

SUBSTATION INSTALLATION & CONTESTABLE CONNECTION

MONTAGU HOSPITAL

CLIENT



Integrated Health Projects by
VINCI  **Sir Robert McALPINE**

LOCATION

Mexborough, Doncaster

OVERVIEW

The project was undertaken on behalf of Doncaster and Bassetlaw NHS Foundation Trust, and the work took place at Montagu Hospital, which is located in Mexborough.

The scheme encompassed the installation of two substations with a HV connection off site and LV connections to existing panels on site. IUS installed one substation to the adoptable standards of Northern Powergrid, as well as a customer owned substation. Both substation buildings were single-story brick and block construction, with service voids underneath to support cable routing.



SERVICES PROVIDED

- 11kV switchgear installation
- 11kV ring main unit
- 2MVA transformer installation
- 11kV cable jointing and terminations
- LV cable works
- Excavation and reinstatement
- Electrical protection via VIP400 relays
- Inter tripping panels
- Emergency power off
- Battery and charger
- Earthing study and installation
- Testing and commissioning



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THE PROJECT

IUS completed the design and installation of an 11kV contestable connection to the adoptable standards of Northern Powergrid. The scope included the supply and installation of 2 x 300Al Triplex cable feeders in a trench with an overall route length of approx. 240m. The off-site works included excavation and reinstatement of 90m of made footway and 10m of carriageway (dual trench). The onsite works included excavation and reinstatement of 120m of made ground, and a road crossing within the site boundary of approx. 130m. To energise the Northern Powergrid network required the completion of the 2 x HV closing joints and the termination of the 2 x HV cables into the new HV metered Northern Powergrid substation.

For the customer, the 11kV works included the installation of a Schneider Electric SE6-S2-21 standard switch disconnecter. Also, the installation of two Schneider Electric CE2-T30-21 200A circuit breakers with VIP400 protection. IUS delivered, off-loaded, and installed a 2000kVA, 11,000/415V Midel filled transformer with losses as per tier 2 (2021) (EU 548/2014).

IUS supplied and installed the inter-tripping panels and associated battery auxiliary supply system. The electrical protection services included restricted earth fault, emergency power off, and transformer temperature alarm trip. The electrical and civil design, plus the earthing study, was undertaken by IUS. The earthing study resulted in a standard distribution earthing arrangement for both substations.

"Integrated Health Projects (IHP the joint venture between VINCI Building and Sir Robert McAlpine) worked closely with IUS to deliver the critical electrical infrastructure upgrade to Montagu Hospital. The project was delivered ahead of programme and the Trust were pleased with the results. The communication, expertise and collaborative approach demonstrated by IUS throughout the project played a large part in the successful delivery of the works"

James Gillespie - VINCI Building

