

Case Study: OLE

Electrification and
Substation

Commissioning for NWEPP
Phase 3

Client: Network Rail /
Volker Rail

Project Partner: WJ Project
Services

Location: Preston Fylde
Junction to Blackpool
North; West Coast
Mainline, Chat Moss
Route, Willow Park &
Ordsall Lane

Scope: 25kV OLE
electrification, substation
pre-commissioning, HV
circuit breaker
installation, ADP and
SCADA testing



Project Overview

WJ Project Services supported Phase 3 of the North West Electrification Programme, delivering electrification works between Preston Fylde Junction and Blackpool North. The project involved installation of new 25kV AC overhead line equipment and supporting traction power infrastructure to enable electric train operation.

Approach

Works included installation of a booster-less OLE system with aerial earth wire, new feed connections from Preston TSC, and additional sectioning isolators and insulated overlaps. Two HV VMAG 25 circuit breakers were installed at Preston, alongside pre-commissioning of CAIS modular substations at Kirkham North and Blackpool North, including Accelerated Distance Protection and SCADA testing.

Commissioning & Training

Route testing comprised section proving, short-circuit testing, and compliance verification in line with Network Rail standards. Test train operations were conducted to confirm system performance prior to entry into service.

Equipment

CAIS modular substations and HV VMAG 25 circuit breakers were deployed, providing reliable 25kV traction supply and enhanced protection integration across the newly electrified route.

Outcome

The project successfully enabled electric train operations between Preston and Blackpool North, with the first Class 390 Pendolino operating on the newly energised infrastructure.

