



St Osyth 33kV Connection POC-MAST

A major solar farm required a 33kV connection to a nearby overhead line. BPI produced a patented solution, POC-MAST, now an industry standard at 33kV and 132kV. POC-MAST is designed for each point of connection based on the latest euro codes and using a folded steel mast. It is assembled at ground level and erected using a hydraulic ram. The POC-MAST provided a safe, cost effective solution ensuring working at height was minimised and reduced the 33kV cable connection length by 350m. It also saved the client money.



Little Barford Cable, Substation and OHL Design

An extensive redesign of Little Barford substation was required as well as the design for a new 132kV substation. The new cable route required an existing 132kV overhead line to be terminated at two locations to receive the new cable circuits. Full 3D CAD models of the substations, plus stage by stage dismantlement and construction plans were also produced from the data. Overhead line terminations were designed ensuring the correct terminal tower extensions were specified to meet statutory ground clearance. BPI surveyed a 5km x 7km area using AUTOCAD civil 3D and PLS-CADD and completed the cable rating design. This was a first in the UK.



Scottish Power Energy Networks Aerial Survey

The client had a significant overhead line re-build programme to deliver on the 11kV and 33kV distribution networks. BPI worked with a specialist company that performs surveys using helicopter LiDAR technology to perform inspections and surveys for transmission overhead lines. The aerial survey data and video imagery was used in PLS CADD to design the overhead line circuits to very accurate levels of detail with a construction design pack.



Trowse Solar Farm Contestable Connection Design

BPI were engaged to undertake the design of a 33kV contestable connection design. A full design was required to be completed and submitted to the DNO for approval in line with the 31st March Renewables Obligation Certificates (ROC's) connection deadline. BPI undertook all landowner negotiations for performing the earthing studies, which were delivered by the in house dedicated earthing team. A detailed suite of construction drawings was produced, including the cable route, electrical/earthing calculations and drawings together with the civil design associated with the DNO substation.



Weybridge to Byfleet Thermal Upgrading

BPI were approached to undertake a high accuracy thermal upgrading study for an existing overhead line crossing a number of houses and adjacent features. The OHL comprised ten spans connecting two major substations. BPI's in house survey team completed an onsite high accuracy survey of the underlying features with multiple observations of the existing conductor system. PLS-CADD was used to complete the overhead line design.



Wryde Croft Wind Farm Detailed Design 132kV substation and cable

We were appointed to produce a detailed design for a new 60MVA 132/33kV substation and 132kV cable connection to an existing overhead line for a permanent 14MW wind farm connection. BPI produced the design for a new sealing end platform to an adjacent tower to accommodate the new 132kV cables, approximately 600m from the new substation. This included modification to the existing tower cross arm steelwork to support down leads to connect to the new 132kV incoming cables. BPI also completed the 132kV substation design.

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