

132kV 60MVA DATA CENTRE CONNECTION

Hemel Hempstead, Hertfordshire

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

VOLTAGE
132kV / 33kV / 11kV

CONNECTION CAPACITY
60MVA

PROGRAMME
36 months

SECTOR
Data Centre

CLIENT
JSM (Tier 1 Principal Contractor)

END CLIENT
Data centre developer
(undisclosed)

ASSET ADOPTION
IDNO-adoptable 132kV
compound

DELTA HV ROLE
Tier 2 HV specialist contractor

PROJECT OVERVIEW

Delta HV delivered the protection, substation engineering, installation and commissioning scope for a 60MVA 132kV connection serving a new data centre. The connection comprised a dedicated 11kV substation building, a dual 132/11kV transformer bund and an IDNO-adoptable 132kV GIS switchgear compound. Working to a phased energisation strategy, Delta HV engineered and commissioned a temporary 11kV supply to release the customer's own commissioning programme early, then delivered the permanent 132kV plant, protection and interface schemes through to full energisation and adoption.

DESCRIPTION & OVERVIEW OF WORKS

Electrical protection design	132kV, 33kV and 11kV protection and interface design, single line diagrams, protection settings and grading, and full power system studies and reporting to secure DNO and IDNO design approval.
Substation engineering	Electrical design of the 132/11kV substation, dual transformer bund arrangement, IDNO-adoptable 132kV switchgear compound, LVAC and auxiliary supplies, battery and charger sizing, cable schedules and calculations, and earthing design.
Installation	Installation of 132kV GIS switchgear (PASS M0H), dual 132/11kV transformers, protection and control panels, secondary wiring, multicore and LVAC systems, and earthing systems across both the customer and adoptable compounds.
Procurement	Procurement and free-issue management of protection relays and panels, battery chargers, metering, LVAC boards, secondary cabling and HV ancillaries.
Commissioning & adoption	Cold commissioning, secondary injection, settings application and verification, interface and functional testing, witnessed adoption testing with the IDNO and DNO, and delivery of the full as-built and completion pack.
Energisation	On-load testing, phasing checks and energisation of the 11kV network, GIS switchgear, customer transformers and the 11kV ring following connection of both 132kV circuits to the DNO tower lines.

Technical highlight — phased energisation

A temporary 11kV 'bootstrap' connection from a nearby substation was engineered, protected and commissioned to power the customer's 11kV substation ahead of the permanent works. Delta HV then managed the protection and interface transition from temporary to permanent infrastructure, achieving sectional completion and preventing delay to the customer's energisation dates.

