

132kV 150MVA DATA CENTRE CONNECTION

North Hyde, West London

SCOPE — Electrical Protection Design · Substation Engineering · Installation · Procurement · Commissioning & Adoption · Energisation

VOLTAGE
132/33kV

CONNECTION CAPACITY
70MVA

PROGRAMME
18 months

SECTOR
Data Centre

CLIENT
JSM (Tier 1 Principal Contractor)

END CLIENT
Data centre developer
(undisclosed)

DELTA HV ROLE
Tier 2 HV specialist contractor

PROJECT OVERVIEW

Delta HV provided the electrical engineering, installation and commissioning scope for a 150MVA 132kV data centre connection comprising a new 132/33kV DNO and customer substation and a 16km dual circuit route through highly congested highway. Delta HV produced the detailed electrical design, engineered the protection and interface schemes for both the adoptable and customer assets, installed and terminated the secondary systems, and carried the plant through cold and hot commissioning to energisation, adoption and as-built handover.

DESCRIPTION & OVERVIEW OF WORKS

Electrical protection design	Protection and interface design for the 132/33kV substation, protection drawings and settings, and supporting power system studies for DNO design approval.
Substation engineering	Detailed design of the DNO and customer 132/33kV substation, auxiliary transformer design, battery sizing calculations, equipment schedules, cable schedules and calculations, and earthing design.
Installation	Installation of HV plant, protection and control panels, secondary and multicore wiring, LVAC and auxiliary supplies, and substation earthing systems.
Procurement	Procurement of protection relays and panels, DC systems and chargers, auxiliary transformer, LVAC distribution and secondary materials.
Commissioning & adoption	Cold commissioning, primary and secondary injection, protection settings verification, circuit and interface proving across 30 joint bays and the associated fibre network, witnessed DNO adoption testing and as-built records.
Energisation	Hot commissioning, on-load testing and energisation of the 132/33kV substation and both circuits, followed by completion and handover.

Technical highlight — managing the NGET interface at North Hyde

Connecting at North Hyde placed the scheme on the transmission boundary, where Delta HV's design and commissioning programme had to satisfy National Grid Electricity Transmission alongside the distribution network operator. Delta HV led that interface directly — protection settings acceptance, tele protection and interface schedules, outage and access applications, and switching under transmission safety rules — and sequenced 16km of route works, two directional drills and the substation programme around a small number of fixed outage dates, achieving first energisation within the window granted.

