure used to support a Series Reactor and any directly associated assets.

INCLUDES: Any permanent structure used to support a Series Reactor and any directly associated assets. For indoor installed series reactors only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Tertiary connected reactor

Any permanent structure used to support a Tertiary Connected Reactor and any directly associated assets specific to the transformer.

INCLUDES: Any permanent structure used to support a Tertiary Connected Reactor and any directly associated assets specific to the transformer. For indoor installed transformers only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

CIRCUIT BREAKERS

Circuit Breakers (Air Insulated Busbars) (OD)&(ID)

Any permanent structure used to support a circuit breaker and any directly associated assets specific to the circuit breaker.

INCLUDES: Any permanent structure used to support a circuit breaker and any directly associated assets specific to the circuit breaker. For indoor installed circuit breakers only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Reported against voltage categories as defined in the RRP pack. Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Circuit Breakers (Gas Insulated Busbars) (OD)&(ID)

Any permanent structure used to support a circuit breaker and any directly associated assets specific to the circuit breaker.

INCLUDES: Any permanent structure used to support a circuit breaker and any directly associated assets specific to the circuit breaker. For indoor installed circuit breakers only include works not covered under Buildings above.

EXCLUDES: Reported against voltage categories as defined in the RRP pack.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Disconnector

Any permanent structure used for the exclusive purpose of supporting a Disconnector or a combined Disconnector/Earth Switch Arrangement.

INCLUDES: Any permanent structure used for the exclusive purpose of supporting a Disconnector or a combined Disconnector/Earth Switch Arrangement. For indoor installed Disconnectors only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Reported against voltage categories as defined in the RRP pack. Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Earth Switch

Any permanent structure used for the exclusive purpose of supporting an Earth Switch or Earthing Device.

INCLUDES: Any permanent structure used for the exclusive purpose of supporting an Earth Switch or Earthing Device.
For indoor installed Earth Switches only include works not covered under Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Reported against voltage categories as defined in the RRP pack. Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

BUSBARS

Busbar Supports and Post insulators

Any permanent structure or support that has the purpose of supporting busbars, as defined in this glossary.

INCLUDES: Any permanent structure or support that has the purpose of supporting busbars, as defined in this glossary. For indoor installed busbar only include works not covered in Buildings above.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Reported against voltage categories as defined in the RRP pack. Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

OVERHEAD LINES

Pole Foundation

Substructure to support all pole types defined in the Glossary.

INCLUDES: Foundations for all pole types including wood, concrete and small footprint steel masts.

EXCLUDES: Tower foundations (any type).

VOLUME COUNT ASSUMPTIONS: Count as the number of poles requiring an intervention / being installed. Reported against voltage categories as defined in the RRP pack.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Tower Foundation

Substructure to support all tower types defined in the Glossary.

INCLUDES: Foundations for all tower types.

EXCLUDES: Pole foundations (any type).

VOLUME COUNT ASSUMPTIONS: Count as the number of tower foundations requiring an intervention / being installed. Reported against voltage categories as defined in the RRP pack.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Other Route Civil Costs

Any works not covered in the descriptions above.

INCLUDES: Any works not covered in the descriptions above.

EXCLUDES: Any works defined in the Glossary item.

VOLUME COUNT ASSUMPTIONS: Reported against voltage categories as defined in the RRP pack.

TO SPECIFIC ASSUMPTIONS:
SSENT - This category not to be used as it is not a clearly defined category.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

HVDC

HVDC Convertor Transformer (OD)

Any permanent structures used to supportand facilitate operations for HVDC Convertor Transformers.

INCLUDES: Any permanent structures used to support and facilitate operations for HVDC Convertor Transformers.

EXCLUDES: Non HVDC asset support structures.

VOLUME COUNT ASSUMPTIONS: Count as number of Convertor Transformers

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

HVDC Onshore Cable

Any permanent structures used to support and facilitateoperations for HVDC onshore cables.

INCLUDES: Any permanent structures used to support and facilitate operations for HVDC onshore cables.

EXCLUDES: Non HVDC asset support structures.

VOLUME COUNT ASSUMPTIONS: Count as circuit km of Onshore cable.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

HVDC Subsea Cable

Any permanent structures used to support and facilitate shoreside operations for HVDC Subsea Cables

INCLUDES: Any permanent structures used to support and facilitate shore side operations for HVDC Subsea Cables.

EXCLUDES: Non HVDC asset support structures.

VOLUME COUNT ASSUMPTIONS: Count as circuit km of subsea cable.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

HVDC Overhead Conductor

Any permanent structures used to support andfacilitate HVDC Overhead lines systems.

INCLUDES: Any permanent structures used to support and facilitate HVDC Overhead lines systems.

EXCLUDES: Non HVDC asset support structures.

VOLUME COUNT ASSUMPTIONS: Count as circuit km of overhead conductor.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

FACTS Equipment (OD)

Any permanent structures used to support and facilitateoperations for Outdoor Flexible AC Transmission Systems.

INCLUDES: Any permanent structures used to support and facilitate operations for Outdoor Flexible AC Transmission Systems.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Volume should replicate the number entered against for this main asset category.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

PRECONSTRUCTION

Preconstruction Associated With (All Voltages)

Any works ahead of construction commencing which enable development, tendering, consenting and pre contractworks

INCLUDES: Any works ahead of construction commencing which enable development, tendering, consenting and pre contract works

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: No volume associated with this item, required for cost allocation.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

SUBSTATION AUXILIARY SUPPLIES

Substation Auxiliary Supplies at (All Voltages) Substations

All DNO auxiliary supplies to maintain/provide substation electrical supplies.

INCLUDES: All DNO auxiliary supplies to maintain/provide substation electrical supplies. All connection/construction costs associated with supply and cabling up to the Substation LVAC board. PVT's related to supply.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Count per individual supply.

TO SPECIFIC ASSUMPTIONS:
SSENT - PVT's to be included as they relate to supplies.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

Diesel Generators & LVAC Boards

All substation contained back up generation and associated assets (tanks, fire deluge, etc) to maintain substation operational status and associated Low voltage AC Boards for substation supplies.

INCLUDES: All substation contained back up generation and associated assets (tanks, fire deluge, etc) to maintain substation operational status and associated Low voltage AC Boards for substation supplies. Back Up Generators (or equivalent), cabling between generator and LVAC Board, LVAC Board.

EXCLUDES: None currently.

VOLUME COUNT ASSUMPTIONS: Counts each asset as individual units within RRP, i.e.

Generator and LVAC Board as separate counts.

TO SPECIFIC ASSUMPTIONS: None currently.
NGET – Any HV equipment specifically related to LVAC systems to be included here.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.

LVAC Cabling

A multicore cable carrying Low Voltage AC or DC power supplies, which is contained within the confines of a substation site and distributed directly from the LVAC Board or DC Distribution Board for substation operation. Does not include AC cabling used for building based mechanical and electrical services.
Count as overall quantity of cabling in metres.

INCLUDES: A multicore cable carrying Low Voltage AC or DC power supplies, which is contained within the confines of a substation site and distributed directly from the LVAC Board or DC Distribution Board for substation operation. Does not include AC cabling used for building based mechanical and electrical services.

EXCLUDES: All non LVAC/DC multicore cables.

VOLUME COUNT ASSUMPTIONS: Count as overall quantity of cabling in metres.

TO SPECIFIC ASSUMPTIONS: None currently.

NARRATIVE REQUIREMENTS: None currently.

SPECIFIC COST ALLOCATION: None currently.