Transmission Owner Reinforcement Instruction (TORI)
Quarterly Update Report
July 2024 – September 2024

View of the 275kV WA Overhead Line between Coylton and New Cumnock substations

SP ENERGY NETWORKS

Contents

V2.6	*SPT-RI-003* - Denny-Strathaven 400kV Reinforcement ENSG Central Scheme

OVERVIEW OF WORKS

The construction of a new 400kV double circuit overhead line route between the existing Bonnybridge Substation in the north and the XX Route near Glenmavis in the south, one side of which will operate at 400kV, the other at 275kV. This will establish a fourth north to south double circuit overhead line route across Boundary B5.

Thermal and voltage uprating of the ZG, XX and XR Routes will be caried out by the replacement of the existing 1965 vintage twin Zebra ACSR overhead line conductor systems with a modern conductor system.

This project will establish the following circuits: Kincardine North – Bonnybridge 400kV; Bonnybridge – Wishaw 400kV; Kincardine – Cumbernauld 275kV; and Cumbernauld – Easterhouse/ Newarthill 275kV. he Kincardine North – Clyde's Mill 400kV and Kincardine – Easterhouse 275kV circuits, established as part of the Kincardine – Wishaw (Clyde's Mill) 400kV Reinforcement (NOA ref. DWUP), will be turned into Denny North, to form Denny North – Clyde's Mill and Denny North – Easterhouse 275kV circuits.

Associated substation works will include the establishment of Bonnybridge 400/132kV Substation and Cumbernauld 275kV Grid Supply Point. It will also include the extension of the existing Wishaw 400kV GIS Substation to allow the turn in of the existing Strathaven – Torness 400kV circuit, forming Strathaven – Wishaw No.2 and Wishaw – Torness (Branxton) 400kV circuits.

This project is classed as an Accelerated Strategic Transmission Investment (ASTI) Project.

Programme	**Completion:** - October 2030
Progress	**Design:** • Early engineering design complete, detailed design ongoing. **Consenting:** • Overhead line routing underway, potential route corridor being re-confirmed following scope changes. First round of public consultations completed in June 2021. Routing and environmental survey works ongoing. **Detailed Engineering:** • Still to commence **Tendering:** • Communications Consultant contract awarded. • Further tendering still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence :

V2.4	*SPT-RI-004* - Denny-Kincardine 400kV Reinforcement (East Coast Phase 1 Reinforcement and Re-Profiling)

OVERVIEW OF WORKS

SP Transmission works associated with SHE Transmission East Coast Phase 1 Reinforcement (reference SHET-RI-009) and SHE Transmission East Coast Re-Profiling (reference SHET-RI-097), comprising:

- Uprating of the existing Kincardine-Tealing/ Kintore (XL)1 overhead line route from 275kV 50oC operation to 275kV 65oC operation between Kincardine and the SP Transmission/ SHE Transmission border;
- Protection and control works at Kincardine 275kV Substation associated with the development of the SHE Transmission Alyth 275kV Substation;
- Increasing the maximum operating temperature of the Longannet-Mossmorran-Westfield-Tealing 275kV overhead line routes to 65oC, and replacing the associated 275kV cable sections at Longannet to match the increased overhead line rating; and
- Terminate the existing Windyhill-Lambhill-Longannet 275kV circuit in Denny North 275kV Substation, creating Windyhill-Lambhill-Denny North and Denny North-Longannet No.2 275kV circuits.

This will continue to be updated following the outcome of the annual NOA process.

Programme	**Completion:** - Under Review
Progress	**Design:** • Early Engineering Design complete, detailed design ongoing **Consenting:** • Identification of impacted landowners complete. • Environmental surveys have commenced and are progressing. • Works classed as Permitted Development, Planning consenting process ongoing. **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Commenced **Commissioning/Close Out:** • Commenced

V2.12	SPT-RI-028 - *North Argyll Reinforcement: Dalmally Windyhill 275kV Reconfiguration*

OVERVIEW OF WORKS

As part of its non-load related asset modernisation programme, SPT will replace and reconfigure Dalmally 275kV substation to a double busbar arrangement (Scope 1).
As part of its non-load related asset modernisation programme, SPT will uprate the overhead line conductor between Dalmally and Windyhill (Scope 2).
As part of a joint SPT/ SHE Transmission project to reinforce the transmission network in north Argyll and accommodate proposed renewable generation schemes, SPT will extend Dalmally 275kV Substation and install two new double busbar bays to provide SHE Transmission with two 275kV points of connection at Dalmally 275kV Substation (Scope 3).

Programme	**Completion:** • Scope 1: - Complete • Scope 2: - Complete October 2019 for wiring. Clearance works and Foundations - Under Review • Scope 3: - Programme Under Review
Progress	**Design:** • Scope 1: - Complete • Scope 2: - Complete for reconductoring works / design evaluation in progress for remaining clearance infringements. Foundations complete • Scope 3: - In progress **Consenting:** • Scope 1: - Not required. • Scope 2: - Wiring Complete / further consent is required for access road construction in National Park to resolve remaining clearance infringements and remaining foundations. • Scope 3: - Not commenced. **Detailed Engineering:** • Scope 1: - Complete • Scope 2: - Complete / to complete for remaining clearance infringements. • Scope 3: -Not commenced. **Tendering:** • Scope 1: - Complete • Scope 2: - Tenders pending clarification how to address the clearance infringements works. • Scope 3: - Not commenced. **Construction:** • Scope 1: - Complete • Scope 2: - Complete (excluding clearance infringements works and remaining foundations) • Scope 3: - Not commenced. **Commissioning/Close Out:** • Scope 1: - Complete • Scope 2: - Under Review

	• Scope 3: - Not commenced. Link to related info:

V2.8	SPT-RI-124 - *400kV GIS substation in Torness Area*
OVERVIEW OF WORKS A new 400kV double busbar substation, utilising Gas Insulated Switchgear (GIS), will be established in the vicinity of Torness. This new substation, known for the purposes of this TO Reinforcement Instruction as 'Branxton 400kV Substation', and associated plant and apparatus, will provide Transmission Interface Points to which transmission connection system assets will connect.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Earthworks construction design complete. • Detailed GIS layout being finalised with GIS Supplier. **Consenting:** • Planning application submitted and details of the scheme under review with the local authority. Determination date TBC. **Detailed Engineering:** • Enabling, access and earthworks detailed design ongoing. **Tendering:** • GIS Supply and Install Contract awarded Q4 2023. • Enabling package awarded **Construction:** • Still to be commenced, anticipated Q4 2024 pending planning determination and discharge of conditions **Commissioning/Close Out:** • Still to be commenced. • Commissioning phase scheduled - Under Review Link to related info:

V2.3	SPT-RI-126 - *East Coast HVDC Link*

OVERVIEW OF WORKS

Development, design construction and commissioning of a 2GW 525kV HVDC link between the Torness area in East Lothian Scotland, and Hawthorn Pit in North-East England. Link consisting of 2 x HVDC 400kvAC/ 525kvDC converter station terminals and installation of an approximate 200km of offshore and onshore cabling. Completion of associated AC onshore connections North & South and network reinforcement works with NGETs 400kv Network.
Under the LOTI approval process the Final Needs Case has been submitted and approved on with the Project Assessment submission.

Programme	**Completion:** - December 2027 (trial operation thereafter) Completion: - 2029
Progress	**Design:** • All Concept designs and technology requirements necessary for LOTI needs case approval process and tendering activities have been completed. Project now in contract tendering stage. **Consenting:** • All consenting applications have been submitted to relevant authorities. Consents for Converter works in NGET area approved. SPT onshore outline planning application; submitted 29th July 2022 has been recommended for approval by ELC, Marine licenses submitted to MMO and MSLOT and under review. • Land acquisition discussions well advanced. **Detailed Engineering:** • All detailed engineering forms part of the contracted works for both Converter and cables and will be progressed following contract awards. **Tendering:** • All works are currently tendered and tender assessments and discussions ongoing. **Construction:** • Main construction works including in tendered works with progression of limited enabling works planned in advance. **Commissioning/Close Out:** • Link to be operational by dec 2027 with trial operation period thereafter (durations under review). Non-operation works e.g. landscaping and reinstatement will continue into 2029.

V2.3	SPT-RI-130 - *Strathaven – Smeaton*

OVERVIEW OF WORKS

The overhead line conductor system on the existing 11.6km 400,000 Volt double circuit route from Strathaven to Wishaw (XH route) will be replaced with a conductor system of increased thermal rating.

The overhead line conductor system on the existing 61.8km 400,000 Volt double circuit route from Wishaw to Smeaton (XJ route) will be replaced with a conductor system of increased thermal rating.

The existing XH and XJ overhead line routes are equipped with twin 400mm2 ACSR (Zebra) conductor operating at 50oC. The replacement conductor system is subject to ongoing consideration.

These works will not modify the prevailing circuit configuration.

Programme	**Completion:** - February 2028
Progress	**Design:** • Due to changes in contracted background, design review is required. Design review to be arranged. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.3	SPT-RI-131 - *ZT route Overhead Line Uprating Works (Branxton – Eccles)*
OVERVIEW OF WORKS The overhead line conductor system on the existing 34.3km 400,000 Volt double circuit route from Eccles to the Branxton sealing end compound (ZT route) will be uprated to achieve an increased thermal rating. The existing ZT overhead line route is equipped with twin 700mm2 AAAC (Araucaria) conductor operating at 75oC. The maximum operating temperature of the conductor system will be increased from 75oC to 90oC. These works will not modify the prevailing circuit configuration.	
Programme	**Completion:** - 13th April 2028
Progress	Design: • Early Design and Surveys Ongoing Consenting: • Surveys ongoing Detailed Engineering: • Still to commence Tendering: • Still to commence Construction: • Still to Commence Commissioning/Close Out: • Still to commence

V2.2	SPT-RI-143 - *Kilmarnock South Transformer Reinforcement*

OVERVIEW OF WORKS

Contracted renewable generation in South West Scotland has reached a level where the thermal uprating of Kilmarnock South 275kV substation is required to ensure compliance with NETS SQSS. The existing switchgear in Kilmarnock South 275kV substation is rated at 2000Amps/952MVA and this will need to be replaced with higher rated switchgear to ensure thermal limits are not exceeded at the 275kV substation. It is proposed to replace the switchgear with 3150Amp/1500MVA rated equipment to provide sufficient capacity for the generation in South West Scotland.
Furthermore, there are two 400/275kV 1000MVA auto wind transformers at the 400kV substation and to comply with NETS SQSS a third transformer is required to ensure that for N-1 conditions there are no restriction on generation in South West Scotland.

Programme	**Completion:** - Under Review
Progress	**Design**: • Complete **Consenting:** • Complete **Detailed Engineering:** • Complete. **Tendering:** • All main contracts now placed. **Construction:** • Circuit transfers to the new GIS are ongoing. **Commissioning/Close Out:** • Both the 275kV GIS switchboards commissioned and 6 circuits have been transferred onto the new switchboard. • The final two circuit transfers are delayed.

V2.0	SPT-RI-146 - *Maybole to Coylton 132kV Overhead Line Uprating*

OVERVIEW OF WORKS

Contracted renewable generation at Maybole GSP has reached a level where the thermal uprating of the 132kV circuit between Maybole and Coylton is required to facilitate this generation.

The two 132kV circuits between Maybole and Coylton are on a mixture of double circuit tower lines, single circuit tower lines, single circuit wood pole overhead lines and incorporates three 132kV underground cable sections (~1km total). The total route length is 22.5km and consists of CD Route (13km double circuit), CG Route (5km single circuit), N Route (5km single circuit) and X Route (4.5km double circuit).

The existing overhead line circuits are single 175mm ACSR with a pre-fault summer rating of 89MVA.

To accommodate the generation at Maybole GSP it is proposed that the existing Maybole to Coylton 132kV overhead line circuits are reconductored using LARK HTLS conductor. This gives a summer pre-fault continuous rating of 227MVA. In addition, the three 132kV underground cable sections on the circuit (~1.2km in total), will be replaced with 1600mm2 Al XLPE cable to match the new rating of the overhead line.

Needs case carried out and TORI no longer required.

Programme	**Completion:** - Active Termination
Progress	**Design:** • N/A **Consenting:** • N/A **Detailed Engineering:** • N/A **Tendering:** • N/A **Construction:** • N/A **Commissioning/Close Out:** • N/A

V2.0	SPT-RI-151b - *Galashiels to Eccles 132kV Overhead Line Rebuilding*

OVERVIEW OF WORKS

The existing two 132kV circuits between Galashiels and Eccles are on a mixture of double circuit tower lines single circuit tower lines and two 132kV underground cable sections (for the overhead line termination at each end). (The circuits are made up of part of P Route and AT Route U Route overhead lines). The Galashiels to Eccles No.1 and No.2 132kv overhead lines are single 175mm2 ACSR, with a pre fault summer rating of 89MVA, each with a total circuit length of 30.58km and 30.14km respectively.
In order to provide GBSQSS compliant connections for additional generation requiring to export from Hawick/Galashiels to Eccles, it is proposed to construct a new 132kV double circuit tower line between Galashiels and Eccles and remove the existing U and AT Routes. The new double circuit, utilising UPAS conductor, will provide the following minimum circuit ratings:

	Winter		Autumn		Summer	
	Amps	**MVA**	**Amps**	**MVA**	**Amps**	**MVA**
Pre-Fault Continuous	885	203	845	193	770	176
Post-Fault Continuous	1060	241	1000	230	915	210

Programme	**Commissioning: - September 2028** **Completion:** - (including decommissioning): April 2029

Progress	**Design:**
	• Early engineering design phase. Surveys of current OHL completed.
	
	Consenting:
	• Public consultation took place September 2021.
	• Planning application submission expected by Jan-2025.
	• Environmental scoping report submission to ECU completed.
	
	Detailed Engineering:
	• Design Freeze
	  ○ 1st completed in April-2023.
	  ○ 2nd is expected by Sep-2024.
	Tendering:
	• Still to Commenced.
	
	Construction:
	• Still to commence, anticipated start date Q1 2026
	
	Commissioning/Close Out:
	• Still to commence, commissioning date September 2028

V2.6	SPT-RI-158 - *New Cumnock 132kV Substation Extension*

OVERVIEW OF WORKS

Contracted renewable generation in South West Scotland has reached a level where the thermal rating of the New Cumnock 275kV substation supergrid 275/132kV transformers, which currently planned to connect to 132kV Board A, is exceeded. There is also a fault level issue triggered by the current contracted generation on the New Cumnock 132kV Board A. To mitigate these issues, it is proposed to separate Board A into Boards A and C whereas Board B remains. Cabling and transformer connections for Boards A and B will also be reconfigured as follows:

- Board A: 3 × 275/132kV SGT1A, SGT2A and SGT3A 240MVA auto wind transformers, providing a total firm capacity of 720MVA
- Board B: 3 × 275/132kV SGT1B, SGT2B and SGT3B 240MVA auto wind transformers, providing a total firm capacity of 720MVA
- Board C: 2 × 275/132kV SGT1C and SGT3C 360MVA auto wind transformers, providing a total firm capacity of 720MVA

This will provide sufficient transformer capacity for the current overall contracted generation into New Cumnock (the contracted generation position in South West Scotland as indicated in December 2017).

Programme	**Completion:** - May 2035
Progress	**Design:** • Revised design carried out for change to Gas Insulated Switchgear (GIS), in order to reduce the platform size and feasibility of enabling works. Also, re-designed civil solution for platform extension – now utilising deep soil mixing methodology. **Consenting:** • Planning application (local) submission consented in October 2020, for original Air Insulated Switchgear (AIS) design. Revision to application submitted in Apr 22. Further detail to the planning application was submitted in Feb 23. Now approved by East Ayrshire Council. **Detailed Engineering:** • Electrical design has been revised to GIS electrical layout and civil design to hybrid deep soil mixing and raft/piling. **Tendering:** • Contract awarded and supplier engaged for 2 number 360 MVA transformers with manufacturing of these units ongoing. GIS contract awarded and platform enabling works contract awarded. Civil tender issued to the market. **Construction:** • Platform site works. **Commissioning/Close Out:** • Still to be commenced.

V2.9	SPT-RI-173 - *Glenglass Extension and Glenmuckloch Collector*

OVERVIEW OF WORKS

To enable the connection of generation around the Glenmuckloch area, the 132kV network need to be extended from Glenglass substation to Glenmuckloch. To achieve this, it is proposed to build a new 132kV double circuit between Glenglass and Glenmuckloch. The project will mainly entail the extension of the proposed GIS substation at Glenglass to add two new bays to which the 132kV double circuit will connect, then construct around 10km of steel lattice towers to Glenmuckloch and at Glenmuckloch establish a 132kV double busbar collector substation to terminate the OHL double circuit.

Programme	**Completion:** - June 2027
Progress	**Design:** • Early Engineering design phase complete. **Consenting:** • Public Consultation on overhead line route complete. • Section 37 consent obtained. • Landowner discussions underway. **Detailed Engineering:** • Underway **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.6	SPT-RI-176 - *New Cumnock Overload Protection Scheme*

OVERVIEW OF WORKS

To utilise the non-firm capacity at New Cumnock and the 132kV network in South West Scotland an overload protection scheme is required at New Cumnock substation to monitor the loading on the 275kV circuits from Coylton, supergrid transformers and 132kV circuits at New Cumnock to prevent any overloading on the transmission system. The scheme at New Cumnock will communicate with remote systems at Dunhill, Blackhill, Glenglass and Kendoon substations to trigger tripping signals to generators connected at these substations.

Programme	**Completion:** - March 2025
Progress	**Design:** • Early engineering design phase - complete **Consenting:** • No consents required. **Detailed Engineering:** • Complete **Tendering:** • Completed – all major Contracts awarded. **Construction:** • Panel manufacturing & FAT complete and panels delivered to site. Wiring and installation Completed**.** **Commissioning/Close Out:** • Commissioning of Board A complete. Commissioning of Board C to commence following commissioning of TORI 158 work In Q2 2025.

V2.4	SPT-RI-177 - *Glenglass Overload Protection Scheme*

OVERVIEW OF WORKS

To utilise the non-firm capacity at New Cumnock, Glenglass and the 132kV network in South West Scotland an overload protection scheme is required at Glenglass substation to monitor loading at Glenglass and receive intertrip signals from New Cumnock to prevent any overloading on the transmission system. On the receipt of a local overload signal or a remote intertrip signal from New Cumnock, the scheme will trip generators in a pre-determined sequence by opening the relevant circuit breaker.

Stage 1
The transformer overload protection was completed in September 2021 along with Twentyshilling WF

Stage 2
The 132kV OHL overload protection will be delivered in [Under Review], currently aligned with the connection of Sandy Knowe wind farm.

Programme	**Completion:** • Stage 1: September 2021 • Stage 2: Under Review
Progress	**Design:** • Engineering design phase complete. **Consenting:** • No consents required. **Detailed Engineering:** • Completed. **Tendering:** • Completed. **Construction:** • Stage 1 Completed. • Stage 2 Completed. **Commissioning/Close Out:** • Stage 1 Completed. • Stage 2 Under Review.

V1.5	SPT-RI-185 - *Galashiels to Eccles 132kV Overload Protection Scheme*
OVERVIEW OF WORKS It is proposed to install an Energy Management (Overload Protection) Scheme at Galashiels 132kV substation to monitor the following circuits: 1) Galashiels to Eccles No.1 132kV Circuit 2) Galashiels to Eccles No.2 132kV Circuit Installation of an LMS Outstation at Hawick 132/33kV substations in order to receive a trip signal from Galashiels. If the seasonal pre-fault rating of these circuits is exceeded a trip signal will be issued to SPD at Hawick 132/33kV substation to disconnect appropriate SPD generation to remove the overload.	
Programme	**Completion:** - October 2025
Progress	**Design:** • Still to be commenced. **Consenting:** • Still to be commenced. **Detailed Engineering:** • Still to be commenced. **Tendering:** • Still to be commenced. **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced.

V2.3	SPT-RI-191 - *Gretna-Ewe Hill 132kV Reinforcement*
OVERVIEW OF WORKS The thermal capacity of the 132kV circuit between Gretna 132kV substation and Ewe Hill Wind Farm 132kV Collector Substation (works detailed in SPT-RI-017), will be increased by re-conductoring the 132kV overhead line conductor (~16km), and installing an additional 800mm2 Al XLPE 132kV underground cable in parallel with the existing cable (~0.3km),. This is to accommodate additional generation connecting at the Ewe Hill Wind Farm 132kV Collector Substation. With the Dealanach Offer being signed, the 'Eagle' High Temperature Low Sag (HTLS) conductor will likely be used.	
Programme	**Completion:** - October 2024
Progress	**Design:** • Early design in progress. **Consenting:** • All required servitudes have been concluded. • Detailed Engineering • Still to be commenced **Detailed Engineering:** • In Progress **Tendering:** • HTLS Conductor to be included in OHL supplier contract. Tender in progress. **Construction:** • Still to be commenced **Commissioning/Close Out:** • The programme is currently - under review.

V2.2	SPT-RI-198 - *Newton Stewart 132kV Substation Works*
OVERVIEW OF WORKS At Newton Stewart 132/33kV substation, a second 132/33kV transformer will be installed as part of a separate project to accommodate contracted generation on a firm basis. To enable the transformer installation, substation works are required involving a new 132kV line isolator to connect the second grid transformer onto the existing T2 33kV circuit breaker.	
Programme	**Completion:** - Programme Under Review
Progress	**Design:** • Early design in progress. **Consenting:** • Still to be commenced. **Detailed Engineering:** • Still to be commenced. **Tendering:** • Still to be commenced. **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced.

V2.3	SPT-RI-200 - *East Coast Phase 2 Reinforcement*

OVERVIEW OF WORKS

SP Transmission works associated with SHE Transmission East Coast Phase 2 400kV Reinforcement (reference SHET-RI-093), comprising:

- Uprating of the existing Kincardine-Tealing/ Kintore (XL) overhead line route from 275kV 50oC operation to 400kV 65oC operation between Kincardine and the SP Transmission/ SHE Transmission border; and

- Installation of 2 x 400/275kV 1100MVA auto-transformers at the new Kincardine North 400kV Substation.

Note the existing Kincardine-Tealing 275kV and Kincardine-Kintore 275kV circuits may be terminated in a new SHE Transmission substation at Alyth in advance of the works described in this TORI. In this event, reference to Kincardine-Tealing/ Kintore will become Kincardine-Alyth.

Programme	**Completion:** - Under review
Progress	**Design:** • Concept complete, early engineering design ongoing. **Consenting:** • Impacted landowners have been identified. • Environmental surveys have commenced. **Detailed Engineering:** • Basic engineering nearing completion. Detailed engineering will follow tender process. **Tendering:** • Commenced and underway **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V1.5	SPT-RI-204 - *Wishaw-Smeaton-Torness-Eccles Overload Protection Scheme*
OVERVIEW OF WORKS A Category 2 overload protection scheme is proposed to be installed within the Wishaw – Smeaton 400kV network to protect the system from network overload under certain outage conditions and as part of a Category 4 Intertripping Scheme to protect the Wishaw – Smeaton – Torness – Eccles 400kV Network from dead line charging conditions as defined by the Grid Code for Nerat Na Gaoithe and Fallago 2 Connection.	
Programme	**Completion:** - November 2024
Progress	**Design:** • Complete **Consenting:** • Not required **Detailed Engineering:** • Complete. **Tendering:** • Contracts awarded. **Construction:** • Commenced August 2021, NNG related implementation complete. Fallago 2 related implementation yet to commence. **Commissioning/Close Out:** • Commissioning substantially complete with final operational testing to be completed in conjunction with NNG project commissioning. • Fallago 2 elements of works to be undertaken Q4 2024 and made ready for interfacing in conjunction with Fallago 2 connection at later date.

V2.7	SPT-RI-205 - *Arecleoch Ext Tee to Chirmorie/Stranoch Wind Farm 132kV Circuit*
OVERVIEW OF WORKS A ~4.7km 132kV overhead line will be installed from the Arecleoch Extension wind farm tee to the Chirmorie/Stranoch junction. The overhead line will use standard Trident with Eagle HTLS conductor which has a minimum summer pre-fault continuous rating of 227MVA.	
Programme	**Completion:** - October 2026
Progress	**Design:** • Overview design complete and approved as part of S37 consent **Consenting:** • S37 Approved. Pre-Conditions progressing, nearing completion **Detailed Engineering:** • In progress with appointed OHL contractor **Tendering:** • OHL contract awarded. Tree-felling contract awarded. **Construction:** • Pre-construction surveys and planning in progress. Tree-felling works to commence soon. **Commissioning/Close Out:** • Still to commence

V2.2	SPT-RI-206 - *Mark Hill SGT3 240MVA*
OVERVIEW OF WORKS At Mark Hill substation a 275kV switchbay will be installed to control a 275/132kV 240MVA transformer (SGT3). This will connect to a 132kV busbar (B Board) provided for the connection of renewable generation.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Surveys for Mark Hill substation extension completed. **Consenting:** • Substation extension consented but legal consents with landowner continuing. **Detailed Engineering:** • Complete. **Tendering:** • Enabling works at BAFO stage. **Construction:** • Still to be commenced – Under Review **Commissioning/Close Out:** • Still to be commenced

V2.6	SPT-RI-211 - *Holm Hill Switching Station to Lorg Wind Farm Junction 132kV Circuit*

OVERVIEW OF WORKS

Construct a new 132kV switching station, named Holm Hill, and install a 132kV OHL circuit between the new site and the tee off points to Shepherds Rig and Lorg wind farms.

At an appropriate tee-off point on the New Cumnock to Kendoon 132kV circuit, install the new Holm Hill 132kV Switching Station containing one 132kV circuit breaker with two associated disconnectors. Install ~8km of 132kV wood pole overhead line with High Temperature Low Sag (HTLS) EAGLE conductor (190°C, minimum summer pre-fault rating 295MVA) to the tee point between Shepherd's Rig and Lorg wind farms.

Programme	**Completion:** - 30 April 2027
Progress	**Design:** • **Early design in progress. OHL route design in progress. Holm Hill switching station design in progress.** **Consenting:** • **Consultation on the preferred route took place recently and responses are being reviewed to confirm the route to be taken forward. Consent for Holm Hill switching station in progress.** **Detailed Engineering:** • **Commenced** **Tendering:** • **Still to be commenced** **Construction:** • **Still to be commenced** **Commissioning/Close Out:** • **Still to be commenced**

V2.1	SPT-RI-213 - *New Cumnock 275/132kV Transformer SGT2B*
OVERVIEW OF WORKS At New Cumnock substation a third 275/132 240MVA transformer will be installed to increase the capacity of the 132kV Board B.	
Programme	**Completion:** - March 2025
Progress	**Design:** • Design complete. **Consenting:** • Not Applicable (will be delivered under SPEN's Permitted Development rights). **Detailed Engineering:** • Complete barring minor elements. **Tendering:** • Contract awarded and supplier engaged for 240 MVA transformer with manufacture underway. **Civil tender ongoing:** • 132KV cable tender issued to the market. **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-214 - *ZS Route Overhead Line Uprating Works (Smeaton – Fallago)*
OVERVIEW OF WORKS The overhead line conductor system on the existing 31.1km 400,000 Volt circuit from Smeaton to Fallago (ZS route) will be uprated to achieve an increased thermal rating. The existing ZS overhead line route is equipped with twin 700mm2 AAAC (Araucaria) conductor operating at 75oC. The maximum operating temperature of the conductor system will be increased from 75oC to 85oC. These works will not modify the prevailing circuit configuration.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Early design in progress **Consenting:** • Not Applicable **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-215 - *Wishaw 400kV GIS Substation Reconfiguration*
OVERVIEW OF WORKS Terminate the existing Strathaven-Torness 400kV circuit in Wishaw 400kV Substation and install a 400kV bus section circuit breaker at Wishaw 400kV Substation.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Early design in progress **Consenting:** • Not Applicable **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-221 - *Kendoon to Glenlee 132kV reinforcements*

OVERVIEW OF WORKS

The works in this reinforcement entails the extension of the L7 high capacity (twin UPAS) 132kV double circuit that runs between New Cumnock substation and the Margree Tee off in South West Scotland to Glenlee substation. This will enable the increase of transfer capability from the Galloway group to the wider supergrid system at New Cumnock. The transfer capability of the group is currently limited by the single 132kV Lynx circuit between Kendoon and Tongland. At Glenlee the substation will need to be extended to modify the configuration of the substation from a four to a six mesh corner arrangement to allow the termination of the new high capacity double circuit overhead line from New Cumnock. One side of the circuit will also be turned into Kendoon to maintain connectivity at the substation.

Programme	**Completion:** - Under Review

Progress	**Design:**
	• OHL tender design is ongoing. Glenlee elements complete.
	
	Consenting:
	• Glenlee Planning approval received August 2020. Conditions have been discharged fully.
	• OHL Section 37 Planning Consent application was rejected by the Council committee on 14 Apr 2021. Project is progressing with public inquiry (PLI) option. Planning team have formally notified the matter to Michael Matheson MSP. Proceedings ongoing.
	• Land agreement with Drax concluded**.**
	
	Detailed Engineering:
	• Underway
	
	Tendering:
	• Glenlee:
	  ○ Civil Works Award – September 2023
	  ○ Balance of Plant (BoP) Award – TBC
	• Kendoon:
	  ○ Civil Works – TBC
	  ○ Balance of Plant (BoP) – TBC
	• Works at Kendoon under review due to Sec 37 delay.
	• OHL (Combined purchase with TORI 222) – 2024 - Delayed due to Sec 37 PLI.
	
	Construction:
	• Pre-enabling works by NRS have been completed and the Contractor demobilised from site 04 Jun 2021.
	• Enabling works by George Leslie have commenced 31 May 2021. Paused pending Drax legal consents and recommenced August 2022.
	
	Commissioning / Close Out:
	• Currently scheduled for August 2026 - delays due to Sec 37 PLI.

V2.2	SPT-RI-222 - *Glenlee to Tongland 132kV Modernisation*
OVERVIEW OF WORKS The works in this modernisation entails the construction of a new L4 (single POPLAR) 132kV double circuit from Glenlee to Tongland. This will enable the increase of transfer capability from Tongland to the wider supergrid system at New Cumnock and increase the local boundary capabilities of the 132kV system. The transfer capability of Tongland is currently limited by the single 132kV Lynx circuit between Glenlee and Dumfries and this scheme will remove this limitation.	
Programme	**Completion:** - August 2027
Progress	**Design:** • Tender design in progress **Consenting:** • OHL Section 37 Planning Consent application was rejected by the Council committee on 14 Apr 2021. Project is progressing with public inquiry (PLI) option. Planning team have formally notified the matter to Michael Matheson MSP. Proceedings ongoing. **Detailed Engineering:** • Underway. **Tendering:** • Tongland*: o Civil Works – On hold pending Public Inquiry outcome. o Balance of Plant (BoP) – On hold pending Public Inquiry outcome. • OHL* (Combined purchase with TORI 221) – 2024 - Delayed due to Sec 37 public inquiry (PLI). • 132kV OHL Trident Wood Poles* (combined purchase with TORI221) Contract award – 2024 - Delayed due to Sec 37 PLI. • Conductor Supply / OPGW* – 2024 - Delayed due to Sec 37 PLI. **Construction:** • Still to be commenced **Commissioning/Close Out:** • Scheduled for August 2027 – delays due to Sec 37 PLI.

V1.1	SPT-RI-223 - *Glenlee to Newton Stewart Reconductoring*

OVERVIEW OF WORKS

The existing No.1 and No.2 132kV circuits between Glenlee and Newton Stewart substations are on a double circuit tower line (~ 30km, BG route). The overhead line circuits are single 175mm2 ACSR with a pre fault summer rating of 89MVA.

To facilitate increasing levels of generation at Glenluce and Newton Stewart GSP, it is proposed to reconductor BG route with High Temperature Low Sag conductor (HTLS) to provide a minimum summer pre-fault continuous rating of 250MVA.

Programme	**Completion:** - Under Review link to Public Inquiry (TORI 221 & 222)
Progress	**Design:** • Design in progress. **Consenting:** • Not Applicable for main works but link to link to Public Inquiry (TORI 221 & 222) for 5 towers requiring movement. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-224 - *Coylton SGT1(2) Reinforcement*
OVERVIEW OF WORKS At Coylton substation, the existing SGT1 and SGT2 275/132kV 120MVA Auto-transformers will be replaced (on line) with 240MVA units.	
Programme	**Completion:** - Construction phase complete 24/03/2023, currently within contractor defects, and liability period. Luddon Construction defects, and liability end date 21/03/2025, Kolektor defects, and liability end date 16/06/2028
Progress	**Design:** • Complete **Consenting:** • Not Applicable **Detailed Engineering:** • SCA signed off and approved with detail engineering commenced. **Tendering:** • Complete **Construction:** • Complete **Commissioning/Close Out:** • Complete – under defects, and liability period

V2.4	SPT-RI-226 - *275/132kV Elvanfoot Transformer*
OVERVIEW OF WORKS A new 275/132kV 360MVA transformer shall be installed at Elvanfoot substation. This will create a new 132kV busbar at Elvanfoot, to allow new generators to connect.	
Programme	**Completion:** - December 2024
Progress	**Design:** • Early design complete. **Consenting:** • Planning Application approved and majority of conditions discharged. **Detailed Engineering:** • Commenced and ongoing. **Tendering:** • Transformer order placed. Main contracts awarded. **Construction:** • Commenced and ongoing. **Commissioning/Close Out:** • December 2024
	Link

V2.1	SPT-RI-227 - *Chapelcross – Harker 132kV Uprating*

OVERVIEW OF WORKS

It is proposed to rebuild AK and T Route single circuit Chapelcross to Harker 132kV overhead line, to increase the thermal rating to a minimum summer pre-fault continuous rating of 227MVA. The current circuit is a 132kV overhead tower line, with Lynx conductor, with a pre-fault summer continuous rating of 89MVA. This project is in response to the increased level of generation in the area.

The 132kV overhead line circuit between Chapelcross and Harker has split ownership, 17.5 km from Chapelcross 132kV substation following AK and T route, to tower T137A. This is owned by SPT with the remaining 8.6 km from tower T137A to Harker 132kV substation owned by NGET. Any uprating by SPT will need to be matched by NGET.
The project will be to rebuild the SPT-owned 17.5km of AK and T route utilising LARK HTLS conductor on a 132kV wood pole construction. This will provide a pre-fault summer continuous rating of 227MVA. The existing AK and T route 132kV steel tower circuit will be dismantled.

Programme	**Completion:** - 30 Sept 2025
Progress	**Design:** • SCA Signed off. **Consenting:** • S37 Application Underway. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.4	SPT-RI-229 - *Moffat SGT3*
OVERVIEW OF WORKS A new 400/132kV 240MVA transformer, and associated 400kV and 132kV circuit breaker bays, shall be installed at Moffat 400/132kV substation to increase the available generation capacity at the 132kV substation.	
Programme	**Completion:** - August 2025
Progress	**Design:** • Design in progress. **Consenting:** • Not Applicable **Detailed Engineering:** • Commenced **Tendering:** • Commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-230 - *Gretna to Faw Side WF Tee 132kV Reinforcement*
OVERVIEW OF WORKS It is proposed to re-profile approximately 36km of the 132kV overhead line existing Gretna to Hawick circuit (AL and V Route), between Gretna and the proposed Faw Side Community Wind Farm 'T' connection. It is proposed to utilise LARK HTLS conductor. NGET own a section of AL and V Route on this circuit and will have to reinforce to match the SPT proposals.	
Programme	**Completion:** - October 2025
Progress	**Design:** • Early design in progress **Consenting:** • Not Applicable **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-231 - *Elvanfoot to Harker 400kV Circuit Uprating*
OVERVIEW OF WORKS In order to maintain the 4.4GW North-South boundary transfer over Boundary B6, due to the level of generation connecting on to this interconnector, it is necessary to thermally uprate the Elvanfoot – Harker 400kV double circuit, via reconductoring with twin Curlew HTLS conductor, operating at 190°C.	
Programme	**Completion:** - Under Review ○ Subject to Network Options Assessment (NOA), project did not receive a proceed signal from NOA 5
Progress	**Design:** • **Design not kicked off yet.** **Consenting:** • **Not Applicable** **Detailed Engineering:** • **Still to be commenced** **Tendering:** • **Still to be commenced** **Construction:** • **Still to be commenced** **Commissioning/Close Out:** • **Still to be commenced**

V1.5	SPT-RI-232 - *Hopsrig Substation Transformer 132-33kV*
OVERVIEW OF WORKS A new 132/33kV 90MVA transformer will be installed at Hopsrig collector substation. This will create a new 33kV busbar to allow new generators to connect.	
Programme	**Completion:** - Under review
Progress	**Design:** • **Some design packages are completed with the rest on hold due to customer waiver and change of connection dates** **Consenting:** • **Planning application confirmed as Non-EIA, application submitted January 2022 and approved March 2023** **Detailed Engineering:** • **Some design packages are completed with the rest on hold due to customer waiver and change of connection dates** **Tendering:** • **On hold due to waiver and change in dates** **Construction:** • **Still to be commenced** **Commissioning/Close Out:** • **Still to be commenced**

V2.2	SPT-RI-233 - *Gretna to Jun V 132kV Circuit Reinforcement (AL Route)*
OVERVIEW OF WORKS It is proposed to re-profile AL Route single circuit Gretna to Junction V 132kV overhead line, in order to increase the thermal rating to a minimum summer pre-fault continuous rating of 124MVA. The current circuit is a 132kV overhead tower line, with Lynx conductor, with a pre-fault summer continuous rating of 89MVA. This project is in response to the increased level of generation in the area. The 132kV overhead line circuit between Gretna and Junction V has split ownership, 5 km from Gretna 132kV substation following AL route, to tower AL57. This is owned by SPT with the remaining section from tower AL57 to AL68 at Junction V owned by NGET. Any uprating by SPT will need to be matched by NGET. The project will be to reconductor the SPT-owned 5km of AL route utilising Poplar conductor on the existing steel tower construction. This will provide a pre-fault summer continuous rating of 124MVA.	
Programme	**Completion:** - Under review
Progress	**Design:** • Early design in progress **Consenting:** • N/A **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.3	SPT-RI-236 - *Glenmuckloch to ZV Route Reinforcements*
OVERVIEW OF WORKS The works in this TORI extends the 400kV network from the ZV route to Glenmuckloch collector substation. It is proposed to establish a new 400kV substation by turning in the ZV route into a new 400kV substation between Elvanfoot and Coalburn. From the new 400kV substation a new 400kV L8 overhead line will be established to a new 400kV substation at Glenmuckloch. Three 400/132kV 360MVA interbusing transformers will connect the 400kV to the 132kV collector substation at Glenmuckloch.	
Programme	**Completion:** - October 2027
Progress	**Design:** • Early design in progress. High level routing options being assessed. **Consenting:** • Consenting requirements underway **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V2.1	SPT-RI-237 - *Enoch Hill Collector 132/33 kV substation and associated 132 kV circuit*
OVERVIEW OF WORKS A 132/33kV substation will be established, adjacent to Enoch Hill wind farm, in East Ayrshire (255265E, 609695N). A new circuit by underground cable 4.4 km in length from Board C, will connect this new substation into a new 132kV bay on Board C, at New Cumnock 132kV substation. This TORI describes the works required for the installation of Enoch Hill Collector 132/33 kV Substation and its associated 132 kV circuit The 132 kV circuit is approximately 5km in length and extend from the Enoch Hill collector substation to New Cumnock.	
Programme	**Completion:** - May 2025
Progress	**Design:** • **Early design complete.** **Consenting:** • **Wayleaves in place. Planning approved.** **Detailed Engineering:** • **In progress** **Tendering:** • **In progress** **Construction:** • **Commenced and ongoing.** **Commissioning/Close Out:** • **Still to commence**

V2.4	SPT-RI-243 - *Devolmoor-Erskine-Braehead Park Circuit LMS*
OVERVIEW OF WORKS A Load Management Scheme (LMS) is required to manage connections in the Neilston – Devol Moor 132 kV group to prevent overloads on the Devol Moor-Erskine-Braehead Park Circuit. The overload will be managed by the LMS tripping the appropriate non-firm connections.	
Programme	**Completion:** - Complete
Progress	**Design:** • Complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Complete **Commissioning/Close Out:** • Commissioning works complete, close out to commence.

V2.1	SPT-RI-246 - *Denny SGT2*
OVERVIEW OF WORKS At Denny North substation, a new 1000MVA 400/275kV supergrid transformer and associated circuit breakers will be installed. This will increase the thermal capacity of Denny North 400kV substation, and across the B4 Boundary, to facilitate the connection of generation in the SHE Transmission area.	
Programme	**Completion:** - March 2025
Progress	**Design:** • Ongoing **Consenting:** • Not applicable, all works within Denny 400 / 275kV Substation. **Detailed Engineering:** • Detailed engineering commenced. **Tendering:** • Commenced for 1000MVA Transformer. **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V1.2	SPT-RI-251 - *Coalburn to Douglas North 132kV Cable Reinforcement*
OVERVIEW OF WORKS Revised proposal as part of SPT-RI-251 to install a new 132kV cable circuit between Douglas North Collector Substation and Coalburn 400/132kV substation, as well as the reinstatement of Middlemuir – Coalburn 132kV cable to its former configuration.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Proposed cable route has now been determined; Alternative route not possible due to issue with Hargreaves Land. **Consenting:** • CPO of the land at the bell mouth is progressing well, . The statements of reasons, CPO and schedule have all been submitted, we have been asked to provide further drawings for an updated submission. The full process is expected to be concluded in 9 – 12 months. • There is additional consenting required as there is a section that Scottish Ministers own that covers the bridge and the river up to it. **Detailed Engineering:** • Cable Route and joint bay locations have been defined for the route, based on the trial hole/utility data. **Tendering:** • HDD was set to start WC27/02/23 however due to the council now requesting a bond this is now delayed. • Cable Civils tender is expected to go to IOC on 5th June. • Cable Supply and Install is awaiting TQs being answered. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V1.0	SPT-RI-252 - *Fife 132kV Fault Level Reinforcement*

OVERVIEW OF WORKS

The following works are required at Mossmorran 132kV substation remove the fault level limitations introduced by the 8 GEC FC1 Circuit Breakers (1983):

- Replace CB 210 and associated disconnector/earth switch.
- Replace CB 280 and associated disconnector/earth switch.
- Replace CB 310 and associated disconnector/earth switch.
- Replace CB 380 and associated disconnector/earth switch.
- Replace CB 405 and associated disconnector/earth switch.
- Replace CB 415 and associated disconnector/earth switch.
- Replace CB 505 and associated disconnector/earth switch.
- Replace CB 515 and associated disconnector/earth switch.

In addition to the above works, the protections on each bay, including remote ends, are to be replaced in line with the new primary plant.

Programme	**Completion:** - Under review
Progress	**Design:** • SCA complete. **Consenting:** • N/A permitted development **Detailed Engineering:** • Nearing completion **Tendering:** • Complete **Construction:** • CB's 280 & 505 replace under previous project. • CB's 405, 415, 210, 310 and associated disconnector/earth switches replaced and commissioned. • Outage to replace CB's 380, 515 and associated disconnector/earth switches to commence 4/3/24. **Commissioning/Close Out:** • Commissioning 50% complete

V1.0	SPT-RI-254 - *AA Route LMS*
OVERVIEW OF WORKS A Load Management Scheme (LMS) is required at Bonnybridge 132 kV substation to prevent overload conditions on both the Bonnybridge to Bathgate leg of the Bonnybridge – Bathgate – Drumcross No. 1(2) 132 kV circuit when the adjacent circuit is out of service. The overload will be removed by the LMS scheme managing the appropriate non-firm connections via appropriate LMS outstations. Note that the LMS outstations are to be detailed in separate SPT-RI documents.	
Programme	**Completion:** - Under Review ○ Pending update on progress of DNO works, Mod App required.
Progress	**Design:** • SCA complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete. **Tendering:** • Complete **Construction:** • Complete. **Commissioning/Close Out:** • Commissioning Complete, Close out ongoing

V1.0	SPT-RI-255 - *Drumcross GSP GT1(2)*
OVERVIEW OF WORKS An overload protection (OLP) scheme is required at Drumcross 132/33 kV substation to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the OLP scheme tripping the appropriate non-firm connections.	
Programme	**Completion:** - Under Review ○ Pending update on progress of DNO works, Mod App required.
Progress	**Design:** • SCA complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete **Tendering:** • Complete. **Construction:** • Complete **Commissioning/Close Out:** • Commissioning complete, close out underway

V2.0	SPT-RI-260 - *Leven GSP GT1(2) OLP Scheme and LMS Outstation*
OVERVIEW OF WORKS An overload protection (OLP) scheme is required at Leven 132/33 kV substation to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the OLP scheme tripping the appropriate non-firm connections.	
Programme	**Completion:** - Under review
Progress	**Design:** • Underway. **Consenting:** • Not Applicable **Detailed Engineering:** • Underway **Tendering:** • Still to commence. **Construction:** • **Still to commence.** **Commissioning/Close Out:** • Still to commence.

V1.0	SPT-RI-262 - *Redhouse 132 kV Circuits LMS*
OVERVIEW OF WORKS A Load Management Scheme (LMS) is required at Redhouse GSP to monitor circuit loadings on: • The Redhouse – Glenniston 132 kV Circuit • The Redhouse – Westfield 132 kV Circuit	
Programme	**Completion:** - April 2023 ○
Progress	**Design:** • **Complete.** **Consenting:** • **Not Applicable** **Detailed Engineering:** • **Complete** **Tendering:** • **Complete.** **Construction:** • **Complete.** **Commissioning/Close Out:** • Commissioning complete, project close out in progress.

V1.0	SPT-RI-263 - *Coalburn SGT4*

OVERVIEW OF WORKS

At Coalburn 400/132kV substation, works are required to extend the compound to facilitate the extension of the 400kV and 132kV double busbars and installation of a fourth 360MVA supergrid transformer as SGT1 with the existing 240MVA unit moving to the new substation extension as SGT4. In addition, alterations will be made to the 400kV busbars to provide a Main and Reserve busbar, and the 132kV busbars to form two separate switchboards ("A" and "B" board). Modifications will be made to the existing load management scheme on SGT1, SGT2 and SGT3 to monitor only SGT1 and SGT2 whilst an additional scheme will be installed to monitor SGT3 and SGT4.

The diverting of 2 No.132kV cable circuits into Coalburn has been allowed for to ensure that the generation is split appropriately across the "A" and "B" 132kV switchboards.

These works will provide additional capacity at Coalburn for generation connecting to the associated transmission and distribution network.

Programme	**Completion:** - Under review
Progress	**Design:** • Design work complete. **Consenting:** • Planning Permission in place and land purchase complete. **Tendering:** • Complete bar final landscaping contract (planning condition). **Construction:** • Bay swap and cable diversion works complete. • Platform works completed, with civils works in the extension completed also. • Civil works in the existing substation complete • Transformer move works complete (SGT4) • Installation and cold commissioning of new SGT1 complete. **Commissioning/Close Out:** • Works ongoing for the 132kV board split

V1.0	SPT-RI-267 - *Eccles 400kV Shunt Compensation*
OVERVIEW OF WORKS In order maintain to post-fault voltages within statutory limits, the installation of voltage control in the east of the network is required. As such, dynamic shunt compensation will be installed at Eccles 400kV substation with associated switchgear.	
Programme	**Completion:** - July 2026
Progress	**Design:** • Still to commence. **Consenting:** • Still to commence. **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V2.2	SPT-RI-269 - *Bathgate GSP OLP Scheme*
OVERVIEW OF WORKS OVERVIEW OF WORKS An overload protection (OLP) scheme is required at Bathgate 132/33kV substation to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the OLP scheme tripping the appropriate non-firm connections.	
Programme	**Completion:** - Under Review ○ Programme review being undertaken to reflect change in DNO contracted background.
Progress	**Design:** • SCA Complete. **Consenting:** • Not Applicable **Detailed Engineering:** • Complete. **Tendering:** • Complete **Construction:** • Complete **Commissioning/Close Out:** • Commissioning complete, close out to commence.

V2.6	SPT-RI-274 - *Glenshimmeroch Collector Substation*
OVERVIEW OF WORKS OVERVIEW OF WORKS On the New Cumnock / Blackcraig 132kV circuit, establishment of a new collector substation named 'Glenshimmeroch collector substation'. At Glenshimmeroch collector substation, install of a 132kV circuit breaker and associated disconnectors, a 132kV busbar and a 132kV disconnector (on the Blackcraig 132kV circuit). It is also proposed to install an-auto-isolation scheme at Glenshimmeroch collector substation in order to isolate the faulted circuit and re-energise the remaining circuit(s).	
Programme	**Completion:** - October 2027 (under review due to KTR delay)
Progress	**Design:** • In progress **Consenting:** • In progress **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V2.2	SPT-RI-275 - Mark Hill 132kV Bus
OVERVIEW OF WORKS To increase the utilisation of the available capacity at Mark Hill substation it is proposed to create a new 132kV Board by coupling both supergrid transformers SGT2 and SGT3. To achieve this, it is proposed to install a 132kV bus section breaker and share the available capacity on both transformers.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Complete **Consenting:** • Substation Extension Consented. Legal consents still outstanding. **Detailed Engineering:** • Completed. **Tendering:** • Ongoing tender for enabling works at Mark Hill S/S – at BAFO. **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-281 - *Glenniston 132/33kV T1(2) GSP LMS*
OVERVIEW OF WORKS An overload protection (OLP) scheme is required at Glenniston 132/33 kV substation to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the OLP scheme tripping the appropriate non-firm connections.	
Programme	**Completion:** - •April 2023
Progress	**Design:** • Complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Complete. **Commissioning/Close Out:** • Commissioning complete and close out progressing.

V2.1	SPT-RI-282 - *Markhill SGT4*
OVERVIEW OF WORKS At Mark Hill substation extend the substation to install 275kV switchbay and a fourth supergrid transformer (SGT4). This will connect to a 132kV busbar to provide for the connection of renewable generation.	
Programme	**Completion:** - October 2025
Progress	**Design:** • Complete. **Consenting:** • Substation Extension Consented. Awaiting land consents. **Detailed Engineering:** • Completed **Tendering:** • Ongoing enabling work tender for Mark Hill S/S - at BAFO stage. **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced

V1.4	SPT-RI-284 - *GEMS*
OVERVIEW OF WORKS The Generation Export Management Scheme (GEMS) is an active network management system that protects the SP transmission network in south west Scotland against unacceptable overloads on transmission equipment under intact and depleted system conditions. The GEMS system will instruct directly connected and embedded generation to curtail their output to avoid the overloading of any transmission circuits. The order with which these generators are curtailed will be determined by the System Operator (SO) and GEMS system will receive the order list periodically from the SO.	
Programme	**Completion:** • Stage 1 - Under Review • Stage 2 - May 2025
Progress	**Design:** • Functional Design ongoing **Consenting:** • Not applicable. **Detailed Engineering:** • Under Review **Tendering:** • **Complete** **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V1.0	SPT-RI-286 - *Bonnybridge SGT1(2) Auto Changeover Scheme*
OVERVIEW OF WORKS An auto-changeover scheme will be installed on the Bonnybridge 275/132kV transformer SGT1 such that SGT1 will remain disconnected but on hot standby in case of a fault on Bonnybridge SGT2, Denny 275/132kV SGT3, or a double circuit fault on the Bonnybridge-Westfield 132kV circuits.	
Programme	**Completion:** - Under review
Progress	**Design:** • Preliminary design started. **Consenting:** • Not required. **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V2.0	SPT-RI-288 - *Hawick - Galashiels 132kV Reconfiguration*

OVERVIEW OF WORKS

Hawick 132/33kV substation is currently supplied via two 132kV circuits from Gretna 400/132kV substation, with a 132kV circuit to Galashiels normally open at CB 205. With the proposed connection of Faw Side wind farm (250MW) it is proposed to reconfigure Hawick 132kV substation such that Hawick can be supplied from Galashiels and establish the Hawick / Galashiels 132kV circuit No.1 and No.2. Works at Galashiels will be required to terminate the double circuit from Hawick post reconfiguration.

At Hawick, it is also proposed to install two new 132kV circuit breakers and a fourth 132kV circuit at Hawick with Poplar conductor:

	Winter		Autumn		Summer	
	Amps	MVA	Amps	MVA	Amps	MVA
Pre-Fault Continuous	615	140	590	134	540	124
Post-Fault Continuous	730	167	700	160	645	147

The existing circuit breakers at Galashiels are of 600A and 800A. It is also proposed to replace the 600A circuit breakers 120 and 620 with a standard 2000A circuit breaker.

Programme	**Completion:** - April 2028
Progress	**Design:** • Early design works underway. **Consenting:** • Still to commence. **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V2.2	SPT-RI-292 - *Lorg to Shepherds Rig tee*
OVERVIEW OF WORKS Install ~10km of 132kV wood pole overhead line with UPAS conductor (75°C, minimum summer pre-fault rating 176MVA) between Lorg 132kV substation and the proposed Shepherds Rig tee connection. The will form part of the Lorg to Holmhill 132kV overhead line.	
Programme	**Completion:** - November 2025
Progress	**Design:** • Early design in progress. OHL route design in progress. Holm Hill switching station design in progress. **Consenting:** • Consultation on the preferred route took place recently and responses are being reviewed to confirm the route to be taken forward. Consent for Holm Hill switching station in progress. **Detailed Engineering:** • Commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.4	SPT-RI-293 - *Carrick 275kV substation*
OVERVIEW OF WORKS A new 275kV substation will be installed on the Coylton-Mark Hill 275kV circuit (YY route) approximately 25km northeast of Mark Hill substation. The YY route will be turned in to the new substation with a 275kV circuit breaker on each circuit. The new circuit breakers will maintain the single-phase high-speed auto reclose capability which currently exists on the YY route.	
Programme	**Completion:** - Under Review
Progress	**Design:** • In progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-294 - *Ewe Hill – Hopsrig collector substations 132kV circuit*

OVERVIEW OF WORKS

An optimised solution has been identified to connect Hopsrig, Loganhead and Crossdykes Extension wind farms. This optimised solution will establish a new 132kV collector substation at Hopsrig wind farm where Hopsrig wind farm will be connected (via a 33kV PoC). At the Hopsrig collector substation, an individual PoC at 33kV will also be provided for Loganhead and Crossdykes Extension wind farms.

To provide connectivity between the existing Ewe Hill collector substation and the Hopsrig collector substation, it is proposed to install a new 132kV overhead line circuit between Ewe Hill and Hopsrig collector substations. The circuit will utilise Poplar conductor operating at 90°C.

Programme	**Completion:** - Under review
Progress	**Design:** • Some design packages are completed with the rest on hold due to customer waiver and change of connection dates **Consenting:** • OHL is confirmed as Non-EIA. • Section 37 application submitted Jan 2022 and granted in April2023. **Detailed Engineering:** • Some design packages are completed with the rest on hold due to customer waiver and change of connection dates **Tendering:** • On hold due to waiver and change in dates **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-295 - *Newton Stewart GSP GT1(2) OLP & LMS*
OVERVIEW OF WORKS An overload protection (OLP) scheme is required at Newton Stewart 132/33 kV substation to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the OLP scheme tripping the appropriate non-firm connections.	
Programme	**Completion:** - Mar 2026
Progress	**Design:** • Still to commence. **Consenting:** • Not Applicable **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V2.3	SPT-RI-296 - *Glenshimmeroch Collector Substation 132kV OHL Uprating*
OVERVIEW OF WORKS Due to an increase in the generation contracted in the area, it is proposed to uprate a section of the overhead line and cable between the proposed Glenshimmeroch collector substation to tee point on the New Cumnock – Kendoon 132kV circuit. This will involve reconductoring a section of the overhead line between the proposed Glenshimmeroch collector substation and the cable end (at pole 1) on the New Cumnock 132kV circuit, approximately 6.3km, by replacing the existing UPAS conductor with an EAGLE HTLS conductor on the existing wood pole system. Replace the existing cable, ~1km, on the Glenshimmeroch / New Cumnock 132kV circuit with 2000mm2 Cu 132kV cable including cable sealing end if required.	
Programme	**Completion:** - October 2027 (under review due to KTR delay)
Progress	**Design:** • In progress **Consenting:** • Still to commence. **Detailed Engineering:** • Still to commence. **Tendering:** • Still to commence. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V1.0	SPT-RI-298 - *Chapelcross to Gretna OHL Reinforcement*

OVERVIEW OF WORKS

The Gretna to Chapelcross No.1 and No.2 132kV circuits require to be reinforced as the thermal capacity of the existing ACSR “Lynx” circuits are exceeded during times where the Chapelcross to Harker 132kV circuit is out of service or a Gretna to Chapelcross circuit is out of service.
The proposal is to reconductor the existing circuit with AAAC “Sycamore” conductor. This will give a summer pre-fault rating of 150MVA resulting in no overloads on the circuit.
It has been evaluated that the cable sections out of both Gretna and Chapelcross 132kV substations should be suitable to carry this increased loading therefore only the OHL conductors require to be replaced.

The table below details the pre-fault ratings of “Sycamore” conductor across the three seasonal periods.

	Winter	Spring/Autumn	Summer
	MVA	MVA	MVA
Pre-Fault Continuous	196	189	176

Programme	**Completion:** - Oct 2027
Progress	**Design:** • Early design in progress. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-300 - *Douglas North Collector 132/33kV Transformer*
OVERVIEW OF WORKS It is required to establish a 132/33kV 120MVA transformer at Douglas North Collector substation for the purposes of connecting Douglas West Ext WF and Hagshaw Hill Phase 2 WF. The 120MVA transformer to be installed will be in place of the 90MVA and 60MVA units which were included in the original contracts for the connections. The installation of a 33kV indoor circuit breaker is required given that only an indoor solution can be accommodated within the substation footprint.	
Programme	**Completion:** - October 2024
Progress	**Design:** • Tender design complete, VFC design complete for Civils. Main plant VFC design complete. **Consenting:** • No Substation extension required to Douglas North Collector. **Detailed Engineering:** • VFC Design complete. **Tendering:** • All tendering and main plant orders complete. **Construction:** • Civils works complete. • Main Grid Transformer delivered and installed. • Modular switchgear enclosure installed. • Main plant deliveries have commenced. • BOP contractor has started works on site. **Commissioning/Close Out:** • Still to commence.

V2.1	SPT-RI-301 - *Mark Hill to Arecleoch Ext Tee 132kV Circuit*
OVERVIEW OF WORKS At Mark Hill 132kV substation a 132kV switch bay will be installed. From this a 132kV circuit, consisting of c. 0.5 km of underground cable and ~7.5km of 132kV overhead line (HTLS 'Eagle' conductor), will be installed to the tee point with Arecleoch Extension wind farm.	
Programme	**Completion:** - October 2026
Progress	**Design:** Overview design complete and approved as part of S37 consent **Consenting:** • S37 Approved. Pre-Conditions progressing, nearing completion **Detailed Engineering:** • In progress with appointed OHL contractor **Tendering:** • OHL contract awarded. Tree-felling contract awarded. **Construction:** • Pre-construction surveys and planning in progress. Tree-felling works to commence soon. **Commissioning/Close Out:** • Still to commence

V1.0	SPT-RI-302 - *Glenglass 132kV substation*
OVERVIEW OF WORKS To enable the connection of generation in the Glenglass area and extend the 132kV network to Glenmuckloch a new 132kV substation is required in Glenglass. The new substation will be a double busbar 132kV GIS substation with a bus coupler and sized for eight feeder circuits. Also, to maximise the network capabilities the 132kV circuits between Glenglass and Blackhill are limited by cables at Blackhill substation. These cables will need to be uprated to match the 132kV Blackhill to Glenglass OHL ratings.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Surveys and pre-engineering studies completed. • Topographical survey complete. **Consenting:** • Underway with planning applications submitted in February 2023. **Detailed Engineering:** • Completed bar minor items. **Tendering:** • GIS at BAFO and earthworks at round 2 tender stage. **Construction:** • Still to commence. **Commissioning/Close Out:** • Still to commence.

V1.1	SPT-RI-306 - *Moffat 132kV Fault Level Mitigation Bus Section Circuit Breaker*
OVERVIEW OF WORKS At Moffat 132kV substation it is required to extend the existing compound to accommodate the connection of further generation into the site. The compound shall be extended with the existing 132kV busbars being extended into this area. The installation of a new 132kV bus section circuit breaker will be required to alleviate exceeding the fault level design limits at the site.	
Programme	**Completion:** - August 2025
Progress	**Design:** • In progress **Consenting:** • Commenced **Detailed Engineering:** • Commenced **Tendering:** • Commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.4	SPT-RI-1507 - *Holmhill 132kV Substation*
OVERVIEW OF WORKS The TORI works entail a cable run from Tower DE68 on the New Cumnock to Glenlee circuit side (note this circuit is currently the New Cumnock to Kendoon circuit however post KTR project completion will be the New Cumnock to Glenlee circuit) to the new proposed Holmhill 132kV substation and then establishing the 132kV substation for the two circuits from Lorg and Quntans Hill to connect.	
Programme	**Completion:** - April 2027
Progress	**Design:** • Still to be commenced **Consenting:** • Commenced. Consent for Kendoon North switching station in progress. **Detailed Engineering:** • Commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-1551 - *Spango Valley GSP GT1(2)*

OVERVIEW OF WORKS

The directional overcurrent relay on Spango Valley GT1 and GT2 will inhibit reverse power flow over 46MVA. Therefore, if one transformer is out of service, the other would trip out for reverse power flow over 46MVA. Embedded generation at Spango Valley has reached 49.9MW so action is needed to avoid the transformers tripping.

The LVDOC relay protecting GT1 and GT2 at Spango Valley will need to be modified or replaced to allow for reverse power flow. The modification is required to allow full reverse power flow. Works will include removal of the directional element and adding in an additional intertrip.

Programme	**Completion:** - Under Review
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-1560 - *Denny-Braco West Uprating*
OVERVIEW OF WORKS It is proposed to uprate the existing Denny-Braco West 275kV circuit to 400kV operation by transferring the circuit from its current bay in Denny 275kV substation to a new bay in Denny 400kV substation.	
Programme	**Completion:** - October 2029
Progress	**Design:** • Early Engineering Design complete, detailed design still to be commenced. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-1566 - *Hunterston East to Ayrshire 400kV Switchgear/Cable*
OVERVIEW OF WORKS To facilitate the connection of the Hunterston Battery Storage Facility and the Ayrshire Grid Services Facility at Hunterston East 400kV GIS substation, it is proposed to extend the GIS double busbar and install a new 400kV switchbay, install approximately 900m of 400kV underground cable from the Hunterston East 400kV GIS substation to a new SPT collector substation (Ayrshire Grid 400kV collector substation). At the collector substation, a new outdoor 400kV busbar and three isolators shall be installed. (Customer will install 400kV CB).	
Programme	**Completion:** - Under Review
Progress	**Design** • In Progress **Consenting** • Planning granted to developer. **Detailed Engineering** • In Progress **Tendering** • GIS awarded. • Cable awarded. • Cable Civils awarded. • Platform Civils awarded. • SICS awarded. **Construction** • In Progress **Commissioning/Close Out** • Still to be commenced

V2.1	SPT-RI-1659 - *Bathgate to Bonnybridge 132kV No.1 and No.2 Cable Uprating*
OVERVIEW OF WORKS The connected and contracted generation at Bathgate and Drumcross GSP have reached the level that will exceed the intact capacity of the existing 132kV cable between Bathgate / Drumcross to Bonnybridge. It is proposed to uprate these existing cable section at Bonnybridge end on both No.1 and No.2 circuits to provide a higher rating to remove the overload under an intact system.	
Programme	**Completion:** - September 2026
Progress	**Design:** • In progress **Consenting:** • Not applicable **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-1741 - *Neilston Supergrid Transformers Auto Changeover Scheme*
OVERVIEW OF WORKS An auto changeover scheme is required at Neilston substation to allow the connection of synchronous compensators at Neilston 400kV. The scheme is needed for the management of fault level at Neilston 132kV substation. It is proposed that one of the three supergrids (SGT1, SGT2 or SGT3B) that serve Neilston 132kV substation to be on open standby to reduce the fault infeed to the 132kV substation and for an unplanned outage on another SGT, the one on open standby will need to be returned to service.	
Programme	**Completion:** - August 2024
Progress	**Design:** • Complete **Consenting:** • N/A **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Complete **Commissioning/Close Out:** • Under way

V1.0	SPT-RI-1742 - *Cockenzie load management scheme (Cat 2)*
OVERVIEW OF WORKS An overload protection scheme is proposed to be installed within the Cockenzie – Smeaton – Kaimes – Eccles 275kV and 400kV network in order to protect the system in compliant with Category 2 Intertripping Scheme as defined by the Grid Code. The intertripping scheme will disconnect the generation within the area following system outage conditions as defined in Section 2.1.	
Programme	**Completion:** - Under Review
Progress	**Design:** • SCA drafted. **Consenting:** • N/A **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-1745 - *Kincardine to Fife Grid 275kV switchgear and cable works*
OVERVIEW OF WORKS To facilitate the connection of contracted generation from SPT's Fife Grid Services Facilities 275kV substation to Kincardine 275kV substation, it is proposed to install a new 275kV busbar, associated metering circuit breakers and disconnectors with approximately 0.9km of 275kV underground cable circuit to Kincardine (KINC) 275kV substation. At Kincardine (KINC) 275kV substation, a new 275kV GIS bay will be installed, associated disconnectors and one 275kV line isolator.	
Programme	**Completion:** - Under review
Progress	**Design:** • Design ongoing. • Intrusive surveys for cable route planned to start June 2024 now 275kV cable corridor has been established. **Consenting:** • S36 granted to Developer/s • SPEN lease agreement consultation ongoing with landowner for collector substation site. • Necessary Wayleave (NWL) process underway for 275kV cable route. Voluntary route agreement unsuccessful. NWL expected to be established Q4 2024. **Detailed Engineering:** • Commenced and ongoing. **Tendering:** • GIS contract awarded. • Civils tendering commenced and ongoing. **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced.

V2.0	SPT-RI-1851 - *Benbrack 132kV OHL & SS Works*
OVERVIEW OF WORKS A new collector substation will be established at Benbrack wind farm with a 132/33kV 120MVA transformer. An overhead line (Poplar 124MVA) will tee into the New Cumnock – Blackcraig – Glenlee 132kV circuit.	
Programme	**Completion:** - Under review
Progress	**Design:** • All designs are now VFC. **Consenting:** • All consents have been granted. **Detailed Engineering:** • All detailed engineering has been completed. **Tendering:** • All contracts have been awarded excluding LMS. **Construction:** • Civils work started January 2024. **Commissioning/Close Out:** • Outages programmed for January 2025.

V2.4	SPT-RI-1854 - *Kilmarnock South 400kV GIS Bus Coupler*
OVERVIEW OF WORKS At Kilmarnock South 400kV GIS substation install a bus coupler to run the substation in double busbar arrangements.	
Programme	**Completion:** - August 2025
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-1857 - *Hunterston East to Highview Hunterston 400kV Switchgear and Cable Works*
OVERVIEW OF WORKS To facilitate the connection of the Highview Hunterston East Cryobattery and the Hunterston Synchronous Compensator at Hunterston East 400kV GIS substation, it is proposed to extend the GIS double busbar and install a new 400kV switchbay, install approximately 400m of 400kV underground cable from the Hunterston East 400kV GIS substation to a new SPT substation (Highview Hunterston East Cryobattery 400kV substation). Mod App applied to project, Project Under Waiver.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-1876 - *Elvanfoot Grid Transformer*
OVERVIEW OF WORKS A new 90MVA transformer shall be installed at Elvanfoot substation. This will create a new 132kV busbar at Elvanfoot, to allow new generators to connect.	
Programme	**Completion:** - December 2024
Progress	**Design:** • Early design complete. **Consenting:** • Planning Application approved and majority of conditions discharged**.** **Detailed Engineering:** • Commenced and ongoing. **Tendering:** • Transformer order placed. Main contracts awarded. **Construction:** • Commenced and ongoing. **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-1968 - *Neilston 275kV Uprating to 40kA*
OVERVIEW OF WORKS The connection of the second Synchronous Compensator at Neilston 400kV the short circuit rating of Neilston 275kV need to increase from current design specification of 31.5kA to 40kA. This will include the assessment and uprating where necessary of equipment and structures to withstand a fault current of 40kA.	
Programme	**Completion:** - May 2027
Progress	**Design:** • Design in progress. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Tendering underway for Fault Level Surveying **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.4	SPT-RI-2058 - *Coalburn North 400kV SS*
OVERVIEW OF WORKS It is proposed to construct a new 400kV substation, indicatively called Coalburn North, to connect into the Strathaven-Elvanfoot 400kV circuit. It is proposed to construct a new 400kV double busbar substation with a bus coupler circuit breaker, two feeder bays to connect onto the Strathaven-Elvanfoot 400kV circuit	
Programme	**Completion:** - June 2026
Progress	**Design:** • **Design ongoing.** **Consenting:** • **Planning application has been submitted.** **Detailed Engineering:** • **Detailed engineering in progress** **Tendering:** • **Tendering underway for enabling works** **Construction:** • **Still to be commenced** **Commissioning/Close Out:** • **Still to be commenced**

V2.0	SPT-RI 2060, SPT-RI-2061, SPT-RI-2139, SPT-RI-3060 - *Redshaw 400kV and 132kV Substation, Redshaw 400/132kV SGT2 Redshaw 132kV "B" Board &*

OVERVIEW OF WORKS

Due to increased generation in the local and wider areas in South Lanarkshire the requirement has been triggered for the creation of a new 400kV substation connecting into ZV Route. This will tie into the Strathaven and Coalburn circuits coming from the north, the two Elvanfoot circuits heading south and the new double circuit coming across from Glenmuckloch under SPT-RI-236.
It is proposed to build a new 400kV/132kV GIS substation, building to be sized to accommodate bays. The initial GIS installed to include the following:

- New 400kV 23 bay GIS substation
- New 132kV 10 bay GIS "A"
  2 x 400/132kV SGTs
- New 132kV 13 bay GIS "B"
  2 x 400/132kV SGTs
- ZV Diversion

Programme	**Completion:** • October 2027 (400kV & 132kV Board A) • October 2028 (132kV Board B)
Progress	**Design:** • Pre-Engineering Survey done. • Platform & drainage design expected completion by Sep-2024. **Consenting:** • Consenting requirements under review • Planning application for ZV diversion getting submitted in Aug-2024. • Planning application for SS area expected to be submitted by end of the year. **Detailed Engineering:** • Commenced **Tendering:** • Transformer order placed. • GIS order expected by end of the year 2024. **Construction:** • Construction of ZV diversion expected to start from Sep-2025. • SS earthwork expected to start from Jan-2026. **Commissioning/Close Out:** • Still to be commenced
	Link to related info: Redshaw 400kV Substation - SP Energy Networks

V1.1	SPT-RI-2073 - *TKUP Longannet - Tealing 400kV*

OVERVIEW OF WORKS

Establish further 400kV infrastructure on the east coast following the East Coast 400kV onshore incremental (ECUP) reinforcement, Eastern HVDC link from Peterhead (E4DC/D2/D3) and from Torness (E2DC/D2/D3).

The scope of this TORI is, at this time, aligned with the 'TKUP' option submitted to the 2021/22 Network Options Assessment (NOA) process.

It is proposed to uprate and reconductor existing 275kV double circuit infrastructure south of the existing SHE Transmission/ SP Transmission boundary via Glenrothes, Westfield and Mossmorran to 400kV operation. Further scope covers uprating of Westfield and Mossmorran Substation to 400 kV and a new 400 kV Substation at Glenrothes area. Reconfiguration of Devonside SS. This configuration will enable the Bonnybridge and Westfield 132kV transmission groups to be run normally split, with Devonside supplied from either group.

Programme	**Completion:** - October 2030
Progress	**Design:** • Early design works in progress. **Consenting:** • In progress **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.3	SPT-RI-2079 - *Gala North 400kV Substation*
OVERVIEW OF WORKS At an appropriate location around the area between the ZA route and P route, Galashiels North 400kV substation will be established. The substation will be AIS and running in double bus bar arrangement. Achieve connectivity to the 400kV system by turning one side of the ZA route (COCK4-ECCL4 No.2 circuit) to the new substation. The substation should be located and sized to enable future expansion and connectivity to other parts of the system.	
Programme	**Completion:** - October 2029
Progress	**Design:** • Design works in progress. **Consenting:** • First public consultation event has been held. On track for planning application. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-2080 - *Gala North 132kV Substation (Previously Dunlaw Extension to Gala Reinforcements)*
OVERVIEW OF WORKS The works in this reinforcement entails the construction of a new 132kV overhead line (OHL) between Dunlaw Extension 132kV substation and Galashiels 132kV substation. The new OHL will be built on L7 steel lattice towers and strung with twin UPAS conductor. The new OHL will be tee-ed to the proposed Galashiels North 400kV substation. At Galashiels North 400kV two 400/132kV 360MVA transformer will be installed to establish connectivity to the new OHL. Two 400kV bay will be added to the 400kV substation to connect the transformers and two 132kV circuit breakers will be installed to connect the transformers to the new OHL. This reinforcement will facilitate the decommissioning of the P, U and AT routes.	
Programme	**Completion:** - October 2029
Progress	**Design:** • Design works in progress. **Consenting:** • First public consultation event has been held. On track for S37 application. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-2083 - *DWUP Kincardine North to Wishaw 400kV reinforcement*
OVERVIEW OF WORKS Establish 400kV infrastructure through the centre of the network following the East Coast 400kV onshore incremental (ECUP) and the Kincardine North 400kV reinforcement projects, but in advance of the completion of the Denny to Wishaw 400kV reinforcement (DWNO). The scope of this TORI will be aligned with the 'DWUP' MSIP submitted to Ofgem in January 2023. It is proposed to reconfigure and update existing 275kV single circuit between the Kincardine and Clydesmill to 400kV operation, construct a new 400kV Substation at Clydesmill and to establish a new Kincardine North – Clydesmill 400kV circuit.	
Programme	**Completion:** - Under review
Progress	**Design:** • Early Engineering Design complete **Consenting:** • Identification of impacted landowners underway. • Environmental surveys have commenced and are progressing. **Detailed Engineering:** • Basic engineering nearing completion, detailed engineering to follow post tendering. **Tendering:** • Tendering activities have begun. **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2084 - *LCU2 Eastern B5 400kV Reinforcement*

OVERVIEW OF WORKS

Establish an eastern 400kV corridor over the B5 transmission system boundary to accommodate the increasing generation connecting in the north of Scotland, following the East Coast 400kV onshore incremental (ECUP) reinforcement, East Coast Onshore 400kV Phase 2 Reinforcement (TKUP), Eastern HVDC link from Peterhead (E4DC/D2/D3) and from Torness (E2DC/D2/D3).

The scope of this TORI is, at this time, aligned with the 'LCU2' option submitted to the 2021/22 Network Options Assessment (NOA) process.

It is proposed to uprate and reconductor a 400kV single circuit corridor south from new 400 kV Kincardine North SS, on existing OHL routes, towards the Strathaven - Smeaton (XH/XJ route) corridor west of Edinburgh and Currie substation.

Programme	**Completion:** - October 2031
Progress	**Design:** • Early design works in progress. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-2085 - *DLUP Windyhill – Lambhill – Denny North 400kV reinforcement*
OVERVIEW OF WORKS Establish 400kV infrastructure on from Denny North following the East Coast 400kV onshore incremental (ECUP) reinforcement, Eastern HVDC link from Peterhead (E4DC/D2/D3) and from Torness (E2DC/D2/D3). The scope of this TORI is, at this time, aligned with the 'DLUP' option submitted to the 2021/22 Network Options Assessment (NOA) process. The project will establish a new 400kV substation at Windyhill and a 400kV single circuit corridor, on existing OHL routes, between Windyhill, Lambhill and Denny North SS.	
Programme	**Completion:** - October 2029
Progress	**Design:** • Early design works in progress. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	*SPT-RI-2095 - Kincardine North 400kV Substation*
OVERVIEW OF WORKS Establish Kincardine North 400kV Substation. The purpose of the project is to facilitate increased power transfer into and through the SPT network from renewable developments across the north of Scotland and enable the decommissioning of Longannet 275kV Substation, which is now approaching end of life.	
Programme	**Completion:** - December 2027
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.4	SPT-RI-2132 - *Broxburn GSP 132/33kV Grid T1 & T2 (LMS)*
OVERVIEW OF WORKS A Load Management Scheme (LMS) is required at Broxburn 132/33kV GSP in order to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the LMS tripping the appropriate non-firm connections. There are DNO (SPD) works that are required to be complete in addition to the SP Transmission works noted above.	
Programme	**Completion:** - September 2024
Progress	**Design:** • Complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.3	SPT-RI-2148 - *Windyhill SGT Auto-Close Scheme*
OVERVIEW OF WORKS It is required to install an auto-close scheme across the three 275/132kV supergrid transformers at Windyhill 132kV substation. This is because an SGT will need to sit on open standby to maintain the fault level rating on the switchgear. This auto-close scheme shall close back in the open standby transformer following the loss of an in-service unit. It is proposed to run SGT3 on open standby and for the loss/opening of SGT1 (CB1380) or SGT2 (CB1480) an instruction shall be issued to close the SGT3 circuit breaker (CB1080) in order to keep two SGTs in service at all times.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Ongoing feasibility design **Consenting:** • Not required **Detailed Engineering:** • Early Engineering Design Phase **Tendering:** • Under Review **Construction:** • Under Review **Commissioning/Close Out:** • Under Review

V1.1	SPT-RI-2159 - *Hopsrig substation Grid T1A transformer*
OVERVIEW OF WORKS Collector Sub Station. Establish a 132kV connection by installing a new 132kV line disconnector. Install a new 132/33kV 60MVA transformer and a new 33kV busbar.	
Programme	**Completion:** - January 2027
Progress	**Design:** • Some design packages are completed with the rest on hold due to customer waiver and change of connection dates **Consenting:** • OHL is confirmed as Non-EIA. • Section 37 application submitted Jan 2022 and granted in April2023. **Detailed Engineering:** • Some design packages are completed with the rest on hold due to customer waiver and change of connection dates **Tendering:** • On hold due to waiver and change in dates **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-2243 - *Glenshimmeroch 132/33kV SS Transformer*
OVERVIEW OF WORKS To accommodate the connections at the proposed Glenshimmeroch collector substation (SPT-RI-274), a new 132/33kV 120MVA transformer will be installed, together with a new 33kV busbar.	
Programme	**Completion:** - July 2027
Progress	**Design:** • In progress **Consenting:** • In progress **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-2249 - *Kilmarnock South 275kV Fault Level Uprating*
OVERVIEW OF WORKS To allow the connection of a battery storage connection at Kilmarnock South 400kV the short circuit rating of Kilmarnock South 275kV needs to be increased from current design specification of 31.5kA to 40kA. This will include the assessment and uprating where necessary of equipment and structures to withstand a fault current of 40kA.	
Programme	**Completion:** - July 2025
Progress	**Design:** • Still to commence **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V1.1	SPT-RI-2275 - *Glenrothes GSP SGT1(2) LMS*
OVERVIEW OF WORKS A Load Management Scheme (LMS) is required at Glenrothes 275/33kV GSP in order to prevent overload conditions on the single transformer when the other transformer is out of service. The overload will be removed by the LMS tripping the appropriate non-firm connections. A current and voltage measurement is required on the LV side of each transformer so the direction, as well as magnitude, of the power flow through the transformer can be determined. This SPT LMS will be required to transfer signals to the DNO (SPD).	
Programme	**Completion:** - October 2025
Progress	**Design:** • In progress **Consenting:** • Obtained **Detailed Engineering:** • Still to be commenced. **Tendering:** • Completed **Construction:** • Still to be commenced. **Commissioning/Close Out:** • Still to be commenced.

V2.0	SPT-RI-2301 - *New Cumnock-Clawfin Collector*
OVERVIEW OF WORKS At New Cumnock Board "A" a new 132kV circuit breaker will be installed with a new 132kV cable circuit out to Clawfin Collector substation. The cable circuit shall require a capacity of 182MVA.	
Programme	**Completion:** - October 2027
Progress	**Design:** • In progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.2	SPT-RI-2317 - *Dalmally to Windyhill Reinforcement*
OVERVIEW OF WORKS To accommodate additional generation on the Cruachan – Windyhill 275kV network, as well as the addition of Creag Dhubh 275kV substation (to be constructed by SHETL), it is proposed to uprate the existing overhead line circuits No.1 and No.2 between Dalmally and Windyhill 275kV substations from twin Totara operating at 50°C to 90°C as a minimum.	
Programme	**Completion:** - June 2027
Progress	**Design:** • Early Design in progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.2	SPT-RI-2320 - *ZV Route Extension to Wyseby 400kV Substation*
OVERVIEW OF WORKS Establish a collector substation at the existing Gresham House Dalmarnock BESS substation.	
Programme	**Completion:** - October 2031
Progress	**Design & Consenting:** • Commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-2321 - *Cruachan to Dalmally 275kV OHL Circuit Uprate*
OVERVIEW OF WORKS To accommodate additional generation at Cruachan 275kV substation, it is proposed to uprate the existing overhead line circuits No.1 and No.2 from Cruachan to Dalmally 275kV substation from twin Totara operating at 39°C to 50°C as a minimum.	
Programme	**Completion:** - June 2027
Progress	**Design:** • Early Design in progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2447 - *Westfield 132kV GIS Substation*
OVERVIEW OF WORKS Construction of a new 132kV GIS substation at Westfield to replace existing AIS. This will facilitate new generation in the Fife area. The location of this substation is currently planned to be constructed within a free bay in the existing 275kV compound.	
Programme	**Completion:** - April 2028
Progress	**Design:** • In Progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.3	SPT-RI-2454 - *Currie-Broxburn Second Intertrip*
OVERVIEW OF WORKS Currently there is no main protection at Broxburn-Currie and the current protection arrangement at Broxburn/Currie is out with the current policy document (PROT-01-107). Furthermore, as the generation at Broxburn exceeds that of 50% of one grid transformer (45MVA) there is a need to install a second intertrip. Works include the following: • Installation of a second intertrip at Broxburn and Currie • Removal of LVDOC at Broxburn	
Programme	**Completion:** - September 2024
Progress	**Design:** • Complete **Consenting:** • Not Applicable **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.2	SPT-RI-2511 - *Dalmarnock Loss of Main TORO 2511*
OVERVIEW OF WORKS Loss of Mains system at Dalmarnock substation to facilitate and number of new connections on the 33kV SPD side. Currently contracted TOCO's are Dalmarnock BESS battery, Rutherglen Battery and HEX044.	
Programme	**Completion:** - Under Review
Progress	**Design:** • Complete **Consenting:** • NA **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Underway **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-2537 - *Strathaven 400kV Compound Extension*
OVERVIEW OF WORKS Extension proposed at Strathaven 400kV compound to redirect Strathaven-Wishaw circuit into a new bay. This will facilitate other TOCO works.	
Programme	**Completion:** - April 2027
Progress	**Design:** • In Progress **Consenting:** • Commencing environmental surveys ahead of submitting planning application for extension. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2608 - *Mossmorran 132 to Halbeath Tee Uprating*
OVERVIEW OF WORKS Due to generation teeing into the CP Route No.1 circuit it is required to reconductor approximately 5.7km of new 132kV HTLS “EAGLE” conductor from the generator tee-off point back to Mossmorran 132kV substation.	
Programme	**Completion:** - July 2029
Progress	**Design:** • Commenced **Consenting:** • Not required **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.1	SPT-RI-2621 - *Redhouse Overload Protection Scheme GT1 (3)*
OVERVIEW OF WORKS The implementation of a load management scheme to be established at Redhouse 132/33kV GSP, to remove overload by tripping appropriate non-firm connections.	
Programme	**Completion:** - October 2027
Progress	**Design:** • Commenced **Consenting:** • N/A **Detailed Engineering:** • Commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2622 - *Westfield GT1(2) Overload Protection Scheme*
OVERVIEW OF WORKS The implementation of a load management scheme to be established at Redhouse 132/33kV GSP, to remove overload by tripping appropriate non-firm connections.	
Programme	**Completion:** - April 2025
Progress	**Design:** • Commenced **Consenting:** • Not required **Detailed Engineering:** • Commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.1	SPT-RI-2691 - *Windyhill, Strathleven, Helensburgh, Sloy Load Management Scheme*

OVERVIEW OF WORKS

Load management scheme required here shall monitor the two double circuits out of Windyhill heading to Helensburgh/Strathleven/Sloy. This LMS shall continually measure the loadings on the following circuits making up CK and CL Routes:

CK Route	CL Route
Windyhill to Helensburgh 132kV Circuit	Windyhill to Strathleven 132kV Circuit
Helensburgh to Sloy 132kV Circuit	Strathleven to Sloy 132kV Circuit
Windyhill to Whistlefield-Dunoon-Sloy 132kV Circuit	Windyhill to Whistlefield-Dunoon-Sloy 132kV Circuit

Programme	**Completion:** - Under Review
Progress	**Design:** • Under Review **Consenting:** • Under Review **Detailed Engineering:** • Under Review **Tendering:** • Under Review **Construction:** • Under Review **Commissioning/Close Out:** • Under Review

V1.1	SPT-RI-2732 - *Busbar Extension and XZ032 Terminal Tower Modifications*
OVERVIEW OF WORKS To accommodate a generation connection in this area it is required to extend the existing busbars to the east and also make modifications to the existing XZ032 terminal tower. The completion of this work will create for two additional 275kV feeder bays at Ayr 275/33kV substation.	
Programme	**Completion:** - October 2027
Progress	**Design:** • Commenced **Consenting:** • Not required **Detailed Engineering:** • Commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-2792 - *Glenmuckloch to Lethans Collector 132kV Circuit*
OVERVIEW OF WORKS A new 132kV double busbar bay at Glenmuckloch 132kV substation. From here a 132kV cable circuit shall be installed out to the new Lethans Collector 132kV substation where a 132kV line disconnector shall be installed alongside a 132kV busbar.	
Programme	**Completion:** - June 2027
Progress	**Design:** • Commenced **Consenting:** • Commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • N/A **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.2	SPT-RI-2814 - *Devonside 132kV GIS Substation*
OVERVIEW OF WORKS At Devonside 132kV it is proposed to establish a new indoor GIS Double Busbar substation The building is proposed to be sized to accommodate 14 bays. **Needs Case Under Review**	
Programme	**Completion:** - Under review
Progress	**Design:** • Under Review **Consenting:** • Under review **Detailed Engineering:** • Under Review **Tendering:** • Under Review **Construction:** • Under Review **Commissioning/Close Out:** • Under Review

V1.0	SPT-RI-2815 - *Denny North 275/132kV Super Grid Transformer*
OVERVIEW OF WORKS It is proposed to the install a new 275/132kV 240MVA Super Grid Transformer at Denny North 275/132kV substation as well as reconfiguring and uprating of the existing Denny North – Bonnybridge 132kV (CN Route) high-capacity circuit.	
Programme	**Completion:** - April 2030
Progress	**Design:** • In progress **Consenting:** • In progress **Detailed Engineering:** • Not started **Tendering:** • Not started **Construction:** • Not started **Commissioning/Close Out:** • Not Started

V2.1	SPT-RI-2825 - *Kelloe Mains 400kV Substation*
OVERVIEW OF WORKS The works shall create a new 400kV substation named Kelloe Mains 400kV substation which shall turn in both sides of ZT Route to connect it to the SPT system. The substation shall consist of four new double busbar bays for the ZT Route circuits, a 400kV bus coupler, a 400kV bus-section circuit breaker, and a minimum of two additional 400kV bays to accommodate new connections.	
Programme	**Completion:** - November 2029
Progress	**Design:** • Early design in progress. **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to Commence **Commissioning/Close Out:** • Still to commence

V1.0	SPT-RI-2826 - *Hagshaw Tee to Bankend Rig III Collector Substation*
OVERVIEW OF WORKS Install a new 132kV trident wood pole circuit between the tee off with Hagshaw Hill Ph3 WF and the Bankend Rig III Collector Substation. A new 132/33kV Collector Substation (Bankend Rig III Collector) is to be established with a 132/33kV 120MVA transformer.	
Programme	**Completion:** - April 2030
Progress	**Design:** • Initial early stages of design have commenced. **Consenting:** • Initial early stages of consenting have commenced. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2827 - *Redshaw to Hagshaw Tee 132kV Circuit*
OVERVIEW OF WORKS Construct a new 132kV double busbar bay at Redshaw 132kV substation and from here install a new 132kV cable/OHL circuit.	
Programme	**Completion:** - April 2029
Progress	**Design:** • Initial early stages of design have commenced. **Consenting:** • Initial early stages of consenting have commenced. **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-2828 - *Broxburn GSP Loss of Mains Signals*

OVERVIEW OF WORKS

To protect against islanding of the SPD system with Almondell Lodge BESS & Development still connected to it there is a requirement to monitor the 33kV circuit breaker position of both GT1 and GT2 (Line End Open - LEO). For the opening of the 33kV circuit breakers SPD will be sent a trip signal to trip SPD embedded generation.

Works will include the following:

- Monitor 33kV circuit breaker position of GT1 and GT2 at Broxburn 132/33kV
- For opening of the 33kV circuit breakers SPD will be sent a trip signal to trip SPD embedded generation.

Programme	**Completion:** - September 2024
Progress	**Design:** • Complete **Consenting:** • N/A **Detailed Engineering:** • Complete **Tendering:** • Complete **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2832 - *New Hunterston East 132kV GIS Substation*

OVERVIEW OF WORKS

The existing Hunterston 132kV indoor switchboard be replaced with a new GIS building which shall accommodate 11 bays of non-SF6 gas insulated switchgear bays with the following circuits:

- 2 x SGT transformer bays (SGT1 and SGT2).
- 3 x Feeder bays (Hunterston Farm1-Kilwinning, Hunterston Farm2-Saltcoats and Kilwinning-Saltcoats).
- 1 x Bus-coupler Bay.
- 1 x Bus-section Bay.
- Future provision for 4 x spare feeder bays.

Programme	**Completion:** - Under Review
Progress	**Design:** • Ongoing **Consenting:** • Ongoing **Detailed Engineering:** • Ongoing **Tendering:** • 132kV switchboard tender complete. • Civil enabling cable/ducting and 132kV transition joint tender underway. **Construction:** • Not started. **Commissioning/Close Out:** • Not Started

V2.0	SPT-RI-2833 - *Devol Moor 400kV GIS substation*
OVERVIEW OF WORKS At Devol Moor 400kV it is proposed to establish a new indoor GIS Double Busbar substation. The building is proposed to be sized to accommodate 14 bays.	
Programme	**Completion:** - October 2029
Progress	**Design:** • Draft layout of Devol Moor GIS Substation prepared. Internal layout of substation to be finalised to allow for surveys to begin. **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.2	SPT-RI-2905 - *Mossmorran, Glenniston, Westfield, Redhouse 132kV Circuits LMS*
OVERVIEW OF WORKS The implementation of a load management scheme at Mossmorran 132kV substation GSP.	
Programme	**Completion:** - October 2026
Progress	**Design:** • Still to be commenced **Consenting.** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-2907 - *Meadowmill 400/132kV substation*
OVERVIEW OF WORKS A new 400/132kV substation will be established, Meadowmill 400/132kV Substation, via a tee-off with ZA route (No.2 circuit ZA001A Tower). A new 400kV disconnector circuit breaker will be installed at the new substation, along with a 360MVA 400/132kV Super grid transformer. A new 132kV busbar will be established.	
Programme	**Completion:** - July 2026
Progress	**Design:** • In progress **Consenting:** • In progress **Detailed Engineering:** • In progress **Tendering:** • In progress **Construction:** • Under Review **Commissioning/Close Out:** • Still to be commenced

V1.3	SPT-RI-2973 - *Branxton to Springfield Collector 400kV Circuit and 400/132kV SGT*
OVERVIEW OF WORKS A new 400kV double busbar circuit breaker bay at Branxton substation. From here a new 400kV circuit shall be installed out to the new collector substation named Springfield Collector 400/132kV substation.	
Programme	**Completion:** - October 2031
Progress	**Design:** • Commenced **Consenting:** • Commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close out:** • Still to be commenced

V1.0	SPT-RI-3002 - *Harburn 400kV Substation*
OVERVIEW OF WORKS To facilitate the generation connections in the area it is required to establish a new 400kV double busbar substation, indicatively named Harburn substation, in this area. The location of the SPT's new 400kV substation is currently under review, with an initial view that it will tie into the existing XJ Route (STHA-TORN / WISH-SMEA/FALL) as well as facilitate a turn in of the XM Route (Kincardine-Currie circuit) following uprating as part of the HND process.	
Programme	**Completion:** - October 2030
Progress	**Design:** • In progress **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V2.0	SPT-RI-3062- *Coylton to Maybole 132kV Circuit Uprating*
OVERVIEW OF WORKS To facilitate generation into the 132kV system around Maybole uprating of the 132kV Circuit between Coylton, Maybole and Kilmarnock South is required. There are four routes that make up this circuit: CD, CG, N and X Route. The scope for X Route is to replace the existing conductors with HTLS “Eagle” Conductors. CD, CG & N Route will be a rebuild with L7 Steel Towers with Twin UPAS Conductor System.	
Programme	**Completion:** - October 2032
Progress	**Design:** • Still to commence **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V2.0	SPT-RI-3063 - *Coylton SGT3 and 132kV Circuit Breakers*
OVERVIEW OF WORKS To facilitate generation connections and avoid overloading of the existing units a third 275/132kV 240MVA SGT is required at Coylton Substation. The installation will include extension of the 275kV Busbar, and new 275kV Circuit Breaker and Disconnector. This will be connected to the 132kV System via a cable circuit with 2 new 132kV Circuit Breakers. To limit risks associated with a 132kV Busbar fault an additional new 132kV Bus Section Circuit Breaker will also be installed.	
Programme	**Completion:** - October 2032
Progress	**Design:** • Still to commence **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V1.0	SPT-RI-3102 - *Glenglass to Cloud Hill 132kV circuit*
OVERVIEW OF WORKS A new 132kV circuit will be constructed between the Glenglass 132kV substation and the new Cloud Hill 132kV collector substation. At Glenglass 132kV substation, install a new 132kV feeder bay and associated DBB switchgear (circuit breaker, line isolator and DBB disconnector). From here install a new 132kV circuit will be laid to the Cloud Hill 132kV collector substation.	
Programme	**Completion:** - October 2028
Progress	**Design:** • Commenced **Consenting** • **Commenced** **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close out:** • Still to be commenced

V1.0	SPT-RI-3122 – *Glenlee to Tongland OHL tower & associated works*
OVERVIEW OF WORKS To accommodate a generation connection in this area it is required to construct a new tension tower on the Glenlee – Tongland 132kV No.1 circuit (post completion of **SPT-RI-222**). This new tower shall be able to facilitate a tee off connection for a new 132kV OHL to be constructed out to the User's substation.	
Programme	**Completion:** - June 2030
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced

V1.0	SPT-RI-3148 - *Branxton BESS Collector Substation*
OVERVIEW OF WORKS Establish a new shared collector substation. Install a new 400kV GIS bay at Branxton substation to accommodate the connection of two battery storage connections. From here a new 400kV circuit shall be installed out to the new shared substation indicatively named Branxton BESS 400/132kV Collector substation.	
Programme	**Completion:** - April 2028
Progress	**Design:** • Commenced **Consenting:** • Commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close out:** • Still to be commenced

V1.3	SPT-RI-3189 - *Clyde South to Whitelaw Brae 33kV Works*
OVERVIEW OF WORKS Establish a shared 33kV circuit from Clyde South substation to the Whitelaw Brae substation.	
Programme	**Completion:** - July 2026
Progress	**Design:** • Design complete for the Transmission Route **Consenting:** • S37 in the final stages of sign-off with the ECU **Detailed Engineering:** • Concluded **Tendering:** • All associated contracts now awarded to successful vendors for the below scopes: i) OHL (Over Head Lines) ii) HDD (Horizontal Directional Drill) iii) Cable Civils iv) Cable Install v) Deforestation **Construction:** • Still to commence: On Schedule **Commissioning/Close Out:** • Still to commence: On Schedule

V2.3	SPT-RI-3314 - *Windyhill 132kV B Board*
OVERVIEW OF WORKS Establish a new Windyhill 132kV B substation within Windyhill substation. Once the new Windyhill B board has been established, the switchboard will be fed via two 400/132kV SGT's. A 132kV bus section will be installed with corresponding disconnectors on the reserve busbar, a 132kV bus coupler and four 132kV feeder bays will also be installed. Two bays will be used to connect the 400/132kV SGT's with the remaining four bays used to transfer across the CL and CK circuits from the existing Windyhill 132kV switchboard. Two new 400kV DBB GIS feeder bays with associated switchgear (circuit breaker and DBB disconnectors) will be installed at Windyhill 400kV to connect the new 400/132kV 360MVA Super Grid Transformer. The new Windyhill B board will be subject to the completion of SPT-RI-2085. Once the Windyhill 'B' board has been established, close circuit breaker 1080 on the 132kV side of SGT3 at Windyhill substation which was kept as NOP under SPT-RI-2148 and retire the Auto-Close Scheme.	
Programme	**Completion:** - May 2031
Progress	**Design & Consenting:** • Commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close out:** • Still to be commenced

1.1	SPT-RI-3406 Blacklaw 400kV Collector Substation
OVERVIEW OF WORKS To establish a new 400kV collector substation, fed from Wishaw 400kV substation via a single 400kV circuit. The collector substation is to be named Blacklaw 400kV collector substation. The project involves establishing a new 400kV bay at Wishaw 400kV GIS substation, installing approx. 300m of 400kV UGC to the Blacklaw 400kV collector site.	
Programme	**Completion:** - October 20030
Progress	**Design:** • In progress **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V2.1	SPT-RI-3533 Maybole to Craginmoddie Tee 132kV OHL
OVERVIEW OF WORKS To co-ordinate generation connections in the area a new 132kV Overhead Line is required between Maybole 132kV Substation and to a Tee location approx. 5km south of Maybole 132kV Substation. The installation of a new 132kV feeder bay at Maybole 132kV Substation is required to facilitate the OHL Connection	
Programme	**Completion:** - October 2032
Progress	**Design:** • Still to commence **Consenting:** • Still to commence **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

1.0	SPT-RI-3565 Devol Moor – Auchentiber 400kV OHL and substation works
OVERVIEW OF WORKS To accommodate new generation connection at Devol Moor 400kV substation, a shared solution has been identified following offers acceptance. This will establish a new 400kV double busbar GIS bay at the proposed Devol Moor 400kV substation, with the installation of approx. 1.5km of 400kV overhead line to the new collector substation, where a 400kV CB, associated disconnectors and a 400kV busbar will be installed.	
Programme	**Completion:** - October 2029
Progress	**Design:** • In progress **Consenting:** • In progress **Detailed Engineering:** • Still to commence **Tendering:** • Still to commence **Construction:** • Still to commence **Commissioning/Close Out:** • Still to commence

V1.3	SPT-RI-3736 - *Coldstream 132kV Collector Substation*
OVERVIEW OF WORKS A new 132kV collector substation is proposed to accommodate new generator and BESS connections near Eccles substation. The indicatively named Coldstream 132kV Collector Substation is proposed to be established near the existing Eccles 132kV substation to provide a shared connection solution for several connections within the area.	
Programme	**Completion:** - July 2030
Progress	**Design:** • Still to be commenced **Consenting:** • Still to be commenced **Detailed Engineering:** • Still to be commenced **Tendering:** • Still to be commenced **Construction:** • Still to be commenced **Commissioning/Close Out:** • Still to be commenced