



St Mary's Hospital

1x 1500kVA standby generator

PROJECT DETAILS

Client

St Mary's Hospital

Consulting Engineer

Eta Projects Ltd

Architects

Bruton Boobyer

CDMC

WT Partnership

Value

£1,100,00.00

Timescale

6 months

DESCRIPTION

The project involved the design, tender and implementation for a new High Voltage (HV) infrastructure serving Quadrant 1 of the St Marys Hospital site, Paddington. The project included two new UKPN intake sub-stations supported by the addition of a 1500kVA standby generator to support the existing site standby generator system and the provision of Low Voltage (LV) inter-connectors between each sub-station to provide resilience, redundancy and maintainability.

OBJECTIVES

St Marys Hospital was supplied via several outdated and undersized UKPN Low Voltage (LV) supplies. The two original 500kVA generators that supported the boiler house and Mint Wing were beyond operational life. The Hospital was undergoing major redevelopment works and lack of power was identified as a serious risk and major constraint to the development plans.

Eta Projects were instructed by the Trust to develop a long-term infrastructure strategy for their high voltage and Low Voltage (LV) Electrical Distribution.

DESIGN

Working closely with the project Architect and Trust to ensure that the planning requirements were met in full.

Detailed load analysis was undertaken of the UKPN local network which involved major enhancement works to the external network to provide the necessary capacity to support the long term needs for the site.

The project expanded into the detailed design for the provision of one new UKPN twin transformer sub-station and the upgrade of two existing sub-station. The two aged generators were replaced by one 1500kVA generator.

The project included a complete new Low Voltage (LV) infrastructure and associated Low Voltage (LV) switchboards.

SPECIFIC DESIGN REQUIREMENTS

Due to the architectural layout and congestion of the site, identifying a suitable locations for the new generator was a major challenge, especially with flue emissions.

One of the existing boilers was decommissioned and the generator sited within the boiler house. An innovative solution to the flue emissions was achieved by utilizing one of the existing boiler flues.