



285 Billerica Road

16% First Year Energy Savings

Project at a Glance:

Type: EMS/DDC Control System
Vertical Market: Commercial Office
Location: Chelmsford, MA
Size: 56,400 SF
Products: Trend, Honeywell, Tridium
Installation: 2010

Customer Benefits:

- Energy efficiency
- Improved temperature control and comfort
- Remote control and monitoring



Project Overview

Altid Enterprises is the owner of a 54,600 square foot office building in Chelmsford, Massachusetts. The three story building was constructed in 2000. Tenants complained about high utility bills – utility costs were approximately \$170,000/year for the building. Additionally, there was limited night set back features so even in the winter the building remained relatively warm in unoccupied hours. Finally, even though there was gas heat available in the rooftop units, all the heating was done with expensive electric heat. The building is fully leased so all the work needed to be completed while the building was occupied.

The Solution

FMC Technologies partnered with Prism Energy Services to provide a complete renovation of the controls by replacing electronic controls with a new BACnet DDC control system. A Technical Assistance study by Energy Resources (sponsored by the customer and National Grid) used energy use modeling software to develop savings strategies and estimates.

FMC utilized enhanced sequences of operation to significantly reduce the amount of energy used by the HVAC system. The DDC

system controls each rooftop AC unit, all fan powered terminal boxes (FPTB) and variable air volume boxes (VAV) in a closely integrated manner. A Tridium Jace with a user friendly front end was installed to integrate the Trend and Honeywell controllers.

The Bottom Line

The EMS drastically improved the energy efficiency of the building. The actual first year savings were \$27,500. In addition, huge rebates were awarded by the utility companies for the project and the cost after incentives was financed by National Grid. ENERGY STAR's Energy Performance Rating nearly doubled going from a 32 to a 60 in the post construction year.

The addition of DDC controls significantly improved the operation of the facility and coordinated each zone and RTU with demand controlled ventilation, discharge air reset and improved thermostatic occupancy control. The new graphical user interface and remote access makes the system easy to operate and adjust.