

2 x 2MVA GENERATORS & MASTER CONTROL PANEL INSTALLATION



CLIENT: MECHANICAL AND ELECTRICAL CONTRACTORS
LOCATION: NORTH WEST LONDON
PROJECT: GENERATOR AND CONTROL PANEL UPGRADE FOR
MULTINATIONAL INFORMATION TECHNOLOGY COMPANY

Our customer, the principle contractor for the project are a high valued engineering and construction company delivering solutions across Ireland, UK and Europe, contacted us to deliver a complete generator package providing back-up power for a new high security data centre in Middlesex.

The end-client is a multinational information technology company that has continually evolved over the past century to remain at the forefront of technological innovation and has helped the UK evolve to become one of the world's most digitally advanced nations.

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CASE STUDY



The end client will be taking up residence within a new energy centre consisting of 50,000 sq. ft. of data centre space and due to the sensitive nature of their business back-up power is vital.

The project involved working at two areas within the site, East compound and West compound.

West Power House Project

The scope of works for the West Powerhouse included for us to design, manufacture, deliver, install and commission 2 off acoustically packaged 2000kVA

generators and ComAp Control System designed to meet the client specification and performance expectations.

In addition to the install of the generators the project included the design and installation of a new LV Switchroom for a generator synchronised LV board and generator control system, to be sited alongside the generators.

Our Project Director directed the project due to his existing knowledge of the site and technical expertise. On meeting with our customer and the end client and following a thorough site survey, our Project Director presented our proposed design recommendations to the customer and end-client.

After agreement by the customer and end-client of our proposed design and schedule of installation we were able to make progress on the manufacture of the 2000kVA generators and ComAp Control System. With the site delivery date scheduled our installation team were organised, briefed and prepared for task ahead.

Following manufacturing of the generators they were packaged and delivered to our rental depot in Dover, Kent where they were placed and fixed on top of a 26,000 litre bunded belly fuel tank, suitable for external conditions, complete with fill point cabinet and fuel polisher. Our specialist generator engineers proceeded to fit out the generator containers with fuel polishers, fire systems and fuel transfers in preparation for a two day factory acceptance test attended by the customer and end-client.



On the scheduled day, 2 off 2.5MVA load banks, supplied by our rental department Powerhire, were used for the test and ran for 12 hours proving the reliability of the build and was then followed by an impact and transition load test the following day.

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Following two long testing days, the customer left happy and satisfied that the equipment would meet the client specification and performance expectations. The generators and fuel tanks were dismantled, loaded by a mobile crane and delivered to site by low loader trailers. Once at site the equipment was offloaded at ground level and positioned onto prepared plinths enclosed by a galvanised steel walkway. Due to this surrounding walkway it meant that the space into which the generators were to be positioned was very tight giving the crane operator only a few millimetres of flexibility, which meant accuracy was key. Once positioned into place by the expert crane operator,

our service engineers were able to complete the final installation comprising controls and wiring.

A site acceptance test was carried out with 2 off 2.5MVA load banks running for 12 hours per generator proving the reliability of the assembled generators which was then followed by a day of impact and transition load testing.

Both generators were commissioned following the final system testing and functionality proving.

East Power House Project

The scope of works for the east power house included the supply, install, test and commission of a new free-standing generator Master Control System utilising three existing 1.4MVA generators and 2 x mains supply on an outstation switchboard.

This was a complex operation to cater for as we had to predict all possible fault combinations and ensure that the control system would still survive a mains system failure and operate under a mains failure scenario to minimise the risk to site.

After the successful installation, testing and commissioning of the new Master Control System our Project Director and Commissioning Engineer attended site to interface all the control systems with the existing generators and LV input boards to suit the client's migration programme from existing switch panel to new switch panel.

In accordance with our schedule we supplied one day's training on site for all staff to include familiarity training with the use of the sites operations and maintenance.

The project was satisfactorily completed on time, with minimal interruptions to the site and within the budget allocated.

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