



Critical heating and cooling infrastructure upgrades for the University of York Biology Block including the replacement 2no. 750kW chillers, 1no. 450kW chiller, 4no. 750kW boilers, associated hot & chiller water pipework as well as primary and secondary pump sets.

Value: £1,000,000 Date: Dec 2019 – Sep 2020



The critical nature of the equipment required minimum levels of heating and cooling capacity to be maintained throughout (450kW cooling / 1.5mW heating). We achieved this through careful sequencing of the works and making use of; hot tapping for backup generators and chillers, pipe freezing and temporary connection of equipment through flexible pipework.



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The project presented a challenge in that there was no possibility for the use of a crane lift and therefore required that the chillers were delivered to site kit form / stripped then lifted and shifted through the live site up to the chiller compound to be reassembled in situ. A comprehensive plan and safe system of work was developed for this element, including setting out of access routes, protection of these routes & areas with boarding, signage and dust sheets, use of pallet trucks, ratchet straps and an A Frame hoist.

The timing of the project also introduced a unique challenge as the COVID-19 pandemic struck during the primary works. This allowed us to demonstrate our ability to adapt to unforeseen issues, quickly developing a plan to ensure continued heating & cooling provision whilst the University introduced a campus wide temporary suspension to all works.

New CHW pipework was redesigned at high level to eliminate the previously obstructive layout, improving access for future maintenance.



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The nature of the project was such that various specialist sub-contractors were required. In fulfilling the role of Principal Contractor, we managed and co-ordinated these elements which included:

- Pipework Fabrication & Welding
- Pipework Freezing
- Hot Tapping
- Electrical Works
- BMS Integration & Programming
- Airedale's Service Team (Strip & Build)
- Airedale's Commissioning Team
- Hoval's Commissioning Team

We prepared full safety plans for the works including a Construction Phase Plan, Risk Register, Risk Assessments, Method Statements, Induction Packages, Safe Systems of Work, Site Health & Safety Boards, and assisted with the submission of HSE F10 notification.

Nominated sub-contractors were appropriately vetted to ensure they held the relevant competencies and insurances, also verifying suitable management systems were in place at the organisational level.

Sub-contractor RAMS were processed by the Project Management team for approval. Our Site Supervisor worked closely with this team to report on the parties involved, considering health, safety, environmental and quality factors whilst monitoring the programme closely to ensure the timing plan was adhered to.



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