



Case Study – Caltrans TM Center

EDUCATION / HEALTH CARE / LODGING / MANUFACTURING / OFFICE BUILDING / RETAIL / SPECIAL



Advanced Controls Keep Emergency Center Up and Running 24/7

Project Objectives

Housing around-the-clock emergency response personnel, who coordinate disaster relief and answer 911 calls, the San Diego Transportation Management Center (TMC) must be operational 24-hours-a-day, seven-days-a-week. The TMC needed a centralized system with off-site monitoring capability, to integrate control and management of their existing, sophisticated Carrier HVAC equipment, as well as monitor the critical and complex safety and security systems that protect the building. Optimizing performance and efficiency was a key objective to conserve energy and save taxpayer dollars.

Solution

Carrier's advanced direct digital controls (DDC) met the challenges, implementing reliable on-site or remote monitoring of more than 90 critical building systems. The Carrier Comfort Network® (CCN) with ComfortWORKS® optimized HVAC equipment performance – saving energy costs – and enabled problem detection and troubleshooting from a centrally-located computer station – conserving maintenance resources. All of this allowed TMC's management to breathe easier, knowing that any alarm conditions would be instantly communicated, enabling computerized adjustment or the immediate response of a technician, and maintaining the building's essential continuous operation.



With the simple click of a mouse, Carrier's Comfort Network enables immediate problem detection and troubleshooting from a centrally-located computer.



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Project Synopsis

San Diego's Transportation Management Center is responsible for directing fast, coordinated disaster relief when lives and property are at stake. So it's essential that all building systems operate flawlessly and continuously, and that emergency personnel have a fully-functioning and comfortable work environment. Carrier's state-of-the-art direct digital control (DDC) technology was the perfect solution to the challenges of integrated management, control and monitoring of vital building systems.

Four Seasons Heating & Air Conditioning installed a complete controls system that addressed the need for precision, reliability and centralized management. The system's mainstay is the Carrier Comfort Network® (CCN), an electronic communications system that not only integrates the control and management of the building's Carrier HVAC equipment, but also monitors the TMC's emergency and life-support systems to ensure they're working properly at all times.

"In addition to monitoring the chillers, boilers, pumps, air handlers and variable air volume boxes – all activity that you would typically monitor in an HVAC system of this sophistication – CCN automatically monitors alarm conditions within the building's fire, life/safety*, door security and electrical distribution systems, circuit breakers and portable power centers," said Gary Seelinger, Four Seasons managing partner. "CCN monitors more than 90 emergency systems in the building, including such things as the circuit breakers, fuel levels in the diesel fuel tanks and the radios and telephones. And you can use CCN to troubleshoot and diagnose problems, even running an actual physical check to see if the HVAC system is doing what CCN says it's doing."

Directing CCN and all of this monitoring activity is ComfortWORKS®, Carrier's multi-tasking software interface, which uses Microsoft® Windows® NT. The building has two ComfortWORKS stations connected to a Local Area Network. An Autodial Gateway III module enables the system to be monitored from off-site locations, and will even direct notification of an alarm condition to a personal pager, enabling immediate response to system problems.

Carrier's precision controls ensure that the building operates continuously and that every alert or alarm condition is communicated immediately to facilities staff. The Carrier system gives the building's management access to strategic information about equipment performance, enabling them to make better, more proactive decisions. And perhaps most important, TMC personnel now have added peace of mind, knowing that critical building functions are being monitored 24-hours-a-day, seven-days-a-week by the most advanced controls technology available.

*CCN does not, however, take the place of a fire, life/safety system.



"One of the best features of CCN is that you have full control over the HVAC system. You can control the entire building's temperature from your desk, raising or lowering the temperature in any room."

Greg Simmons,
TMC chief engineer



Carrier's precision controls keep the TMC running 24/7.

Project Summary

Location: San Diego, CA

Project Type: New construction/controls

Building Type/Size: Steel structure, special earthquake-proof construction/Two-story, 42,000 sq. ft.

Building Usage: Communications hub for high-way patrol, transportation

department, 911 operators, other emergency response departments

Objectives: HVAC management and control; monitoring of vital building systems; off-site monitoring; efficiency/cost containment

Major Decision Drivers: Reliability; uninterrupted service; advanced capabilities

Design Considerations: Complex and sophisticated building systems

HVAC Equipment: Carrier Comfort Network(CCN); ComfortWORKS; Autodial Gateway III

Unique Features: Controls monitor vital building systems in addition to HVAC

Project Cost Range: \$100,000 to \$500,000

Installation Date: 1995

Contractor: Four Seasons Heating & Air Conditioning (turnkey controls contractor hired by Southern California Air Conditioning Distributors)

For more information, contact your nearest Carrier Representative, call 1.800.CARRIER or visit our web site at www.carrier.com