

## CLIENT

Geoffrey Robinson Ltd

## PROJECT

Day Treatment Centre

## LOCATION

Newcastle Upon Tyne

## SERVICES PROVIDED

- HV and LV design
- Supply and installation of HV apparatus and cabling
- Supply and installation of LV cabling
- Supply and installation of HV/LV earth nests
- Supply and installation of electrical protection system
- Testing and commissioning

## FREEMAN HOSPITAL NEWCASTLE UPON TYNE



### OVERVIEW

Robertson CE Ltd has constructed a new building at the Freeman Hospital site, now named the Day Treatment Centre. IUS's scope of works included the design, procurement, and installation of two air-cooled 11000/433V transformers with close coupled 11kV ring main units within a new substation constructed for the Day Treatment Centre. 11kV cables were supplied and installed from an existing substation within the hospital to the Day Treatment Centre substation along with LV cables from the substation to the adjacent LV switch rooms.



### DESCRIPTION

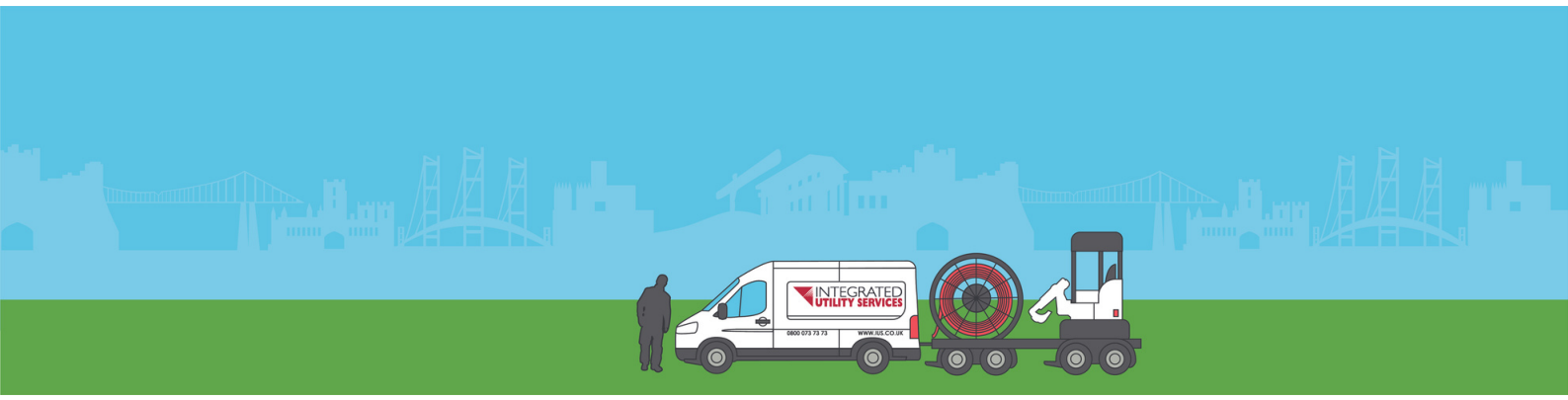
Initial design works were completed by IUS, which included a high voltage fault level and load flow study along with a protection and grading study. An earthing study was also completed for the new substation.

Two Schneider 11000/433V air-cooled transformers c/w close coupled HV ring main unit and LV cable box were supplied and installed within the new substation. An HV/LV earth nest was installed adjacent to the substation as per the design. An Intertrip relay control unit and associated cabling were supplied and installed within the new substation for each transformer for the electrical protection of the transformers.

Two 11kV cable circuits were supplied and installed from an existing substation integral to the main hospital building to the new substation. This consisted of cable fixed to containment within the hospital and external cable laid within an open cable trench excavated by others, at a length of 300m. LV cables were supplied and installed internally within the new substation from the two transformers to the two LV switchboards, with cable terminations at each end.

11kV cables were terminated at the new substation via the 11kV ring main units. The configuration resulted in the new substation being looped into the existing 11kV ring. The system was tested and energised by the IUS SAP.





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