

Cool-Therm Canary Wharf project shortlisted for two major awards

A project carried out by Cool-Therm has been shortlisted for two awards in the forthcoming H&V News Awards for Excellence 2016.

The project involved replacing the cooling and heating system in one of the iconic buildings in London's Canary Wharf, on behalf of a major financial organisation.

The new system has dramatically reduced building running costs and carbon emissions, while providing outstanding indoor comfort for occupants. As a result, it has been shortlisted for Building Services Project of the Year and Retrofit Project of the Year.

Energy costs have been reduced by some £255,027 a year, amounting to nearly £5000 per week. Savings will continue to accrue over the anticipated 10 to 15-year operational life of the plant, delivering total lifetime savings of between £2.55m and £3.8m.

Designed and installed by Cool-Therm in collaboration with Gratte Brothers and WSP London, the replacement system is based on all-fresh air heating and cooling. This is supplied by high performance Air Handling Units (AHUs), with a combination of waterto-air heat pumps and dx cooling.

Key to its efficiency is the harnessing of energy from condensing water from the cooling system for use in heating the building.

The building was originally equipped with a hvac system based on six US-made Mammoth fresh air AHUs, providing dx cooling with electric heating. The system was inefficient and under-powered given increases in the intensity of building usage over time. It was also proving expensive to maintain.

The brief was to replace the system to deliver substantial savings in energy running costs and carbon emissions, while increasing capacity by 25per cent. The plan had to be based on an all-fresh air system to maintain a high quality indoor environment.

Despite the increase in duty, the replacement solution had to occupy the same or smaller footprint as the original plant due to space restrictions on site.

Cool-Therm's solution is based on six Clima Tech AHUs linked to six Geoclima waterto-air heat pumps. Each AHU has a capacity of 16.5 m³/sec, and each heat pump a heating capacity of 354kW and cooling capacity of 393kW.

This gives an enormous total fresh air volume for the installation of 99m³/sec, total heating capacity of 2.34MW and cooling capacity of 2.12MW.

The phased project had to be carried out over three separate, carefully managed stages as the existing ventilation system could not facilitate a total shutdown of fresh air systems.

To minimise energy usage in heating mode, heat from condensing water (normally discharged via the building's cooling towers) is captured by the heat pumps for use in pre-heating air. To ensure the purity of fresh air supplied to the building, a two-stage filtration process is used.

As a result of the successful completion of the project, Cool-Therm was invited to bid for and successful won the contract to replace the ageing chillers on the building.

The awards culminates in a finals event at The Grosvenor Hotel on London's Park Lane on 21 April 2016.

<https://awards.hvnplus.co.uk>