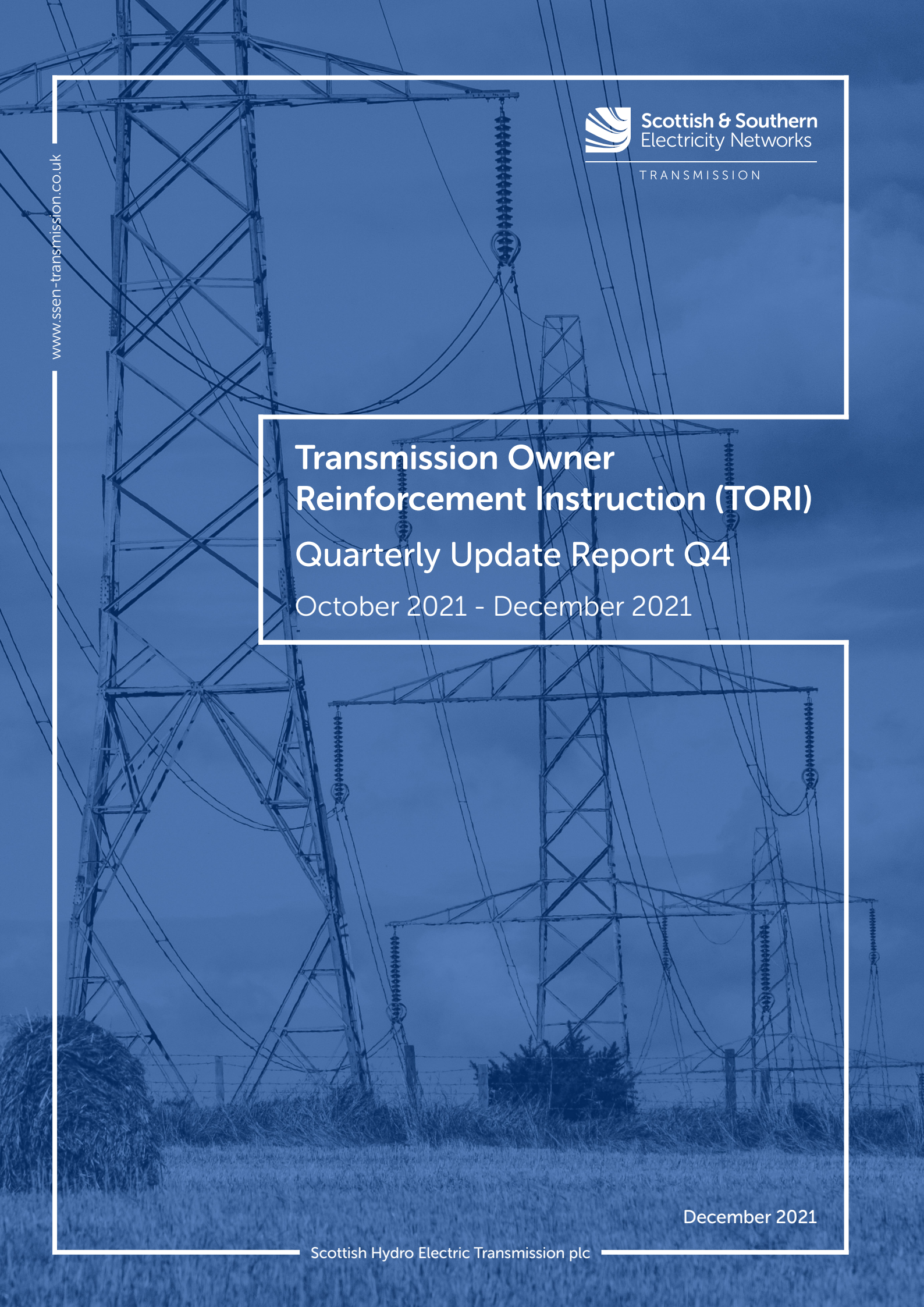

Scottish & Southern Electricity Networks

TRANSMISSION

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# Transmission Owner Reinforcement Instruction (TORI)

## Quarterly Update Report Q4

October 2021 - December 2021

December 2021

Scottish Hydro Electric Transmission plc

# Transmission Owner Reinforcement Instruction (TORI)

# Quarterly Update Report Q4

# October 2021 – December 2021

SSEN Transmission's Quarterly Update Report provides an update on our Transmission Owner Reinforcement Instruction (TORI) projects. These projects are required to reinforce the Transmission network in the North of Scotland to facilitate the connection of renewable generation. These TORI's may be included in connection agreement contacts as Enabling Works or Wider Works.

For each existing TORI in our area, this report provides:

- An overview of the TORI project including completion date.
- A summary of works completed in the last three months.
- A summary of works due to be undertaken in the next three months.

Should you have any questions or feedback on the report, please get in touch with us at transmission.commercial@sse.com

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|---|---|
| **TORI**<br>SHET-RI-007a - Beauly - Blackhillock 400 kV Double Circuit OHL | **Scheme**<br>Beauly - Blackhillock 400 kV Double Circuit OHL |
| **Overview of Works**<br>Establish a new double circuit 400kV overhead line approximately 130km from Beauly to Blackhillock. The new OHL is connected to the Beauly 400kV AIS busbar and the Blackhillock 400kV GIS busbar. | |
| **Project Completion Date** | 31/10/2030 |
| **Summary of works in last quarter:**<br>Project assigned to development team to begin initial optioneering works. | |
| **Summary of works in next quarter:**<br>Initial optioneering works continuing and planned coordination with other Beauly Strategic projects. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-007b - Beauly 400 kV Busbar | Beauly 400 kV Busbar |
| **Overview of Works**<br>Construct a new 400kV GIS double busbar at Beauly substation and interface with the existing 275kV busbar. The 400kV double busbar is to comprise of one bus section breaker, two bus couplers, and feeder bays for circuit connections. | |
| **Project Completion Date** | 30/03/2027 |
| **Summary of works in last quarter:**<br>See TORI-042 | |
| **Summary of works in next quarter:**<br><br>See TORI-042 | |
| **Additional Comments:** | |

| TORI | Scheme |
|---|---|
| SHET-RI-009 - East Coast Onshore 275kV Upgrade | East Coast Onshore 275kV Upgrade |

**Overview of Works**

Establish new busbar Substation at Alyth, to be built at 400kV but initially operate at 275kV, with reactive compensation support. Now includes Errochty Thermal Relay Works scope.

Re-profile the existing Kintore-Tealing-Kincardine 275kV circuits and the existing Tealing-Westfield-Longannet 275kV circuits for higher temperature operation.

Install 275kV Phase shifting transformers on each of the Kintore – Tealing circuits (XT1/XT2) at Tealing substation.

| Project Completion Date | 31/10/2023 |
|---|---|

**Summary of works in last quarter:**

**OHL Works (LT162):** Overhead line works progressing to programme. Temporary bypass removed. 2 new Terminal Towers erected (Towers 239A and 239B). New Tension Tower on Alyth – Tealing circuit (Tower 641R) foundations installation, and tower erection complete.
SY/YZ Circuits (Fetteresso – Kincardine) Reconductored. YT1/2 Circuits (Alyth – Tealing) Reconductored.
Works on checking resistivity of Compression Joints on TW2 Circuit complete. Works carried out on XS/SY Circuits to re-sag bottom conductors complete.

**Alyth Substation (LT139):** All ground consolidation works (including piling specific areas) are now complete and the Civil works have progressed across the Substation site.
Significant progress has been made on the Planning commitments in relation to Landscaping and Planting, as well as Environmental protection measures.
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Tealing Substation: Phase Shifting Transformer works remain in development.

**Summary of works in next quarter:**

**OHL Works (LT162):** Return in January 2022 to complete all remaining Compression joint testing.

**Alyth Substation Works (LT139):** Continue to progress with the Civil works on the Substation site, with foundations being installed for all key plant, as well as cable trenches and the internal road network.

**Additional Comments:**

N/A

| **TORI**<br>SHET-RI-013 - North Argyll Substation | **Scheme**<br>North Argyll Substation |
|---|---|
| **Overview of Works**<br>Establish a new 275/132 kV Substation in North Argyll near the existing Inveraray/Taynuilt 132 kV line route with two 480 MVA 275/132 kV transformers. Space provision only is to be provided for additional feeder bays.<br>Establish a new 275 kV double circuit OHL between Creag Dhubh (North Argyll) substation and Dalmally Substations. | |
| **Project Completion Date** | 30/04/2025 |
| **Summary of works in last quarter:**<br><br>Additional stakeholder engagement completed as a result of design changes to the overhead line connection at Dalmally. | |
| **Summary of works in next quarter:**<br><br>Scottish Government's EIA Scoping Option to be received.<br>Town & Country Planning Application for Creag Dhubh (North Argyll) substation to be submitted.<br>Section 37 application to build and operate a new OHL between Creag Dhubh (North Argyll) substation and Dalmally to be submitted. | |
| **Additional Comments:**<br>N/A | |

| | |
|---|---|
| **TORI**<br>SHET-RI-019 - Dounreay - Orkney 220kV Subsea HVAC Cable Link 1 | **Scheme**<br>Dounreay - Orkney 220kV Subsea HVAC Cable Link 1 |
| **Overview of Works**<br>Establish a 220kV HVAC circuit over a distance of approximately 68km between the 275kV GIS substation at Dounreay on the mainland and the new 132kV substation in the vicinity of Finstown on Orkney. The HVAC circuit comprises of approximately 15km of land cable and 53km of subsea cable. Voltage Compensation devices will be installed at both cable ends within the substation compounds at Dounreay and Finstown. | |
| **Project Completion Date** | 30/04/2025 |
| **Summary of works in last quarter:**<br><br>Continue engagement with Orkney developers. | |
| **Summary of works in next quarter**:<br><br>Continue engagement with Orkney developers. | |
| Additional Comments:<br>N/A | |

| | |
|---|---|
| **TORI**<br>SHET-RI-020 - Dounreay - Orkney 220kV Subsea HVAC Cable Link 2 | **Scheme**<br>Dounreay - Orkney 220kV Subsea HVAC Cable Link 2 |
| **Overview of Works**<br>Establish a second 220kV Subsea HVAC circuit over a distance of approximately 68km between the 275kV GIS substation at Dounreay on the mainland and the new 132kV substation in the vicinity of Finstown on Orkney. The HVAC circuit comprises of approximately 15km of land cable and 53km of subsea cable. Voltage Compensation devices will be installed at both cable ends within the substation compounds at Dounreay and Finstown. Finstown Substation is established as part of SHET-RI-019. | |
| **Project Completion Date** | 30/04/2025 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br><br>Project on hold. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-025a - Peterhead-Rothienorman 400 kV OHL upgrade | Peterhead-Rothienorman 400 kV OHL upgrade |
| **Overview of Works**<br>The 275kV overhead lines between Peterhead, New Deer and Rothienorman (Rothienorman substation established as part of SHET-RI-105) are constructed for 400kV operation. Reinsulate approximately 47km of OHL to 400kV operation and put into service between the new 400kV busbars at Peterhead (established by SHET-RI-025c) and the new 400kV substations at New Deer and Rothienorman (both transitioned to 400kV under SHET-RI-025d).<br><br>Replacement of the existing earth wire with OPGW is required between New Deer - Rothienorman. | |
| **Project Completion Date** | 30/09/2023 |
| **Summary of works in last quarter:**<br>Please see project update for SHET-RI-025d North East 400kV Reinforcement. | |
| **Summary of works in next quarter:**<br><br>Please see project update for SHET-RI-025d North East 400kV Reinforcement. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-025b - Eastern Subsea HVDC Link | Eastern Subsea HVDC Link |
| **Overview of Works**<br>Install a 2GW HVDC link between Peterhead (SHE-Transmission) and Drax (NGET).<br>This TORI describes the SSENT works.<br>HVDC cables to be routed into the sea, then south towards the North East of England in NGET's license area. | |
| **Project Completion Date** | 31/10/2029 |
| **Summary of works in last quarter:**<br>Completion of offshore and onshore environmental assessment works.<br>Completion of onshore Engineering investigation works.<br>Final Needs Case submission.<br>Tendering documentation prepared and ready for submission in Q2 2022. | |
| **Summary of works in next quarter:**<br>Town & Country Planning Application for Peterhead HVDC converter station to be submitted.<br>Marine Planning Application for offshore HVDC cable to be submitted.<br>Continuation of tendering documentation and ready for submission in Q2 2022. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-025c - Peterhead 400 kV Busbar | Peterhead 400 kV Busbar |

**Overview of Works**

Construct a new 400kV substation close to the existing 275kV substation at Peterhead. Install two new 1200MVA 400/275kV supergrid Transformers and approx. 500m of 275kV cable between the new 400kV busbar and the existing 275kV busbar. Two new Overhead line towers and Installation of 132kV cable from new Cable sealing end to existing 275kV sub station.

Modify the existing 275 kV substation and busbar arrangements to accommodate the above works. The existing 275/132kV supergrid transformer SGT1 which is currently connected to line circuit reference VX1 will be banked with the new 1200MVA 400/275kV.

| Project Completion Date | 31/10/2023 |
|---|---|

**Summary of works in last quarter:**

Continuation of works to GIS building by way of roof and wall cladding and placing rebar to main internal floor and mass concrete pours to lower half. Primary and secondary steelwork erection now completed for both SGT4 and SGT5 buildings with roof cladding to SGT4 also complete but SGT5 roof cladding is being delayed by weather and currently sits at 25% complete.
Completion of perimeter substation fencing and gates. Further various concrete pad foundations in SGT halls ongoing and recent large concrete pours completed for the base slabs of both SGT bunds. Substation perimeter road works and outfall drainage system progressing well. 275kV ducting installation has commenced between new and existing substation bringing this forward from intended programme.
132kV cable project has essentially been completed on time and re energisation of both circuits took place by 28th October 2021. General reinstatement will be carried out, removing temporary roads and top soiling.

**Summary of works in next quarter:**

Roof cladding to SGT5 building remains a priority followed by wall cladding to SGT4 and GIS building. Large concrete pours to follow for upper GIS hall floor and walls of both SGT bunds.
Surfacing contractor due in December 2021 to carry out surfacing works on Substation perimeter roads, and further concrete pours to substation perimeter road opposite transformer door ways.
Delivery of General Electric SGTs expected 28th Feb 2022 and 10th March 2022 which would be a significant milestone for the project.
275kV ducting will continue to be installed between the new and existing substation and completion of new Overhead Line Tower foundation is expected.
A90 road works commenced on 8th Nov 2021 and is expected to be completed by 24th Dec 2021.

**Additional Comments:**

N/A

| TORI | Scheme |
|---|---|
| SHET-RI-025d - North East Reinforcement | North East Reinforcement |

**Overview of Works**

Re-insulate the 275kV double circuit overhead lines between Rothienorman – Blackhillock and Rothienorman - Kintore for 400kV operation.
Remove the two line connected 400/275kV, 1200MVA SGTs from Blackhillock Substation. Install two new 400/275kV, 1200MVA at Kintore for terminating the Rothienorman to Kintore double circuit overhead line onto the 275kV busbar at Kintore.
Install two 400/132kV, 240MVA SGT's and two 132/33kV, 120MVA GTs to connect the Rothienorman GSP to the 400kV Rothienorman Busbar.

| Project Completion Date | 31/10/2023 |
|---|---|

**Summary of works in last quarter:**

**OHL Works –** Works completed on VND2, the second circuit between New Deer and Peterhead. Issue tender documentation for the Substation scope of Works.

**Kintore Substation Works –** Continuation of platform earthworks and development of the Supergrid Transformer design.

**Rothienorman Substation Works –** Continue with manufacturing of SGTs, enter into contract for substation works and mobilise to site.

**New Deer Substation Works –** Commence procurement for substation contractor and continue engagement with Moray East.

**Summary of works in next quarter:**

**OHL Works –** Works to commence on NDR1, the first circuit between New Deer and Rothienorman. Contract award for the Substation scope of Works.

**Kintore Substation Works –** Continuation of platform earthworks, commencement of building construction, development of the overall substation design, completion of transformer noise enclosure design, continuation of design for the substation protection and control system.

**Additional Comments:**

N/A

| TORI<br>SHET-RI-026 - Blackhillock 275 kV QBs | Scheme<br>Blackhillock 275 kV QBs |
|---|---|
| **Overview of Works**<br>At Blackhillock, install 2 x 865MVA (continuous rating) 275kV quadrature boosters with bypass on the existing 275kV circuits (AH1/HO2) to Knocknagael, rearranging the circuit terminations as appropriate. | |
| **Project Completion Date** | 31/10/2026 |
| **Summary of works in last quarter:**<br>Continued with Design development work on the project alongside the East Coast 400kV upgrade works in line with programme dates. | |
| **Summary of works in next quarter:**<br>Design development work continuing on the project alongside the East Coast 400kV upgrade works in line with programme dates. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-028 – Thurso South to Gills Bay 132kV OHL | Thurso South to Gills Bay 132kV OHL |
| **Overview of Works**<br>It is proposed to construct a new 132kV GIS double busbar arrangement switching station at Phillipstoun Mains, near Gills Bay (west of John O'Groats) and connect in two radial circuits from Thurso south.<br>Construct a new suitably rated hybrid overhead line and underground cable double circuit, operated at 132kV, from Gills Bay to Thurso South. | |
| **Project Completion Date** | 31/03/2026 |
| **Summary of works in last quarter:**<br>Submit new switching station consent application.<br>Continued engagement with landowners to secure outstanding land agreements.<br>Development of Needs Case and CBA to support MSIP submission to Ofgem. | |
| **Summary of works in next quarter:**<br>Expected consent decision for switching station<br>Continued engagement with landowners to secure outstanding land agreements.<br>Continued development of Needs Case and CBA (MSIP submission now January 2023). | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-033 - Second 2 GW East Coast HVDC Link Peterhead to England | Second 2 GW East Coast HVDC Link Peterhead to England |
| **Overview of Works**<br>Install an indoor 2GW HVDC converter station with associated equipment. HVDC cables to be routed into the sea and then south towards England (landing point to be confirmed). This will be a joint project with National Grid. | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Continued development of initial needs case scope. | |
| **Summary of works in next quarter:**<br>Continued development of initial needs case scope. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-042 - Western Isles - Beauly HVDC Link | Western Isles - Beauly HVDC Link |

**Overview of Works**

Establish a 600MW HVDC link with associated equipment and converter stations between the Western Isles (Arnish on Lewis) and the 400kV double busbar at Beauly (established under SHET-RI-007b). The HVDC cable is to be approximately 79km of subsea cable, and approximately 80km of land cable. The HVDC infrastructure will interface with a new 132kV double busbar at Arnish (Lewis) and the 400kV double busbar at Beauly.

| Project Completion Date | 30/03/2027 |
|---|---|

**Summary of works in last quarter:**

Roundtable meeting between key stakeholders – Ofgem / UK & Scot Gov / Councils / Developers
Concluded preliminary desktop Site Assessment for mainland convertor station
Commenced Phase 2 Detailed Site Assessment for mainland convertor station
Concluded lease agreement at Arnish
Continued engagement with preferred tenderer

**Summary of works in next quarter:**

Apply for revised Planning in Principle at Arnish
Commence EA at Arnish
Public Consultation for Arnish Site
Continue Phase 2 Detailed Site Assessment for mainland convertor station
Revisit and update Final Needs Case

**Additional Comments:**

N/A

| TORI | Scheme |
|---|---|
| SHET-RI-043 - Lewis Infrastructure | Lewis Infrastructure |
| **Overview of Works**<br>Build a new 132kV single circuit OHL between existing Stornoway substation, the new Arnish substation (provided under SHET-RI-042 - Western Isles - Beauly HVDC Link) and a new AC switching station at Balallan on the Isle of Lewis.<br><br>Dismantle the existing 132kV single circuit OHL between Balallan and the existing Stornoway substation. | |
| **Project Completion Date** | 30/03/2027 |
| **Summary of works in last quarter:**<br>Discussions on how best to proceed with project continued. | |
| **Summary of works in next quarter:**<br>Monitor progress of LT14 | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-046 - Taynuilt-North Argyll Rebuild | Taynuilt-North Argyll Rebuild |
| **Overview of Works**<br>Reinforce the transmission network between Taynuilt and North Argyll substation (established as part of SHET-RI-013). Rebuild approximately 12.5km of existing 132kV double circuit steel tower line between North Argyll and Taynuilt with a larger capacity 132kV. | |
| **Project Completion Date** | 31/10/2028 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br>Project on hold. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-050a - Inveraray - Port Ann Reinforcement | **Scheme**<br>Inveraray - Port Ann Reinforcement |
| **Overview of Works**<br>Reinforce the 132kV Transmission network in the Kintyre Peninsula. Rebuild approximately 37km of double circuit OHL between Inveraray and Port Ann. The towers will be built for 275kV operation, but initially operated at 132kV. | |
| **Project Completion Date** | 30/07/2021 |
| **Summary of works in last quarter:**<br>Dismantling works now complete (redundant overhead line). Reinstatement works progressed and are now substantially complete. | |
| **Summary of works in next quarter**<br><br>Progress final reinstatement snagging (expected to complete in January 2022). | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-050b - Port Ann - Crossaig Reinforcement | Port Ann - Crossaig Reinforcement |
| **Overview of Works**<br>Reinforce the 132kV Transmission Network in the Kintyre Peninsula. Rebuild approximately 48km of double circuit OHL between Port Ann and Crossaig. The towers will be built for 275kV operation, but initially operated at 132kV. | |
| **Project Completion Date** | 31/10/2023 |
| **Summary of works in last quarter:**<br>Scottish Woodlands continued with felling timber in the operational corridor in preparation of handing over control of all sections to Balfour Beatty for construction access. Balfour Beatty commenced construction of access tracks to tower locations as per programme followed by the first scheduled foundations works. | |
| **Summary of works in next quarter:**<br>Scottish Woodlands are nearing completion of the operational corridor timber felling and will hand over control of all sections to Balfour Beatty for construction access. However Scottish Woodlands will remobilise in 2022 to complete management felling and felling of isolated pockets of timber that require access to be built by Balfour Beatty. Balfour Beatty will continue installation of access tracks, tower foundations and will commence tower erection. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-052 - Lairg-Loch Buidhe 132kV Reinforcement | **Scheme**<br>Lairg-Loch Buidhe 132kV Reinforcement |
| **Overview of Works**<br>Establish a new 132kV double busbar at Lairg (Dalchork substation) and construct approximately 17km of new double circuit 132kV overhead tower line between Lairg and Loch Buidhe. | |
| **Project Completion Date** | 30/04/2022 |
| **Summary of works in last quarter:**<br>Completed the internal fit-out of the Control Building. Completed the cable installation (dressing/glanding and terminating) both external and to the C&P panels & LVAC Board. Commenced the commissioning (Stage 1).<br>Completed the equipment installation at the Cable Sealing End (CSE) (terminal tower) and the new bays in the Substation. Completed the pulling and testing of the 132kV HV cable.<br>Completed the installation of all access roads/spurs and working pads. Completed all piled foundations/pile caps and p&c foundations.<br>Commenced stringing works on sections 1 & 2 of new DLB OHL route.<br>Completed the E/W to OPGW installation (CS Route) and erect the new CS80R tower (tie-in to Dalchork Substation).<br>Prepared for 'remote end works' (Cassley & Lairg Substations) under outage in Apr '22. | |
| **Summary of works in next quarter:**<br><br>Finalising construction on site and preparing for final commissioning. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-053 - Shetland 600 MW HVDC Link and Kergord 132kV Substation | Shetland 600 MW HVDC Link and Kergord 132kV Substation |

**Overview of Works**

Construct a 600MW HVDC link from Shetland to the Scottish mainland at an HVDC switching station in the vicinity of Noss Head in Caithness. The HVDC switching station works will integrate with the Caithness-Moray Transmission Reinforcement (part of SHET-RI-031)

The HVDC link includes a 600MW HVDC converter station and 132kV Substation at Kergord in Shetland. The new 132kV Substation at Kergord will be the collection point for generation in Shetland.

The 600MW HVDC link will have approximately 13km of land cable and 284km of subsea cable between Shetland and the HVDC switching station in Caithness.

| Project Completion Date | 01/07/2024 |
|---|---|

**Summary of works in last quarter:**

All key project activities remain on schedule with no major issues to report. COVID remains a threat, but extensive testing and protocols in place have prevented any significant impact on the project to date, although infections and isolations within the workforce have increased in Dec 2021 with the onset of the Omicron variant.

At Kergord all structural steel erection is complete and cladding is circa 85% complete. At Noss Head, Switching Station steelwork erection is complete and cladding circa 80% complete. Building Services M&E fit-out commenced at both sites. HVDC Land Cable duct installation is complete in Caithness with joint bay construction commenced and HVDC duct installation c88% complete in Shetland. All Cable system Type tests complete and subsea cable manufacturing continues to programme.

All HVDC Land Cable manufactured and shipped to site in Dec 21. Offshore Boulder clearance commenced in late Nov and scheduled to complete in Jan 22. HVDC Transformer and Valve manufacturing progressing to schedule. ModApp received changing VEWF Connection date to 1st July 2024

**Summary of works in next quarter:**

Completion of all superstructure works including cladding at both sites. Continue Building Services M&E installation at both sites. Commence HVDC land Cable installation and jointing in Caithness and Shetland and HVDC Cable termination installation at Noss Head. Offshore – completion of boulder clearance and pre lay grapnel run.

**Additional Comments:**

N/A

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|---|---|
| **TORI**<br>SHET-RI-058 - Beauly-Loch Buidhe 275kV OHL Reinforcement | **Scheme**<br>Beauly-Loch Buidhe 275kV OHL Reinforcement |
| **Overview of Works**<br>This project is to reinforce the existing BSW/BSE Beauly, Shin to Loch Buidhe 132kV double circuit with a higher capacity 275kV double circuit OHL.<br><br>The reinforcement will include a new double circuit steel lattice tower construction approximately 40km, as well as works at Beauly, Loch Buidhe and Shin substations. | |
| **Project Completion Date** | 31/10/2030 |
| **Summary of works in last quarter:**<br>Continue optioneering stage. Request for derogation to be extended | |
| **Summary of works in next quarter:**<br>Review strategic options and continue early option development. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-059 - Third 2GW East Coast HVDC Link Peterhead to England | Third 2GW East Coast HVDC Link Peterhead to England |
| **Overview of Works**<br>Install an indoor 2GW HVDC converter station with associated equipment. HVDC cables to be routed into the sea and then south towards England (landing point to be confirmed). This will be a joint project with National Grid. | |
| **Project Completion Date** | 31/10/2033 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br>Project on hold. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-061 - Skye Overhead Line Reinforcement | **Scheme**<br>Skye Overhead Line Reinforcement |
| **Overview of Works**<br>Construct a new 132kV circuit from Fort Augustus to Ardmore. The circuit is proposed as double circuit structure from Fort Augustus to Broadford, Single Circuit Structure from Broadford to Edinbane and single circuit structure from Edinbane to Ardmore (approximately 160km Fort Augustus 132kV substation to Ardmore 132kV substation). | |
| **Project Completion Date** | 31/12/2025 |
| **Summary of works in last quarter:**<br><br>Commenced land options agreements on preferred OHL alignment, finalise draft EIA, conclude on site survey works | |
| **Summary of works in next quarter:**<br><br>Continue with land options on preferred OHL alignment, finalise draft EIA, conclude on site survey works<br>Engage with Ofgem and stakeholders on the INC consultation. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-064 - Fort Augustus Substation 400/132kV Development | **Scheme**<br>Fort Augustus Substation 400/132kV Development |
| **Overview of Works**<br>Develop the existing Fort Augustus substation to include a new 400kV and a new 132kV busbar. The new 400kV busbar is to be connected to the new 132kV busbar via two new 480MVA 400/132kV Super grid transformers. | |
| **Project Completion Date** | 31/01/2022 |
| **Summary of works in last quarter:**<br>All plant and equipment have been installed and pre-energisation commissioning works completed. Earth faults on the SGT4 and SGT5 Gas Insulated Switchgear and Busbar respectively occurred during initial energisation and investigation works have been undertaken. | |
| **Summary of works in next quarter:**<br>Complete the repair of SGT4 and SGT5 Gas Insulated Switchgear and Busbar respectively. Energise all remaining equipment. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-065a - Beauly 132 kV Substation Redevelopment | **Scheme**<br>Beauly 132 kV Substation Redevelopment |
| **Overview of Works**<br>Establish a new 132kV double busbar arrangement at Beauly substation, and transfer the circuits from the existing 132kV busbar to the new busbar. Connect the new 132kV double busbar to the existing 275kV busbar via two new 360MVA 275/132kV transformers. Third new 360MVA 275/132kV transformer will be undertaken under SHET-RI 065b | |
| **Project Completion Date** | 31/10/2024 |
| **Summary of works in last quarter:**<br>Continue with stakeholder discussions and project progression. | |
| **Summary of works in next quarter:**<br>Continue with stakeholder discussions and project progression. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-065b - Beauly 3rd SGT Replacement | Beauly 3rd SGT Replacement |
| **Overview of Works**<br>Replacement of third existing 275/132kV 120MVA SGT with a new 360MVA 275/132kV transformer.<br><br>SHET-RI 065a covers establishment of a new 132kV double busbar arrangement at Beauly substation, and transfer the circuits from the existing 132kV busbar to the new busbar. | |
| **Project Completion Date** | 31/10/2025 |
| **Summary of works in last quarter:**<br>See TORI-065a | |
| **Summary of works in next quarter:**<br>See TORI-065a | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-066 - Fort Augustus Substation 400/275kV Development | Fort Augustus Substation 400/275kV Development |
| **Overview of Works**<br>Develop the existing Fort Augustus substation to include a new 275kV busbar. The 275kV busbar is connected to the 400kV busbar via two 1200MVA 400/275kV Supergrid transformers. The 400kV busbar is part of SHET-RI-064 works. | |
| **Project Completion Date** | 01/12/2027 |
| **Summary of works in last quarter:**<br>Project on hold | |
| **Summary of works in next quarter:**<br>Project on hold | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-068 - Fort Augustus -Invergarry-400/132kV Development | Fort Augustus -Invergarry-400/132kV Development |

**Overview of Works**

Upgrade the existing 132kV double circuit OHL between Fort Augustus and Invergarry substation with a new 400kV OHL. The existing 132kV OHL forms part of the Fort Augustus to Fort William FFE/FFW Circuits.

Part of the upgrade is to establish a 400/132kV substation at Invergarry to connect the existing 132kV OHL from Fort William and Invergarry Generation.

The new 400kV OHL will terminate into the 400kV busbar at Fort Augustus. The 400kV busbar is part of SHET-RI-064 works.

| Project Completion Date | 31/12/2027 |
|---|---|

**Summary of works in last quarter:**

Continued with route option assessment and development of the design. Continued with stakeholder consultation and pre-submission consents work with key statutory stakeholders and the local planning authority.

**Summary of works in next quarter:**

Establish corridors for OHL.
Continue engaging with key stakeholders, including landowners and community.
Undertake site selection works for substation in the vicinity of Invergarry.

**Additional Comments:**

N/A

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|---|---|
| **TORI**<br>SHET-RI-069 - Kinardochy Reactive Compensation | **Scheme**<br>Kinardochy Reactive Compensation |
| **Overview of Works**<br>Reactive Compensation is required at a new Kinardochy substation for voltage support on the 275kV Beauly-Denny overhead line. The Reactive Compensation will require a capability of + 325MVAr and -225MVAr. | |
| **Project Completion Date** | 31/08/2024 |
| **Summary of works in last quarter:**<br>Additional surveys and ground investigation works.<br>Completion of the initial design phase of the project and mobilisation to site.<br>Secured consent for the Overhead Line construction works. | |
| **Summary of works in next quarter:**<br>Tree felling across the main substation platform site.<br>Construction of the initial site access roads.<br>Mobilisation of the OHL works contractor. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-072 - Blackhillock-Kintore 400 kV OHL Upgrade | Blackhillock-Kintore 400 kV OHL Upgrade |
| **Overview of Works**<br>Replace the existing 55km XH1/XH2 275kV double circuit OHL with a 400kV double circuit OHL. The new 400kV OHL will terminate on the 400kV busbars at Blackhillock and Kintore substations.<br><br>A new connection arrangement is required at Cairnford substation to allow connection to the proposed 400kV OHL. | |
| **Project Completion Date** | 30/09/2027 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br>Project on hold. | |
| **Additional Comments:** | |

| TORI | Scheme |
|---|---|
| SHET-RI-075 - Orkney 132kV Infrastructure Finstown - Ellibster | Orkney 132kV Infrastructure Finstown - Ellibster |
| **Overview of Works**<br>SHET-RI-075 works forms part of the Orkney 132kV Local Onshore Transmission Infrastructure. The works includes the establishment of the 132 kV Switching Station at Ellibister and a 132kV OHL Trident wood pole connection from Ellibister to Finstown Substation. Note that Finstown 132kV Substation is established as part of SHET-RI-019 works. | |
| **Project Completion Date** | 30/04/2025 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br><br>Project on hold. | |
| **Additional Comments:**<br><br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-079 - Blackhillock Additional 275/132kV SGTs | Blackhillock Additional 275/132kV SGTs |
| **Overview of Works**<br>Reinforce the transmission network at Blackhillock substation by installing two additional new 275/132kV Supergrid Transformers. The transformers are to be rated at 360MVA. | |
| **Project Completion Date** | 30/06/2025 |
| **Summary of works in last quarter:**<br>Ongoing assessment of scope whether 1 or 2 SGTs are required. Assessed the feasibility of using non-SF6 GIS switchgear for new bays in the 132kV building. | |
| **Summary of works in next quarter:**<br>Work to conclude the above issues and relevant internal governance requirements. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-086 - Craig Murrail Switching Station | Craig Murrail Switching Station |
| **Overview of Works**<br>It is proposed that a new 132 kV switching station will be constructed near the Port Ann tee point (Craig Murrail) cutting into the Crossaig-Inveraray 132 kV double circuit. Disconnect Port Ann from tee points on the 132kV OHL and connect Port Ann GSP directly onto the new 132kV double busbars. | |
| **Project Completion Date** | 31/10/2025 |
| **Summary of works in last quarter:**<br><br>Environmental surveys; civils and electrical engineering design work at Preferred Site location. Held stakeholder consultation on more detailed designs including further Public Consultation Events. | |
| **Summary of works in next quarter:**<br>Town & Country Planning Application for Craig Murrail 275/33kV substation to be submitted. Section 37 application for movement of towers on existing Inveraray to Crossaig overhead line to link to new substation to be submitted. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-088 - Loch Buidhe - Dounreay 275kV Reinforcement | Loch Buidhe - Dounreay 275kV Reinforcement |
| **Overview of Works**<br>Reconductor the existing 275kV double circuit OHL between Loch Buidhe and Dounreay (approximately 87km). The double circuit is to be reconductored with a high temperature conductor, with a summer pre-fault rating of 900MVA. | |
| **Project Completion Date** | 31/08/2025 |
| **Summary of works in last quarter:**<br>Works to be considered alongside SHET-RI-058. | |
| **Summary of works in next quarter:**<br>Alternative options to be considered to increase rating of existing conductor**.** | |
| **Additional Comments:** | |

| TORI<br>SHET-RI-089 - Farigaig SGT2 Upgrade | Scheme<br>Farigaig SGT2 Upgrade |
|---|---|
| **Overview of Works**<br>Upgrade the 120MVA 275/132kV SGT2 at Farigaig substation to a 240MVA SGT, to facilitate the connection of generation in the area. | |
| **Project Completion Date** | 30/08/2024 |
| **Summary of works in last quarter:**<br>Options for direct replacement of the transformer in-situ have been assessed. | |
| **Summary of works in next quarter:**<br>Engagement with connected customer on outages for replacement of transformer to be carried out. | |
| **Additional Comments:** | |

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|---|---|
| **TORI**<br>SHET-RI-090 - Coupar Angus - Errochty 132kV Reconductoring | **Scheme**<br>Coupar Angus - Errochty 132kV Reconductoring |
| **Overview of Works**<br>Reconductor approximately 15.4km of the existing 132kV double circuit OHL between Errochty and Clunie substations. This double circuit is to be reconductored with UPAS conductor (1 x 300mm2) and will operate at 75˚C to give a minimum summer pre-fault rating of 176MVA. | |
| **Project Completion Date** | 31/10/2026 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br>Project on hold. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-093 - East Coast Phase 2 - 400kV Reinforcement | East Coast Phase 2 - 400kV Reinforcement |

**Overview of Works**

Upgrade the existing Blackhillock / Rothienorman / Kintore / Alyth / Kincardine east coast 275kV circuits to 400kV operation. Establish a new 400kV double busbar at Kintore to enable this upgrade.

This upgrade also interfaces at Blackhillock 400kV Substation and with Scottish Power Transmission (SPT) at Kincardine substation. SPT will be responsible for all the 400kV OHL upgrade and substation works beyond the SSEN Transmission/SPT Boundary (Boundary 4).

| Project Completion Date | 31/10/2026 |
|---|---|

**Summary of works in last quarter:**

Kintore substation - Continuation of platform earthworks and development of the initial switchgear design

**Summary of works in next quarter:**

Kintore substation - Continuation of platform earthworks, commencement of building construction, refinement of the substation layout (particularly the interfaces with the live asset), and development of the initial switchgear design.

**Additional Comments:**

N/A

| TORI | Scheme |
|---|---|
| SHET-RI-098 - Dunoon GL1-GL2 OHL Rebuild | Dunoon GL1-GL2 OHL Rebuild |
| **Overview of Works**<br>Rebuild approximately 18km of double circuit overhead line between Dunoon substation and the SHET – SPT boundary.<br><br>This project interfaces with Scottish Power Transmission (SPT), and any works required beyond the SHET-SPT boundary will be the responsibility of SPT. | |
| **Project Completion Date** | 30/05/2026 |
| **Summary of works in last quarter:**<br>Engaged contractor to undertake access report and Traffic Management Plan.<br>Completed draft scoping report. Commenced Environmental Impact Assessment.<br>Completed ornithological surveys. | |
| **Summary of works in next quarter:**<br>Undertake GI works at angle tower locations.<br>Carry out pre s37 application consultation<br>Complete pre s37 deliverables such as Traffic Management Plan (TMP) and tower access report. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-099 - Beauly-Keith 132kV Reconductoring | **Scheme**<br>Beauly-Keith 132kV Reconductoring |
| **Overview of Works**<br>Reconductor approximately 108km of the existing 132kV double circuit OHL between Beauly and Keith 132kV substations. This double circuit is to be reconductored with a minimum summer pre-fault rating of 176MVA. | |
| **Project Completion Date** | 18/06/2021 |
| **Summary of works in last quarter:**<br>N/A | |
| **Summary of works in next quarter:**<br><br>N/A | |
| **Additional Comments:**<br><br>Project completed in Q2 2021. | |

| TORI | Scheme |
|---|---|
| SHET-RI-105 - Rothienorman s/s & Rothienorman - Kintore Reconductoring | Rothienorman s/s & Rothienorman - Kintore Reconductoring |
| **Overview of Works**<br>Establish a new double busbar at Rothienorman to be built at 400kV, but initially operate at 275kV. Re-conductor the 275kV double circuit overhead line between the new double busbar at Rothienorman and Kintore substation (MX1, MX2). | |
| **Project Completion Date** | 20/08/2021 (energised) |
| **Summary of works in last quarter:**<br>Remedial works continue as well as inspections by O&M Managers. | |
| **Summary of works in next quarter:**<br>Completion of deer fencing, all remedial works and handover to SSEN Operations (Governance Gate 5). | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-106b - Connagill 2nd SGT | Scheme<br>Connagill 2nd SGT |
|---|---|
| **Overview of Works**<br>At Connagill substation, install a 2nd 275/132kV 360MVA supergrid transformer, to enable the connection of wind generation in the local area to the Dounreay – Loch Buidhe 275kV circuit. | |
| **Project Completion Date** | 01/05/2025 |
| **Summary of works in last quarter:**<br>Continued with high-level project development, along with initial internal governance activities for project inception. | |
| **Summary of works in next quarter:**<br><br>Progress early stage development. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-107 - North Argyll - Inveraray Reinforcement | North Argyll - Inveraray Reinforcement |
| **Overview of Works**<br>Reinforce the double circuit overhead line between North Argyll 275/132kV substation (established as part of SHET-RI-013) and Inveraray 132kV switching station. This reinforced circuit will connect to the double circuit overhead line from Crossaig (rebuilt as part of SHET-RI-050) approximately 2.8km away from Inveraray. | |
| **Project Completion Date** | 30/10/2025 |
| **Summary of works in last quarter:**<br>Balfour Beatty undertook alignment selection and design in conjunction with Ramboll beginning the environmental assessment of the alignment and options. | |
| **Summary of works in next quarter:**<br>Ongoing works on alignment design and environmental assessment of the alignment and options .<br><br>Stakeholder and Public Consultation on preferred alignment to be completed. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-109 - Loch Buidhe - Spittal 132kV Reconductoring | Loch Buidhe - Spittal 132kV Reconductoring |
| **Overview of Works**<br>Reconductor the existing 90km 132kV tower line between Loch Buidhe and Spittal substations. The 132kV overhead line is to be reconductored with a higher capacity conductor than the existing conductor and should have a minimum summer pre-fault rating of 176MVA. | |
| **Project Completion Date** | 30/06/2027 |
| **Summary of works in last quarter:**<br>Project to be progressed by the Development team to the optioneering stage. | |
| **Summary of works in next quarter:**<br><br>Optioneering to progress. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-111 - Abernethy 132kV Mesh Corner | Abernethy 132kV Mesh Corner |
| **Overview of Works**<br>At Abernethy 132/33kV substation, install a four circuit breaker mesh corner. This will be connected to the existing Burghmuir – Charleston 132kV double circuit overhead line (PCN/CAS). | |
| **Project Completion Date** | 31/10/2022 |
| **Summary of works in last quarter:**<br>Progressed with Regional Development Plan and further optioneering to identify most economical solution to accommodate contracted generation. | |
| **Summary of works in next quarter:**<br>Continue to progress with Regional Development Plan and further optioneering to identify most economical solution to accommodate contracted generation. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-115 - Melgarve 400/132 kV Substation Additional SGTs | **Scheme**<br>Melgarve 400/132 kV Substation Additional SGTs |
| **Overview of Works**<br>At Melgarve substation (established under SHET-RI-085a and SHET-RI-085b), install an additional two 480MVA SGTs to enable the connection of wind generation in the area. | |
| **Project Completion Date** | 31/10/2026 |
| **Summary of works in last quarter:**<br>Public consultation will be held on the preferred design option. The design will continue to be refined for commencing Town and Country Planning pre-submission works including the environmental surveys. | |
| **Summary of works in next quarter:**<br>The design options assessment will be concluded. Environmental surveys are continuing. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-116 - Kergord - Yell 132kV Connection | Kergord - Yell 132kV Connection |

**Overview of Works**

On Shetland install a new 132kV single circuit between the Kergord 132kV substation (established as part of SHET-RI-053) and a new 132kV switching station on Yell, to enable the connection of renewable generation.

| Project Completion Date | 01/04/2026 |
|---|---|

**Summary of works in last quarter:**

Commenced LIDAR (topography) surveys of route alignments.
Commenced geotechnical investigations for route alignments and South Yell Switching Station.
Developed scope for subsea cable route survey between Cul Ness landfall on Shetland mainland and Burravoe on Yell.
Finalised route alignments taking on board feedback and freeze designs for planning.
Prepared planning deliverables for South Yell Switching Station planning application.
Prepared EAs for planning applications.

**Summary of works in next quarter:**

Commencement of Hitachi HVDC Equipment installation at Kergord.
Continue preparation of Needs Case and CBA but MSIP submission will now be submitted January 2023 instead of 2022.

**Additional Comments:**

N/A

| TORI<br>SHET-RI-117 - Tealing 275kV Busbar Upgrade | Scheme<br>Tealing 275kV Busbar Upgrade |
|---|---|
| **Overview of Works**<br>At Tealing remove the existing 275kV 2500A rated busbar and replace with a new 4000A rated 275kV double busbar complete with two bus couplers, one bus section and busbar selection on all feeder bays. | |
| **Project Completion Date** | 29/04/22 |
| **Summary of works in last quarter:**<br>Main bus bar 1 phase 2. work progressing well with all plant & equipment installed and commissioning complete. On track for energisation by Q4 2021 | |
| **Summary of works in next quarter:**<br><br>All remaining circuit transfers completed. Confirm when user will be ready to energise each of their circuits | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-119 - Corriemoillie Transformer Protection Modification | Corriemoillie Transformer Protection Modification |
| **Overview of Works**<br>At the existing Corriemoillie substation, install a 3 ended grid transformer differential protection scheme on GT2 to enable the connection of a second generator at Corriemoillie. | |
| **Project Completion Date** | 31/10/2024 |
| **Summary of works in last quarter:**<br>Delivery team progressed with review and coordination with generator connection works. | |
| **Summary of works in next quarter:**<br><br>Works to progress to meet 2024 completion. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-120 - East Coast 132kV Upgrade | East Coast 132kV Upgrade |

**Overview of Works**

Construct a new Grid Supply Point substation near Fiddes connected to the 275kV double circuit tower line XT1/XT2 between Kintore and Tealing.

Construct a new 132kV double circuit overhead line between Brechin and the Tealing/Arbroath/Brechin Tee Point.

Reconductor the existing double circuit tower line between Tealing and the Tealing/Arbroath/Brechin Tee Point.

Dismantle the existing Fiddes 132/33kV substation.

Dismantle the existing 132kV single circuit overhead line between the Craigiebuckler/Tarland/Fiddes Tee Point and the Brechin Substation.

| Project Completion Date | 31/10/2026 |
|---|---|

**Summary of works in last quarter:**

Ongoing System Planning and Asset Management review of the overhead line options between Brechin and the Tealing/Arbroath/Brechin Tee Point.

**Summary of works in next quarter:**

Ongoing System Planning and Asset Management review of the overhead line options between Brechin and the Tealing/Arbroath/Brechin Tee Point.

**Additional Comments:**

N/A

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|---|---|
| **TORI**<br>SHET-RI-121 - Charleston - Abernethy 132kV Reconductoring | **Scheme**<br>Charleston - Abernethy 132kV Reconductoring |
| **Overview of Works**<br>Reconductor approximately 25km of 132kV OHL between Abernethy 132kV substation and Charleston 132kV substation. The circuit should be reconductored with a conductor capable of a minimum summer pre-fault rating of 150MVA. | |
| **Project Completion Date** | 31/10/2022 |
| **Summary of works in last quarter:**<br>Continued with Optioneering and Project Development to identify optimum reinforcement strategy to accommodate contracted generation. | |
| **Summary of works in next quarter:**<br>Continue with Optioneering and Project Development to identify optimum reinforcement strategy to accommodate contracted generation. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-123 - Shin - Loch Buidhe 132kV Reconductoring | Shin - Loch Buidhe 132kV Reconductoring |
| **Overview of Works**<br>Following the completion of SHET-RI-058, Shin substation will be radially connected into Loch Buidhe 132kV substation via the existing 132kV double circuit. TORI-123 project is to reconductor this 132kV double circuit overhead line between Shin substation and Loch Buidhe substation. The double circuit should be reconductored with a minimum summer pre-fault rating of 190MVA. | |
| **Project Completion Date** | 31/12/2023 |
| **Summary of works in last quarter:**<br>System Studies ongoing. Works to be considered alongside SHET-RI-058. | |
| **Summary of works in next quarter:**<br>System Studies ongoing. Works to be considered alongside SHET-RI-058. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-124 - 2nd Shetland HVDC Link Kergord - Rothienorman | 2nd Shetland HVDC Link Kergord - Rothienorman |
| **Overview of Works**<br>Construct a 2nd 600MW (tbc) HVDC link from Kergord 132kV substation on Shetland (established under SHET-RI-053) to the Scottish mainland at an HVDC convertor station at Rothienorman substation.<br><br>The 600MW HVDC link will have approximately 36km of land cable and 320km of subsea cable between Shetland and Rothienorman. | |
| **Project Completion Date** | 31/10/2026 |
| **Summary of works in last quarter:**<br>Project on hold. | |
| **Summary of works in next quarter:**<br>Project on hold | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-126 - Kergord - Yell 132kV 2nd Connection | **Scheme**<br>Kergord - Yell 132kV 2nd Connection |
| **Overview of Works**<br>On Shetland install a new 2nd 132kV single circuit between the Kergord 132kV substation (established as part of SHET-RI-053) and the South Yell Switching Station (constructed as part of SHET-RI-116), to enable the connection of renewable generation. | |
| **Project Completion Date** | TBC if 2nd circuit is required |
| **Summary of works in last quarter:**<br>Project on hold – not required at present. | |
| **Summary of works in next quarter:**<br>No works required at present. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-127 - Dounreay - Spittal 400 kV Double Circuit Cable | **Scheme**<br>Dounreay - Spittal 400 kV Double Circuit Cable |
| **Overview of Works**<br>Establish two new 400kV double busbars, one at a new site close to Dounreay and the second close to Spittal. Construct approximately 15km of new 400kV double circuit underground cables from the new site close to Dounreay and Spittal. The new 400kV cable circuits should have a minimum summer rating of 1000MW on each circuit | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Coordination required with Scotwind and Offshore Transmission Network Review workstream. | |
| **Summary of works in next quarter:**<br><br>Coordination required with Scotwind and Offshore Transmission Network Review workstream. | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-129 - Farigaig SGT1 Upgrade | Scheme<br>Farigaig SGT1 Upgrade |
|---|---|
| **Overview of Works**<br>Upgrade the 120MVA 275/132kV SGT1 at Farigaig substation to a 240MVA SGT, to facilitate the connection of generation in the area. | |
| **Project Completion Date** | 01/04/2024 |
| **Summary of works in last quarter:**<br>Transformer in-situ replacement design will be refined in preparation for drafting works information for tender. | |
| **Summary of works in next quarter:**<br>Design to be finalised and works information for tender prepared. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-130a - North Argyll - Craig Murrail 275kV Operation | **Scheme**<br>North Argyll - Craig Murrail 275kV Operation |
| **Overview of Works**<br>Reinforce the network in the Argyll and Kintyre network to enable 275kV operation of the network from Creag Dhubh substation (established as part of SHET-RI-013) to Craig Murrail Substation. This will require the upgrade of An Suidhe and Crarae substations on this circuit for 275kV operation. | |
| **Project Completion Date** | 31/10/2025 |
| **Summary of works in last quarter:**<br><br>Environmental surveys, civil and electrical engineering design work completed for Proposed Site locations.<br>Proposal of Application Notice (PAN) for substations submitted to Argyll & Bute Council in October 2021.<br>Proposal of Application Notice (PAN) Public Consultation Events held virtually on 8th and 9th December 2021. | |
| **Summary of works in next quarter:**<br><br>Town & Country Planning Applications for An Suidhe 33kV/275kV and Crarae 33kV/275kV substations to be submitted.<br>Section 37 application for movement of towers on existing Inveraray to Crossaig overhead line to link to new substations to be submitted. | |
| **Additional Comments:**<br>N/A | |

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|---|---|
| **TORI**<br>SHET-RI-130b - Craig Murrail - Crossaig 275kV Operation | **Scheme**<br>Craig Murrail - Crossaig 275kV Operation |
| **Overview of Works**<br>Reinforce the network in the Argyll and Kintyre network to enable 275kV operation of the network from Craig Murrail substation to a new double busbar substation to be established at Crossaig. | |
| **Project Completion Date** | 31/10/2026 |
| **Summary of works in last quarter:**<br><br>Environmental surveys, civil and electrical engineering design work completed for Proposed Site location.<br>Proposal of Application Notice (PAN) for Crossaig North substation submitted to Argyll & Bute Council in October 2021.<br>Proposal of Application Notice (PAN) Public Consultation Events held virtually on 8th and 9th December 2021. | |
| **Summary of works in next quarter:**<br><br>Town & Country Planning Applications for Crossaig North 132kV/275kV substation to be submitted.<br>Section 37 application for movement of towers on existing Inveraray to Crossaig overhead line to link to new substation to be submitted. | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-131 - Brechin 132kV Extension | Scheme<br>Brechin 132kV Extension |
|---|---|
| **Overview of Works**<br>Construct 2 new circuit breakers at Brechin Grid Supply point. | |
| **Project Completion Date** | 31/10/2024 |
| **Summary of works in last quarter:**<br>Continue optioneering and project development alongside related reinforcement, SHET-RI-120. | |
| **Summary of works in next quarter:**<br>Continue optioneering and project development alongside related reinforcement, SHET-RI-120. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-132 - Beauly-Blackhillock High Temperature Reconductoring | Beauly-Blackhillock High Temperature Reconductoring |
| **Overview of Works**<br>Reconductor the Beauly - Blackhillock 275 kV double circuit line with high temperature conductors. The circuits to be reconductored comprise the existing 275kV overhead lines between Beauly and Knocknagael, and between Knocknagael and Blackhillock.<br><br>The substation at Knocknagael is adjacent to the existing Foyers line tee point. | |
| **Project Completion Date** | 30/07/2027 |
| **Summary of works in last quarter:**<br>Initial Development and optioneering works progressed. | |
| **Summary of works in next quarter:**<br>Initial optioneering works being progressed by Development team. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-134 – Beauly-Denny 2nd Circuit upgrade from 275kV to 400kV | **Scheme**<br>Beauly-Denny 2nd Circuit upgrade from 275kV to 400kV |
| **Overview of Works**<br>Upgrade the existing Beauly / Fasnakyle/ Fort Augustus / Tummel-Kinardochy / Braco West / Bonny Bridge 275kV circuit to 400kV; mirroring the ratings of the existing 400kV circuit, along the route | |
| **Project Completion Date** | 31/10/2029 |
| **Summary of works in last quarter:**<br>Initial Development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial Development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
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| SHET-RI-135 - Broadford to Edinbane 132kV Reinforcement | Broadford to Edinbane 132kV Reinforcement |
| **Overview of Works**<br>Construct a 132kV Collector Switching Station at Edinbane; install a second 132kV busbar at Broadford 132kV Substation; add a second 132kV circuit between Broadford 132kV Substation and Edinbane 132kV Collector Switching Station, mirroring the rating of the existing 132kV circuit. These works will include provision of reactive compensation equipment. | |
| **Project Completion Date** | 31/07/2026 |
| **Summary of works in last quarter:**<br>Initial Development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Work to progress on optioneering and preparation of MSIP submission to Ofgem. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-136 - Blackhillock 400kV Building Extension | **Scheme**<br>Blackhillock 400kV Building Extension |
| **Overview of Works**<br>Extend existing Blackhillock 400kV GIS building to allow space provision for additional bays. | |
| **Project Completion Date** | 31/08/2024 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-137 - Blackhillock-New Deer-Peterhead 400kV OHL | **Scheme**<br>Blackhillock-New Deer-Peterhead 400kV OHL |
| **Overview of Works**<br>Establish a new 400kV double circuit overhead line from Blackhillock to New Deer (60km) and New Deer to Peterhead (22km). | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. Project to be prepared for submission for evaluation in Network Options Assessment (NOA). | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. Project to be prepared for submission for evaluation in Network Options Assessment (NOA). | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-138 - New Deer 400kV Busbar Extension | **Scheme**<br>New Deer 400kV Busbar Extension |
| **Overview of Works**<br>Extend 400kV double busbar to form 3-section busbar at New Deer 400kV Substation. | |
| **Project Completion Date** | 31/10/2033 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-139 - 2GW HVDC Link New Deer to England | **Scheme**<br>2GW HVDC Link New Deer to England |
| **Overview of Works**<br>Install an indoor 2GW HVDC converter station with associated equipment at New Deer Substation. HVDC cables to be routed into the sea and then south towards England (landing point to be confirmed). This will be a joint project with National Grid. | |
| **Project Completion Date** | 31/10/2033 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-140 - Thurso South 275 kV Substation Redevelopment | **Scheme**<br>Thurso South 275 kV Substation Redevelopment |
| **Overview of Works**<br>Redevelop the existing Thurso South 275 kV substation into a new 275 kV double busbar arrangement. | |
| **Project Completion Date** | 01/06/2025 |
| **Summary of works in last quarter:**<br>Initial Development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial Development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-142 - Caithness to New Deer 2 - 2 x 1GW HVDC Links | **Scheme**<br>Caithness to New Deer 2 - 2 x 1GW HVDC Links |
| **Overview of Works**<br>Construct 2 x 1GW HVDC links from Spittal to New Deer 2, including converter stations and associated equipment. | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Coordination required with ScotWind and Offshore Transmission Network Review workstream. | |
| **Summary of works in next quarter:**<br>Coordination required with ScotWind and Offshore Transmission Network Review workstream. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-143 - Kergord - Gremista GSP 132kV Infrastructure | **Scheme**<br>Kergord - Gremista GSP 132kV Infrastructure |
| **Overview of Works**<br>Construct a new 132kV 24km circuit between Kergord substation and Gremista GSP, terminated onto new 132kV feeder bays at Kergord and Gremista. Construct a new Tee point for the connection of a wind farm. | |
| **Project Completion Date** | 30/04/2025 |
| **Summary of works in last quarter:**<br>Initial Development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Preparation of MSIP submission to Ofgem and development works. | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-144 - New Deer 2 400kV Substation | Scheme<br>New Deer 2 400kV Substation |
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| **Overview of Works**<br>Establish a new 400kV substation close to the proposed New Deer 400kV substation and tie in the proposed 400kV circuits from New Deer to Peterhead. | |
| **Project Completion Date** | 31/10/2033 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-145 - 2GW HVDC Link New Deer 2 to England | **Scheme**<br>2GW HVDC Link New Deer 2 to England |
| **Overview of Works**<br>Install an indoor 2GW HVDC converter station with associated equipment at New Deer 2 Substation. HVDC cables to be routed into the sea and then south towards England (landing point to be confirmed). This will be a joint project with National Grid. | |
| **Project Completion Date** | 31/10/2033 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-147 - Tealing 400kV Substation | Scheme<br>Tealing 400kV Substation |
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| **Overview of Works**<br>Establish a new 400kV substation close to the existing Tealing 275kV Substation. | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Initial development and optioneering works to progress. | |
| **Summary of works in next quarter:**<br>Initial development and optioneering works to progress. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-148 - Alyth – Tealing 400kV Reinsulation | **Scheme**<br>Alyth – Tealing 400kV Reinsulation |
| **Overview of Works**<br>Re-insulate the 275kV double circuit overhead line between Alyth and Tealing for 400kV operation. | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception. | |
| **Summary of works in next quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception. | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-149 - Tealing – Glenrothes Westfield 400kV Rebuild | **Scheme**<br>Tealing – Glenrothes Westfield 400kV Rebuild |
| **Overview of Works**<br>Rebuild the 275kV double circuit overhead line between Tealing and Glenrothes-Westfield for 400kV operation. | |
| **Project Completion Date** | 31/10/2031 |
| **Summary of works in last quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Summary of works in next quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Additional Comments:**<br>N/A | |

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| **TORI**<br>SHET-RI-150 - Inverguie Tee – Peterhead 132kV Reconductoring | **Scheme**<br>Inverguie Tee – Peterhead 132kV Reconductoring |
| **Overview of Works**<br>Reconductor approximately 6.7km of 132kV OHL between The Inverguie Tee and Peterhead 132kV substation. The circuit should be reconductored with a conductor capable of a minimum summer pre-fault rating of 226MVA. | |
| **Project Completion Date** | 31/10/2029 |
| **Summary of works in last quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Summary of works in next quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
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| SHET-RI-151 - Peterhead – St Fergus 132kV Line Works - | Peterhead – St Fergus 132kV Line Works |
| **Overview of Works**<br>Overhead line works to bring the 132kV circuit to ground, including any required modifications. Design and installation of one 132kV circuit breaker with three 132kV disconnectors and associated protection and control equipment for each of the two circuits. | |
| **Project Completion Date** | 31/10/2029 |
| **Summary of works in last quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Summary of works in next quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Additional Comments:**<br>N/A | |

| TORI<br>SHET-RI-153 - Spittal 2 275 kV Substation | Scheme<br>Spittal 2 275 kV Substation |
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| **Overview of Works**<br>Construct a new 275 kV substation 'Spittal 2' close to the existing Spittal 275 kV substation in Caithness. | |
| **Project Completion Date** | 31/05/2028 |
| **Summary of works in last quarter:**<br><br>Coordination required with Scotwind and Offshore Transmission Network Review workstream. | |
| **Summary of works in next quarter:**<br><br>Coordination required with Scotwind and Offshore Transmission Network Review workstream. | |
| **Additional Comments:**<br>N/A | |

| TORI | Scheme |
|---|---|
| SHET-RI-166 - Tealing – Arbroath 132kV Line Works | Tealing – Arbroath 132kV Line Works |
| **Overview of Works**<br>Overhead line works to bring the 132kV circuit to ground, including any required modifications. Design and installation of one 132kV circuit breaker with two 132kV disconnectors and associated protection and control equipment. | |
| **Project Completion Date** | 30/04/2026 |
| **Summary of works in last quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Summary of works in next quarter:**<br>Initial high-level project development, along with initial internal governance activities for project inception**.** | |
| **Additional Comments:**<br>N/A | |