



WOOTTON & WOOTTON

TRANSMISSION & DISTRIBUTION LTD



Current Projects in Progress

Bideford 33kV Substation Reinforcement, North Devon

- * Install 8 x sets of 33kV separable connectors
- * Install 2 x sets of 33kV Grid Transformer tails
- * Install 5 x sets of 33kV triplex indoor terminations

Hereford 132kV Substation Extension, Herefordshire

- * Install 2 x 66kV Feeder Circuits
- * Install 1 x 66kV Grid Transformer Circuit (2 cables per phase)
- * Install Aux TX 66kV circuit
- * Install 2 x 132kV circuits
- * Install 10 x sets 66kV 3M Outdoor Terminations
- * Install 4 x sets 132kV Prysmian Click-Fit terminations
- * Install 12 x LBM3 single way link boxes
- * 2 x AC VLF Pressure Tests to 1.7U₀
- * Provide all weather proofed scaffold structures

Eggborough Power Station 66kV Customer Connection, West Yorkshire

- * Supply & install 12 x 66kV 630mm XLPE NKT APED self-supporting sealing Ends.
 - * Supply & install 42 x 66kV 630mm – 630mm XLPE none sectionalised straight joint
 - * Supply & install 15 x 66kV 630mm – 800mm XLPE none sectionalised straight joint
 - * Supply & install 3 x 66kV 800mm – 800mm XLPE none sectionalised straight joint
 - * Carryout 23 x end to end sheath tests on individual cable lengths
 - * Carryout 2 x end to end sheath tests
 - * Carry out 2 x 66kV AC VLF pressure tests to NPg Specification
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- Completed 30+ 66kV/132kV pressure tests with and without PD/TD diagnostics with our HVA200 in 2022
 - 33kV—132kV projects in the pipeline across the UK through to the end of 2023

132kV Point of Connection Mast Project - RAF Lyneham, Wiltshire

In order to reduce downtime for maintenance and outages, 2 x Point of Connection masts were planned to be installed for a Solar Park in Wiltshire.

Wootton & Wootton were contracted to supply & install 500m 132kV cable to customer specifications, supply & install 132kV cable sealing ends & sheath testing.

The works were successfully completed on budget and ahead of schedule.



Scope:

To supply, handle & store 500m of Demirer 132kV 1600mm² Alu XLPE cable

Installation of 3 x direct laid (150m) 132kV 1600mm Alu, XLPE, Pb sheath, CWS, & MDPE outer sheath Cables between the new POC mast 132kV compound and the existing 132kV substation structures in the AIS compound.

Supply & install 6 x 132kV Pfisterer ESS-145 outdoor sealing ends

Supply & install 6 x link boxes including bonding lead installation and connections

Supply & install scaffold structures at each 132kV CSE position

132kV Reinforcement Project - Shrewsbury, Shropshire

Western Power Distribution recognised the increasing load at Shrewsbury GSP and was predicted to exceed its n-1 firm capacity of 117MVA by the end of DR5. Therefore, they installed a third 132/33kV transformer, auxiliary transformer and associated apparatus to accommodate the growth

Wootton & Wootton were contracted to provide a turnkey package for the project management, excavation & reinstatement, installation of 132 & 33kV cables. This included the installation of temporary work platforms, all terminations and cable sealing ends, sheath testing and 132kV pressure testing upon completion.

The works were successfully completed on budget and ahead of schedule.



Scope:

To excavate backfill & reinstate 240m of track to accommodate 132 & 33kV cables

Installation of 3 x direct laid (160m) 132kV 400mm Cu, XLPE, Pb sheath, CWS, & MDPE outer sheath Cables between the new GT4 and the new S/S structures within the AIS compound

Installation of 9 x (45m) 33kV 630mm Cu XLPE CWS Cables between the new GT4 and the existing switchgear

Installation of 3 x (30m) 33kV 630mm Cu XLPE CWS Cables between the new GT4 and the Auxiliary transformer

Installation of 1 x (15m) 33kV 630mm Cu XLPE CWS Cables between the new GT4 Auxiliary transformer to the LNER

To install 6 x 132kV Prysmian sealing ends

To install 6 x link boxes including bonding lead installation and connections

To install 16 x 630mm 33kV 400 series Euromold terminations onto the 132/33kV transformer and associated auxiliary transformer

To supply & install 1 x 33kV Outdoor termination onto the LNER

To supply & install scaffold structures at each 132kV CSE position

To drill all transformer gland plates and supply & install all cable management & cleating requirements

Carry out Pressure test, Tan Delta test and Partial Discharge mapping of the 132kV cable system upon completion

To supply full time project management and monitored security system for the duration of the project, authorised standby supervision where required, verify cable system design and supply the client with as laid drawings and appropriate handover paperwork.

132kV Oil Filled Cable Overlay – Ferrybridge to Osbaldwick, West Yorkshire

Northern Powergrid decided to overlay the existing oil filled 132kV circuit with modern day XLPE as the existing cables were prone to leaks, resulting in environmental concerns and had reached the end of their design life.

Wootton & Wootton were contracted to install the cables within the shared National Grid and Northern Powergrid substation, install intermediate straight joints, cable sealing ends & decommission the existing oil filled cables upon completion and energisation of the new circuit.

Despite a very tight outage programme with a lot to do in a short space of time our teams exceeded expectations and completed works both on schedule and on budget.



Scope:

To install 45 x 132kV Prysmian 1c 132kV XLPE 400mm Cu CWS/Pb straight joints

To install 9 x 132kV Tyco 1c 132kV XLPE 400mm Cu CWS/Pb straight joints

To install 1 x 132kV Pfisterer 1c 132kV 400mm Cu CWS/Pb straight joint

To install 3 x 132kV Tyco 1c 132kV 400mm Cu CWS/Pb Cable Sealing Ends

To install 3 x 400mm 132kV XLPE cables into position on modified CSE structures within shared National Grid/ Northern Powergrid substation

Busbar work including disconnection & reconnection of 3 x 4m pieces of 50mm Cu busbar, cleaning & re-tinning of copper work and busbars and installation of new busbar clamps

Modify existing sealing end structures to accept the new CSE's

Successfully DC sheath test cable upon completion

Assist with 132kV AC power frequency pressure tests upon completion

Removal of 3 x existing 132kV sealing ends

Removal of 3 x 300l plinth mounted oil tanks

Removal of gauges & all ancillary equipment

Full de-oiling & decommissioning of the 8.5km redundant oil filled cable circuit

Permanent capping of the existing cables using plumbed brass caps

Standby supervision for civil and scaffolding works

Co-ordination & planning of outages with client engineering resource and Northern Powergrid engineers.

132kV Reinforcement Project – Selly Oak, Birmingham

Western Power Distribution recognised that there was to be a significant load growth in Birmingham out of Selly Oak switching station and have therefore looked to reinforce/upgrade the substation to allow for the future needs of the city.

Wootton & Wootton were contracted to provide a turnkey package for the project management, excavation & reinstatement, installation of 132 & 11kV cables. This included the installation of temporary work platforms, all terminations and cable sealing ends, Sheath testing and 132kV pressure testing upon completion including Partial Discharge mapping and Tan Delta diagnostics.

The project was completed on budget and within predicted timescales.



Scope:

Excavate backfill & reinstate track to accommodate 132kV cable

Installation of 3 x 132kV 630mm Cu, XLPE, Pb sheath, CWS, & MDPE outer sheath Cables between the CSE structures and the new 132/11kV Transformer CSE structures

Installation of 9 x 11kV 630mm Cu XLPE CWS Cables between the new Transformer and the new switchgear

Installation of 3 x 11kV 630mm Cu XLPE CWS Cables between the new Transformer to the Auxiliary Transformer including cable management

Installation and termination of 4c 95 waveform LV cable

Installation 2 x 132kV CSE Structures

To install 6 x 132kV Prysmian sealing ends

To install 6 x LBM2 link boxes including bonding lead installation and connections

To install 15 x 630mm 11kV 400 series Euromold terminations onto the 132/11kV transformer, switchgear & auxiliary transformer

To supply & install scaffold structures at each 132kV CSE position

To drill all transformer gland plates and supply & install all cable management & cleating requirements

Carry out Pressure test, Tan Delta test and Partial Discharge mapping of the 132kV cable system upon completion

To supply full time project management, authorised standby supervision where required and supplied the client with appropriate handover paperwork.

132kV Works - Oil Overlay & New Interconnector - Oldbury - Tividale

Western Power Distribution identified the need to reconfigure the network between Oldbury & Tividale substations in the West Midlands as the existing circuits had come to the end of their design life. This involved decommissioning of six oil-filled circuits and the installation of four new XLPE circuits.

Wootton & Wootton were contracted to complete 132kV jointing, terminating, Linkboxes, circuit commissioning tests including pressure testing & bond verification and de-commissioning of the redundant oil circuits.

All of the works were successfully completed on budget and within client timescales.



Scope:

- Supply & install 30 x 132kV Südkabel straight joints
- Supply & install 24 x 132kV Südkabel cable sealing ends
- Supply & install 24 x LBM3 link boxes
- Supply & install 8 x LBM19 & 2 x LBM16 link boxes
- Supply & install 10 x joint bay earth mats
- Carry out all sheath testing
- Carry out 4 x AC VLF pressure tests at 1.7U₀
- 2 bonding verification tests
- Removal of 36 oil filled Cable Sealing Ends included associated ancillary equipment
- Removal of 12 plinth mounted oil tanks
- De-commissioning of 7,450m 3 core & 2,950m single core 132kV oil filled cable
- Supply & installation of 59 plumbed oil filled cable caps

132kV Works—Triple Circuit Oil Filled Overlay—Bradford, West Yorkshire

Northern Powergrid identified the need to replace three oil filled circuits in Bradford in West Yorkshire as they had come to the end of the design life.

Wootton & Wootton were contracted to complete 132kV jointing, terminating, Linkboxes, pressure testing and de-commissioning of the redundant oil circuits.

The main works were successfully completed on budget and within client timescales.



Scope:

Supply & install 117 x 132kV Pfisterer MSA-DOG-145 straight joints

Supply & install 30 x 132kV Pfisterer ESS-145 cable sealing ends

Supply & install 30 x LBM3 link boxes

Carry out all sheath testing

Carry out 5 x AC VLF pressure tests at 141kV

De-commissioning of 39,000m of 132kV oil filled cable

132kV Works—Dual Circuit Gas Overlay—Skelton Grange, Wakefield, West Yorkshire

Northern Powergrid identified the need to replace gas filled pipe-type circuits near Wakefield in West Yorkshire as they had come to the end of the design life.

Wootton & Wootton were contracted to complete 132kV jointing, terminating, Linkboxes and pressure testing.

The main works were successfully completed on budget and within client timescales.



Scope:

Supply & install 102 x 132kV Tyco EHVS 3 piece straight joints

Supply & install 12 x 132kV Tyco OHVT cable sealing ends

Supply & install 12 x LBM3 link boxes

Carry out all sheath testing

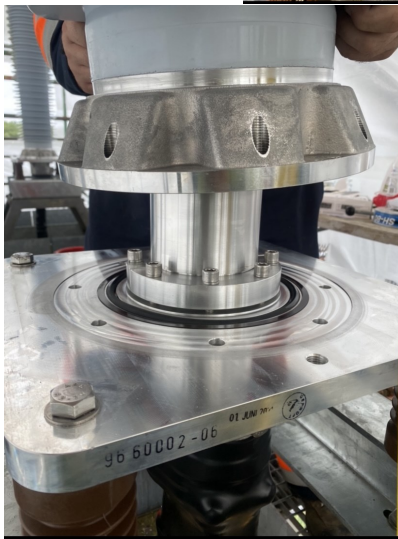
Carry out 2 x AC VLF pressure test at 141kV

132kV Works—OHL Diversion—North Yate, South Gloucestershire

Western Power Distribution received a customer request for the diversion of 4 spans 132kV overhead line to facilitate the construction of several new housing estates.

Wootton & Wootton were contracted to complete 132kV jointing, terminating, Linkboxes, pressure testing and bonding verification tests.

The main works were successfully completed on budget and within client timescales. This job received a lot of excellent feedback from all levels of the contract for the overall performance, quality of work and professionalism.



Scope:

- Supply & install 12 x 132kV Südkabel straight joints
- Supply & install 12 x 132kV Südkabel cable sealing ends
- Supply & install 6 x LBM3 single way link boxes
- Supply & install 2 x LBM7 3 way link boxes
- Supply & install 4 x LBM19 cross bonding link boxes
- Carry out all sheath testing
- Carry out 2 x AC VLF pressure tests at 1.7U₀
- 2 bonding verification tests

132kV Works—Cable Diversion—Silvertown, East London

UK Power Networks were requested to divert two 132kV circuits in East London to facilitate pile installation for a future construction project.

Wootton & Wootton were contracted to complete 132kV jointing under outages.

The main works were successfully completed on budget and within client timescales. We received excellent feedback on the project which had very tight timescales due to outage windows and end customer pressure.



Scope:

Install 12 x 132kV Tyco straight joints

Install 4 x 19 pair telephone joints

Carry out all sheath testing

132kV Works—Turweston & Featherbed Lane HS2 Diversions

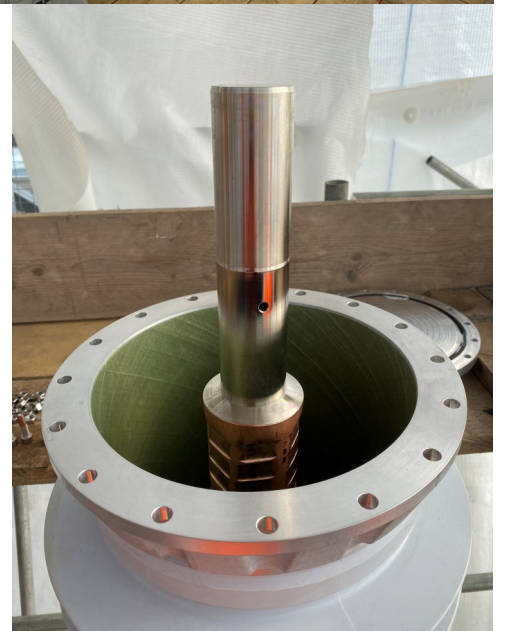
Wootton & Wootton were contracted to complete 132kV jointing, terminating and link boxes as part of the enabling works for the new High Speed Rail line in the UK.

The works were successfully completed on time & budget.



Scope:

- To install 6 x 132kV Südkabel sectionalised straight joints
- To install 24 x 132kV Südkabel Outdoor Sealing Ends
- To install & terminate 24 x LBM3 link boxes
- To install & terminate 2 x LBM19 link boxes
- To install 24 x ABB surge arrestors
- All cable sheath testing
- Final end to end sheath testing



132kV Works—Douglas, Scotland

Wootton & Wootton were contracted to complete 132kV jointing, terminating and link boxes to loop in a new substation into the local 132kV network to enable the connection of a major new wind farm

The client stipulated extremely tight timescales for installation to ensure dates were achieved for testing and energisation.

The works were successfully completed ahead of schedule & budget.



Scope:

Spike & ID existing cables to enable client to remove sections to be replaced

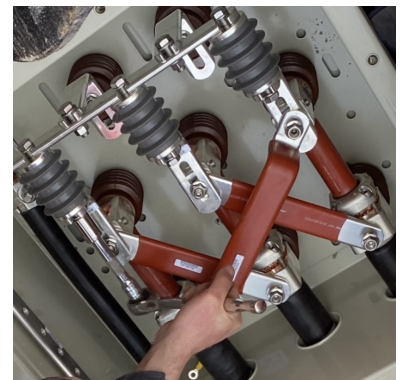
To install 15 x 132kV Pfisterer MSA-145-XKG sectionalised straight joints

To install & terminate 1 x LBM16 link boxes

To install & terminate 4 x LBM19 link boxes

All cable sheath testing

Final end to end sheath testing



132kV Works—Dagenham Data Centre

Wootton & Wootton were contracted to complete 132kV jointing, terminating and link boxes for a new data centre being built near Dagenham, East London. In addition, we procured all of the jointing materials including the materials handling to minimise the storage and waste requirements onsite for our client.

The works were successfully completed on time & budget.



Scope:

Supply, storage and handling of 66 x 132kV Tyco 3-piece joints, 6 x 132kV PHVS GIS Tyco terminations, 6 x 132kV OHVT cable sealing ends.

To install 66 x 132kV Tyco EHVS 3 piece joints

To install 6 x 132kV Tyco PHVS GIS terminations

To install 6 x 132kV Tyco OHVT cable sealing ends

Installation of associated link boxes

All cable sheath testing

Final end to end sheath testing

132kV Substation Re-build—Undisclosed Location

Wootton & Wootton were contracted to complete jointing for a 132kV substation rebuild as part of a wider project to install a new transformer and generally renew a National Grid yard. There is both Südkabel and Prysmian accessories on the project.

The works were successfully completed on time & budget.



Scope:

To install 6 x 170kV Südkabel cable sealing ends

To install 12 x Prysmian cable sealing ends

To install all associated linkboxes

132kV Works—Wickham Market Battery Storage, Suffolk

Wootton & Wootton were contracted to complete jointing for the 132kV connection of a new 50MW battery storage site being built at Wickham Market, Suffolk.

The works were successfully completed on time & budget.



Scope:

To install 3 x Tyco 132kV EHVS cable sealing end

To install 3 x NKT CD145 GIS terminations

132kV Oil Filled Cable Overlay – Whinmoor, Leeds

Northern Powergrid decided to overlay the existing oil filled 132kV circuit with modern day XLPE as the existing cables were prone to leaks, resulting in environmental concerns and had reached the end of their design life.

Wootton & Wootton were contracted to supply & install intermediate straight joints, cable sealing ends, associated link boxes, undertake AC VLF pressure testing prior to energisation & decommission the existing oil filled cables upon completion and energisation of the new circuit.

Our teams exceeded expectations and completed works both on schedule and on budget.



Scope:

Supply and handling of 30 x 132kV Tyco 3-piece joints & 12 x 132kV OHVT cable sealing ends.

To install 30 x 132kV Tyco 1c 132kV XLPE 1200mm Cu CWS/Pb straight joints

To install 12 x 132kV Tyco 1c 132kV 1200mm Cu CWS/Pb Cable Sealing Ends

To undertake steelwork modifications on the CSE structures at the tower to accept the new cable accessories

Carry out all sheath testing during and upon completion of jointing

Carry out 132kV AC VLF pressure tests upon completion

Removal & disposal of 6 x existing 132kV sealing ends

Decommissioning & removal of oil tanks & all ancillary equipment

Fully de-oil & decommission 2 x 1235m redundant oil filled cable circuits

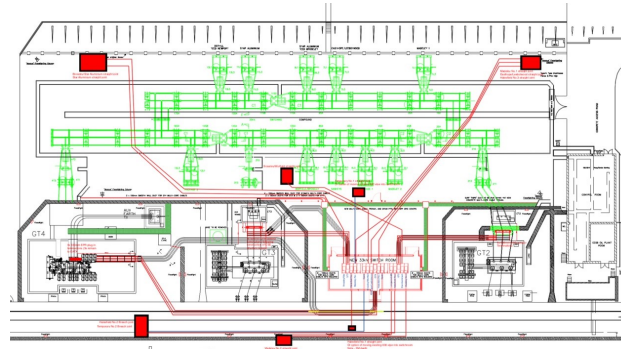
Permanent capping of the existing cables using plumbed brass caps

Standby supervision for civil and scaffolding works

Coordination & planning of outages with client engineering resource and Northern Powergrid engineers.

AIS to GIS 33kV Project – Ironbridge, Shropshire

Western Power Distribution decided to build a new switch house and replace the existing 33kV outdoor oil circuit breakers and air insulated isolators at Ironbridge BSP for GIS circuit breakers. The works required the re-routing of 13 feeders, 3 Grid Transformers and two temporary connections to maintain the network while works were undertaken. The works were successfully completed on time & budget ahead of schedule.



Scope:

- To excavate all track required, joint holes & areas of mass excavation as necessary.
- To provide standby supervision as required to carry out work in the AIS compound
- To install all new cables – 400mm² XLPE & 630mm² XLPE
- To install cable management at each transformer position
- To reinstate all excavations to match the existing
- To install 18 x 33kV 630mm Outdoor terminations
- To install 45 x 33kV Euromold terminations
- To install 15 x 33kV Euromold surge arrestors
- To install 27 x 33kV Size 3 630mm Pfisterer terminations
- To install 6 x 33kV Size 3 Pfisterer breech joints
- To install 9 x 33kV 400mm Straight Joints
- To install 24 x 33kV Transitional Straight Joints

33kV Works—HS2 Enabling Works, Nr Leamington Spa

Wootton & Wootton were contracted to undertake 33kV cabling and jointing for our client as part of the HS2 enabling works in the Midlands. The project was 7.5km in length on local roads near Leamington Spa and using our multi-skilled operatives we cabled and jointed 14 sections under road closures.

The works were successfully completed ahead of schedule & within budget despite, material failures, a strict programme due to road closures and the high profile nature locally of the over arching project.



Scope:

Installation of 45,000m of 33kV single core 185mm² copper power cable and 15,000m of 19 pair telephone cables

To install 78 x 33kV Lovink joints

All cable sheath testing

Final end to end sheath testing

33kV Asset Replacement—Northampton East Substation

Wootton & Wootton were contracted to undertake 33kV cabling and jointing for our client as part of our Western Power Distribution jointing framework. The project was to recover all the existing cables out of cable tunnels and troughs; install new cable management in all areas, pull new cables and finally terminate.

The works were successfully completed ahead of schedule & within budget.



Scope:

Installation of 33kV 630mm Cu Grid Transformer tails (3 per phase) for GTX1 & GTX2 complete with a 120mm earth cabling per circuit

Installation of 10 x 33kV 400mm Cu feeder circuits

Installation of 2 x 33kV 185mm Cu Aux TX circuits

Supply & installation of cable management system throughout the cable route, inc cable tunnels.

Install 6 x sets of 3 size 3 Pfisterer plug in terminations

Install 8 x sets of 3 Ensto outdoor terminations

Install 10 x sets of 3 Euromold separable connectors

Install 2 x sets of 3 transitional straight joints

Recovery and disposal of the existing 33kV 1000mm PILC GTX 1&2 cables and associated cable management system

Works within confined spaces during removal and installation

33/11kV Transformer Replacement Project - Halesfield Substation, Shropshire

Western Power Distribution (WPD) has decided to change the existing 3 x 33/11Kv transformers as the existing ones have reached the end of their design life. Wootton & Wootton were contracted to provide a turnkey package for the excavation & reinstatement, installation of 11kV cables and associated jointing and terminating.

The works were successfully completed on time & budget ahead of schedule on all 3 outages



Scope:

- To excavate joint holes & track as necessary
- To pull out the existing cables and clean the existing ducts with brush, foam pig & jetting where required
- To install new cables between the joint hole and transformer and transformer to NER (7 x 11Kv 630mm XLPE CWS cables per transformer)
- To install cable management at each transformer position
- To supply & install 40T of washed pebbles within transformer bunds
- To reinstate all excavations to match the existing
- To install 7 x sets of 3 11Kv 630mm Euromold terminations
- To install 1 x sets of 3 11Kv 630mm Outdoor terminations
- To install 6 x sets of 3 11Kv transitional straight joints
- To drill transformer gland plates
- To carry out all necessary cable spiking

11kV Works - Didcot 'B' Power Station OCGT, Oxfordshire

Power Station Owner & Operator Npower need to relocate the existing OCGT (open cycle gas turbine) 11kv switch room to allow for the decommissioning & demolition of Didcot B Coal fired Power station. This meant considerable rerouting of cables and jointing works.

The works were successfully completed on time & budget despite the very awkward access to the switchgear cable boxes & cable management underneath the S/S.



Scope:

Installation of the new 11 KV 800mm XLPE CWS cabling between the new switch room and OCGT 1,2,3, & 4 including all cable management

Installation of the new 11 KV 800mm XLPE CWS cabling between the new switch room and Station Transformer 1 & 2 including all cable management

Installation of the new 11 KV 300mm Triplex cabling between the new switch room and Auxiliary Transformers 1&2.

Installation of the new LV 1c 240mm AWA cabling between the new LVAC Board & Auxiliary Transformer 1 & 2.

To install 24 x 11Kv transitional Bifurcating joints 2 x 1c 800mm XLPE CWS – 1c 1600mm PILC.

To install 48 x 1c 800mm XLPE CWS Nexans Heat shrink indoor terminations.

To install 12 x 300mm Triplex Nexans Heat shrink indoor terminations.

To install 28 x 240mm LV terminations onto the LVAC board & Tx cable boxes.

To carryout AC VLF pressure tests on the new switchboard

To carryout AC VLF pressure tests before and after jointing.

St Vincent & the Grenadines— Phase 1

Vinlec is responsible for the Generation & Transmission and Distribution of electricity to, 42,000 customers on the 32 islands of St Vincent & The Grenadines in the West Indies.

They recognised the necessity to upgrade the High Voltage network to keep up with demand and to expand the 33kV network interconnecting the new & existing diesel power stations with an existing Hydro station. Wootton & Wootton was contracted to install all associated cable joints & termination on the newly installed 33&11kV cables.

South Rivers Hydro Station, Kingstown S/S, Lowman's Bay Power Station, Cane Hall Power station

Scope

To supply labour tools and equipment to install:

- 24 x 33kV outdoor terminations
- 30 x 33kV indoor switchgear terminations
- 15 x 33kV indoor transformer terminations
- 9 x 11kV indoor switchgear terminations
- 9 x 11kV indoor transformer terminations
- 12 x 33 KV straight joints

To supply labour tools and equipment to breakdown the existing 11kV cable box & modify gland plate to suit

After a difficult & frustrating project in a country where there is little in the way of infrastructure we completed the works within the given timeframes and on budget.



St Vincent & the Grenadines—Phase 2

Cane Hall Transformer replacement

It was necessary to re install the existing transformer after it had been sent back to the manufacturers to have the tertiary winding re wound, upon completion it was shipped back to Kingstown, St Vincent. Wootton & Wootton was awarded the project to carryout the following works:

Scope

To supply project management & liaise with client on a daily basis

To supply labour tools & equipment to accept delivery & position 33/11kv 10MVA transformer onto plinth

To supply labour tools & equipment to install primary & secondary bushings, primary & secondary cable boxes, radiators / cooling fins, conservator, associated pipework & Bucholz, terminate all control cables, fill transformer with new insulating oil and carryout oil filtration works

To supply labour tools & equipment to commission the transformer, to include; winding pressure tests; HV & LV CT primary injection test; Ratio checks; temperature indicator tests & cable pressure testing

To supply labour tools and equipment to install 3 x 33kV indoor switchgear terminations

To supply labour tools and equipment to install 3 x 33kV indoor transformer terminations

To supply labour tools and equipment to install 3 x 11kV indoor switchgear terminations

Upon completion hand over all associated QA documentation & test certificates

After a difficult & frustrating project in a country where there is little in the way of infrastructure & support the transformer was successfully energised on time and on budget despite the daily challenges, which we overcame with professionalism and dedication.

