

CASE STUDY

US SKYSCRAPER GETS HIGHER LEVEL OF CONTROL

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The facilities manager at 101 North Tower, Phoenix – Arizona's second tallest building – does far less walking these days, at least during working hours. Thanks to the installation of a Trend BMS in the 31-storey multi-tenanted office building, he and his staff are no longer forever on the move making adjustments to the air-conditioning, this now being done centrally. Greatly improved comfort conditions and significant energy savings are other major benefits brought by the system, which was supplied and installed by Mechanical Maintenance Inc (MMI) – a Trend Technology Centre.

The Trend BMS is part of a \$3.9million refurbishment of the 26-year old, 33,000m² premises, the majority of which is commercial office space. The system's numerous, network-linked IQ outstations automatically control and monitor the building's main HVAC plant – including its boilers, chillers, cooling towers and six large air handling units – plus the hundreds of single- and dual-duct VAV (variable air volume) terminal units that serve the floors. There are some 40 of these per floor.

The dual-duct boxes can be used with one duct in heating and the other in cooling, or with both supplying cool air. They are operated in the latter mode during the summer months, when outside temperatures can exceed a sweltering 40°C. In the past, switching

to dual cooling involved a large number of dampers being manually cranked open on every floor, a job that was hugely manpower intensive. However, with the Trend BMS in place it is now achieved in moments, rather than days, avoiding the need to divert manpower from other duties.

The inadequacies of the building's previous, pneumatic controls resulted in offices being over-cooled, which as well as being uncomfortable for the occupants was very wasteful of energy. In contrast, the Trend IQs provide highly accurate control of air temperature, flow and quality, which makes for a pleasant environment and efficient use of energy. Moreover, they are more flexible and reliable than the old controls, and offer lower whole-life costs.

The system's main operator interface is a Trend '963' supervisor, through which the facilities manager can centrally manage the BMS and access monitored data such as temperature levels and plant status. This facility enables him to quickly respond to tenant queries, which he can investigate and resolve without someone having to go to the affected floor and make adjustments locally, as had previously been necessary.

The system at 101 North Tower is the largest Trend BMS in the USA.

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