

Healthcare / New Build

Key Features:

- » New HV & LV Substation with Generator
- » Existing HV systems maintained throughout the works
- » Live hospital setting



To support the proposed new Theatre extension, the Trust required the re-configuration of the existing HV infrastructure to provide local LV capacity, with sufficient system alterations and phasing to minimise risks during the changeover works.

To this end, we were appointed to supply, deliver, install and commission a HV & LV Substation and a standby generator.

Managing the Design and Procurement of the new Substation

Upon our appointment, we coordinated design team meetings with the Trust and consultant team to review the existing HV systems. We understood these were to be maintained in full use throughout the works, until the new systems were installed and established.

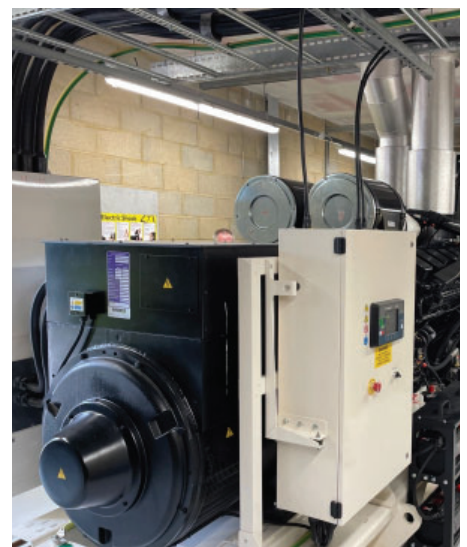
Following this, we held early workshops with our MEP subcontractors and Trust Maintenance to identify the safest and most efficient strategy to achieving this.

Working with our Approved Supplier List (ASL), we procured the new HV & LV 500kVA and 1000kVA/800kW, 0.8PF, 400V, 50Hz, 1500rpm Prime Rated Diesel Generator. Our prompt procurement through trusted members of our ASL was critical at this stage, owing to the 20 week manufacturing lead-in.

Managing the Generator Installation in the Busy Hospital Estate

Key activities in the construction stage included the crane lift for delivery of the new generator. To mitigate for this health, safety and disruption risk, we held early workshops with our generator supplier to establish the most efficient way forward.

In agreement with the Trust, we coordinated a weekend crane lift, making use of a designated section of the car park.



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| Client: | Barking, Havering and Redbridge University Hospitals NHS Trust |
| Project Value: | £2,000,000 |
| Programme Duration: | 32 weeks |
| Architect: | FDE Architects |
| Quantity Surveyor: | Castons |

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Ensuring Public Safety and Continued Hospital Operations

Owing to the nature of the works, isolation planning, approvals and execution was critical. Early discussion with the project team, design team and Trust maintenance was coordinated to ensure a suitable strategy ensured the safety of clients and an uninterrupted hospital routine during construction.

Another key risks mitigated during our construction works was the excavations along the boundary of the fire track, which confirmed the final route of the existing HV cable between substations 3A and 6. Throughout this activity, the fire track was maintained and accessible at all times. Our plans were pre-approved by the Trust Fire Officer.

Works Around Other Contractors

Areas surrounding our site, compound and access/egress routes were in-use by other Main Contractors working on separate projects. As a result, open interfaces, close collaboration and regular reviews with their team and the Trust throughout our contract was key. This ensured we robustly mitigated any possible disruption to the operation of the Hospital or either site.

Robust Commissioning of the New Equipment

Following completion of the installation and testing of ancillary plant, our commissioning and final handover of the equipment was carried out on-site. This included pre-energization of generator/fuel system, loadbank testing of generator/SCR system, integrated system testing, system acceptance testing, black building testing, client training and provision of O&M's.

Our commissioning was carried out during normal hours, with the exception of the Black Building Testing. This was agreed to be done out-of-hours. Five tests were run to ensure the generators started and assumed the full load correctly, following the deliberate failing of the HV & LV supply.



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