CASE STUDY

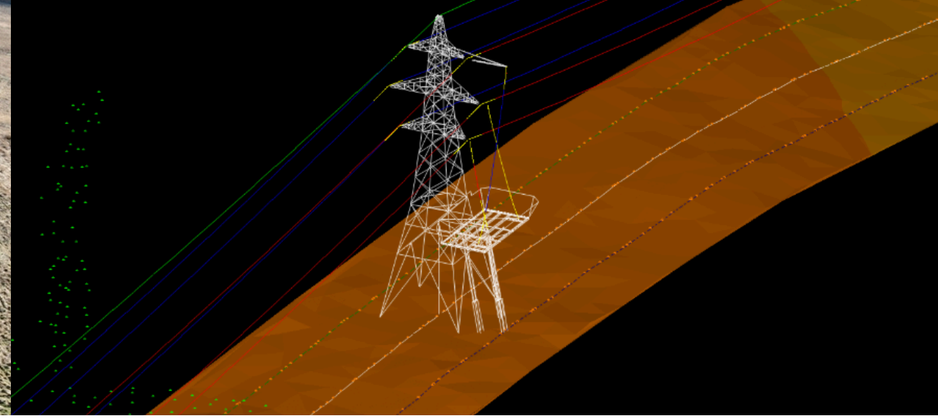
NEWTONWOOD FARM POC

PROJECT TYPE & VOLTAGE
Point of Connection (PoC) Design – 132kV

SERVICES
Overhead Line Design, Feasibility Study, Drafting & CAD, TDR

ASSET OWNER
National Grid Electricity Distribution (NGED)

WORKS SUBCONTRACTED
All works completed in-house



CHALLENGE

Delivering a new point of connection to a solar farm substation on a live 132kV double-circuit line — then resolving a mid-construction cable phasing error that threatened costly delays and penalties.

NGED required a single-circuit point of connection on the Chesterfield–Annesley HR Route to accommodate a new substation compound for the Newtonwood Solar Farm in West Yorkshire. Following feasibility, the chosen solution was a new through-condition terminal tower replacing the existing structure. During construction, an external contractor installed the underground cable incorrectly, leaving two of the three phase colours mismatched against the overhead line design, an error that would have been extremely costly and time-consuming to remedy through rework.

SOLUTION

Groundline delivered a full detailed design and construction package, then rapidly remodelled the overhead line arrangement to match the incorrect cable phasing — avoiding rework and keeping the project on track.

The detailed design scope included PLS-CADD modelling of the new tower, structural and foundation analysis, internal and external clearance checks, sealing end platform load checks, TDR testing of adjacent structures, insulator drawings, line profiles, new foundation design, and geotechnical investigation via boreholes at the new tower location. When the cable phasing error was identified mid-construction, Groundline remodelled the overhead line arrangement, completed all necessary checks, and issued a revised construction package configured to match the as-installed cable phasing, turning around a solution that avoided the need for any physical rework.

IMPACT

A fully compliant point of connection delivered ahead of programme and within budget, with a rapid design response preventing costly operational penalties.

Groundline's ability to quickly remodel and reissue the construction package meant the connection was delivered as planned, without the delays or late operational penalties that the phasing error could have triggered. The outcome reflected both the technical depth of Groundline's design capability and the strength of an established working relationship with NGED, enabling fast, trusted decisions under pressure on a time-sensitive connection project.