

CASE NO. 05

BUILDING TYPE: ApartmentNO OF UNITS: 83LOCATION: 325 East 79th
New York, N.Y.

Tenant comfort has increased, we've reduced consumption and increased efficiency.

PROBLEM: The heating situation at this east New York City apartment building was a complicated, 4-part challenge:

- The building had outdated heating equipment - both inefficient and ineffective to run, and costly to maintain.
- To better control indoor temperatures, the building needed to be separated into two existing heating zones.
- To take advantage of an energy loan program, the ability to switch from gas to oil became necessary.
- A highly sensitive smoke alarm had to be installed to comply with NY City law.

Richard Rocca, of Church Management, contacted Ralph Germain of Germain Consulting Engineering. Mr. Germain united with Gerry Gilligan, the Building Maintenance Supervisor, to develop a state-of-the-art, economically sound system.

SOLUTION: First, Ralph Germain recommended replacing the building's 50-year-old boilers with two full-modulation boilers and a Heat-Timer MOD-4 control. This control can regulate up to four full-mod burners and requires only one pressure sensor to be installed on a common header.

The R.D. Mortman Company handled the installation and fully appreciates that all necessary adjustments can be made right at the MOD-4 panel. Explains Mr. Germain, "Now there's no need for anyone to climb on top of the boilers to make an adjustment."

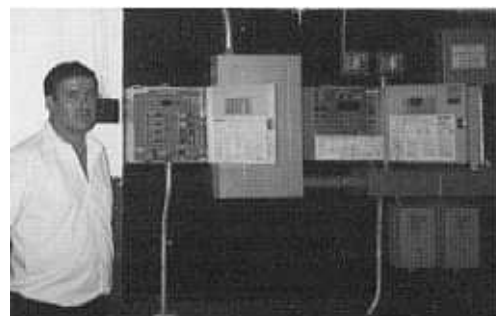
Mr. Germain then recommended individual control of the building's two heating zones: The south side of the building would be overheated because of its exposure, while the north side was nearly always cold. The building had an unequal distribution of steam throughout. To better control individual heat loss characteristics, he suggested installing Heat-Timer motorized valves with individual MPC controls to regulate the delivery of steam. The MPCs monitor outdoor temperature to determine the required amount of heat (steam) to be distributed to each zone. When an MPC recognizes the need to provide heat, it activates the Heat-Timer MOD-4 and the required modulation will begin to maintain steam pressure. "Each MPC control individually regulates an independent motorized valve to provide steam to that side of the building requiring heat," explains Germain. "Now an even temperature is maintained throughout the entire complex, and there's no need to run both boilers at all times. Tenant comfort has increased, we've reduced consumption, and we've increased efficiency."

The newly installed boilers have submerged coils to generate domestic hot water. As these are steam boilers, the temperature of domestic water could easily exceed 200F°. Mr. Germain recommended a 3" Heat-Timer Tempering Valve to regulate the domestic hot water temperatures. This valve mixes boiler hot water from within the coils with both cold water from the street and hot water return. "Given all of the times I've inspected that complex since the new installation, I've never seen the hot water temperature vary by more than a degree or two."

For part three of this project, Mr. Gerry Gilligan, Building Maintenance Supervisor, required that the building's heating system have the ability to switch from gas to oil "Our gas company offered us a lower rate if we were able to switch from gas to oil during severely cold temperatures," he explains. "If we were able to make this capital improvement and demonstrate the efficiencies over a 15 year period, we could take advantage of the energy loan program." To accomplish this, R.D. Mortman installed a Heat-Timer Digi-Span SPC100F-a 4" x 4" control with LED digital display. The Digi-Span is used to monitor outdoor temperatures when determining whether oil or gas should be used to heat the building. "The Digi-Span switches the full supply at 17°," confirms Mr. Gilligan. (Note: the digital display on this new control is so easy-to-read that Ralph Germain had R.D. Mortman install Digi-Spans on each boiler as a hot water aquastat for warm seasons when producing heat is unnecessary.)

The final challenge was in choosing an appropriate smoke alarm for the new system—one that would meet city law mandating that an alarm be installed in the stack if more than 20 gallons of oil is to be burned per hour; this building's new boilers each have 37.5 lb/hr capacity. Again, Mr. Germain specified a Heat-Timer product, the MLS-A, to comply with this requirement.

"Not only does this alarm effectively monitor smoke density, but it will shut the boilers down if something isn't working efficiently. I've had nothing but success with Heat-Timer controls," confirms Germain. "Their products are more precise, and they're the only ones that can accurately control the modulation. They offer full technical support and act quickly on any problems that may occur. No questions asked. This entire 79th Street project was complicated...but choosing Heat-Timer as our supplier was never a question."



Gerry Gilligan, the building maintenance supervisor, shows off Heat-Timer's state-of-the-art economically sound system.