

PROJECT PROFILE

CLIENT
COLT TECHNOLOGY
SERVICES GROUP LIMITED

LOCATION
CENTRAL LONDON

SECTOR
DATA CENTRE

PROJECT
HEAD END COOLING UPGRADE



OVERVIEW

To replace the non-compliant and unreliable cooling plant within a live mission critical facility, where interruption of the cooling services could cause major communications failure. The existing cooling plant comprised of upflow and downflow CRAC units with a cooling mode of either direct-expansion R22 refrigerant with water cooled condensers or via the in-built free-cooling coils. The six roof mounted dry-coolers providing the heat rejection were also to be replaced.

To undertake the plant replacement of a new pre-fabricated roof plantroom containing secondary pumps, pressurisation and filtration plant, BMS and L.V. power distribution and three new 600kW air-cooled Turbocor water chillers across two main installation phases.

Phase one installations required new 'hot-tap' connections into the existing primary flow and return pipework, removal of three dry air-coolers and new steelwork support structures. Phase one systems were commissioned and brought online with a managed process of testing and integration into the existing systems. The chilled water system was then integrated into the existing condense system and cooled water distributed to the CRAC units free-cooling coils. After which a third chiller was installed, commissioned and brought online to provide the N+1 redundancy.

Phase two consisted of internal CRAC unit replacement in a sequence whereby only one unit per technical space was replaced in order to maintain N operation.

A seamless transition of the primary data cooling plant to a new, efficient system with improved redundancy and control. The previous refrigerant systems were removed and state of the art technologies implemented. The site saw improved BMS monitoring and fault reporting via the Arena MODBUS networks incorporating all new plant, as well as new acoustic treatments, roof walkways and LED lighting, handrails and roof access installed by way of an external staircase and security gates. This challenging project was successfully handed over within time and budget.