



“The controls must work well for the savings to happen. With Delta Controls Chicago’s great service, we save a lot.”

– John Sokolewicz
Chief Engineer
777 N. Michigan Ave.

Magnificent Savings on The Magnificent Mile

Site:
Draper and Kramer
777 N. Michigan Ave.
Chicago, Illinois

Delta Partner:
Delta Controls Chicago, Inc.

For information contact us at
708-865-9800
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Background: The 43 story tower at 777 N. Michigan Avenue houses 330 luxury condominiums along The Magnificent Mile in Chicago. The location, the decor, the views all added up to luxury; but, the heating, air conditioning and ventilation system was not up to par for delivering the quality comfort that is expected by its affluent tenants.

Unique Problem to Solve:

The amount of fresh air coming into the building never balanced the constantly changing exhaust air causing drastic swings in ventilation and comfort. The 33,000cfm of constant make-up air was a tremendous energy drain during Chicago’s hot, humid summers and bone chilling winters. The main heating and cooling served by boilers and chillers was also wasting energy by running at near design capacity even when the outdoor temperatures were mild.

System Solution:

The design team saw a unique opportunity to capture the energy lost through the exhaust system and transferring it to the energy needed for the make-up air. The heat transfer design in the ventilation system maximizes dehumidification without using any additional energy resources. Varying chilled water and condenser

water flows and isolating one chiller as needed produced significant additional savings.

Delta Controls Chicago was chosen to improve comfort control and operating expenses. The Delta Controls DDC control system has the flexibility and reliability to sequence the several pieces of equipment into one coordinated system. The ease with which the Delta Controls’ graphical interface monitors the comfort and efficiency made the Delta Controls a natural choice for Draper and Kramer. The owner’s investment is protected with the Web capability and by using industry standard BACnet open protocol communication capability throughout.

Results:

The variable make-up air and the heat recovery strategy are so efficient that additional heat from the boilers is not required until the outdoor temperature drops below 40 degrees F. Piping modifications along with improvements to the cooling tower reduced pump and fan energy by 130 HP. Altogether, improvements have resulted in more than \$90,000.00 per year in gas and electric savings. This project won a 1st Place 2004 Excellence in Engineering Award from the AHSRAE Illinois Chapter.