

Client: BP UK

Location: Sunbury, Middlesex

Sector: Laboratory/Mixed Use Offices

Project value: £1,000,000

Project: Chilled Water Plant & HVAC Plant Replacement



Brief

The project scope/requirements for our client was the replacement of two air cooled packaged chillers, replacement of primary and secondary pump sets to include inverter speed drives, upgrade of chiller power supplies and metering to LV sub-stations, replacement of all air handling equipment at plantroom level and complete upgrade of onsite BMS system, MCC control panels and software strategy.

Action

Due to the operation of the testing laboratory within the ground floor of the building, which was business critical to our client, the replacement plant was required to be sequenced over two phases to ensure there was no impact on their operations while new chilled water and HVAC plant was installed. Phase 1 of sequencing consisted of running new chiller power supplies adjacent to existing supplies and containment and terminating in the spare ways within the LV substations. We also carried out enabling works to the existing mechanical supplies in readiness for the crane lift of the replacement chillers.

These works enabled the system to remain operational on one chiller, while replacing the standby chiller. These enabling works also included off site fabrication of chiller supports and replacement pipework, which limited the amount of hot works onsite and enabled a simple bolt-on system to the existing chiller upstands. This also formed a maintenance gantry for future servicing and maintenance. Both chillers were replaced in sequence after a satisfactory proving period with no impact on the operation of the critical chilled water system.

Outcome

This project has now been carried out over two phases, due to the ventilation, cooling requirements and operation of the ground floor laboratory.

Phase 1- completed 2011

Installation of 2 No. air cooled chillers

Replacement of 12 No. primary and secondary variable speed pumpsets

Replacement of 2 No AHU's

Replacement of 8 No. fume extract ventilation fans

Upgrade of 5no. MCC's and associated hardware and software

Phase 2 – due for completion March 2012

Replacement of 2No. AHU's

Installation of laboratory VRF system

Upgrade of ventilation system

Comms room cooling upgrade

Upgrade of 3no. MCC's and associated hardware and software