



Air New Zealand HQ

improves performance and comfort



Client: Goodman New Zealand

EnergyMaster: Lance Jimmieson, Jackson Engineering Advisers.

Challenge: Improve tenant comfort and energy use of the HVAC system in Air New Zealand's headquarters.

Solution: An in-depth audit of the existing HVAC system and BMS was carried out, control systems were reprogrammed to meet site-specific requirements, and the mechanical plant was recommissioned and enhanced.

In brief: On behalf of Goodman New Zealand, Jackson Engineering Advisers investigated the Heating, Ventilation and Air Conditioning (HVAC) system, at Air New Zealand's headquarters in Auckland (The Hub). Jackson's then carried out remedial work and retuning of the system that:

- Significantly improved the operation of the system, resulting in enhanced tenant comfort.
- Improved the reliability of the HVAC control system, while capturing significant electricity savings.
- Has resulted in an equivalent payback period of 2.6 years for the project.

The project

The project began with an investigation of the Hub's six-year-old Variable Air Volume (VAV) HVAC system. The tenant and landlord both had concerns about the performance of the system – noticing areas of the building being too hot, too cold, stuffy or draughty.

The Jackson team reviewed the original system design and existing plant set-up, and did an in-depth review of the Building Management System (BMS).

The solution

A number of solutions were employed by Jackson's. They implemented improved control strategies that addressed the airflow and draught-related tenant discomfort complaints. The innovative use of Uninterruptable Power Supplies (UPS) effectively addressed the existing control reliability issues.

The control systems were extensively reprogrammed and tailored to site-specific requirements, the plant was recommissioned, and mechanical plant enhancements were identified and implemented.

As the work needed to be carried out while the building was operational, close liaison and cooperation with the landlord and tenant was paramount. Regular project meetings were scheduled to update the tenant on the work. This enabled the tenant to keep their staff informed and demonstrate that progress was being made to address their HVAC concerns.

"The result has seen an impressive reduction in tenant complaints and control components

failure," said Lance. "It's a more efficient building with happier tenants. Before we carried out this upgrade, control faults were a common occurrence. However, since then there have only been two control faults in the past year."

"The plant and equipment life has been extended and it is now operating efficiently within its improved design parameters, helping protect the asset value of the building. The resulting reduction in energy consumption is a direct benefit to the tenant, with the tenant-landlord relationship also benefiting directly."

The company

Building services consultants Jackson Engineering Advisers frequently deal with situations where existing HVAC systems are not operating effectively. Their approach is to identify and resolve any problems or limitations with the existing plant to provide a healthier building environment and improved tenant satisfaction. This also offers other benefits, including substantial energy savings and extended plant life.

Director Lance Jimmieson said the trigger for building owners engaging his company is usually tenant complaints about the performance of the HVAC system, with discomfort and energy use being the prime drivers.

"We identify and resolve often very complex issues for the benefit of the owners and tenants," said Lance. "Typically such work in an existing building will also result in energy savings of more than 30 per cent."

"The performance gains of recommissioning the HVAC system have been significant; however the real gains will be dependent on the longer term maintenance regimes that target keeping the building at this optimal performance level."

Paul Ross, Manager – Facilities Management and Property, Air New Zealand (tenant).

"The process has resulted in a positive outcome for Goodman and Air New Zealand, further cementing our commitment to providing high quality sustainable properties to our customers."

Craig Stephens, Engineering and Building Services Manager, Goodman New Zealand (client).



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