



PNC Bank Data Processing Center

Project Owner and Location
PNC Bank Data Processing Center
Cincinnati, Ohio

Firm's Responsibility
Facility Energy Analysis
Engineering Design
Construction Management

Total Energy Cost Savings
\$90,000 / year

Cost of Project
\$120,000, with a 1.25 year
simple payback



PNC Bank operates a twelve story, 120,000 square foot data processing facility in Cincinnati, which services the entire corporation. The bank was concerned about the high utility costs for the facility, and new computer equipment was exceeding the capacity of the current air conditioning systems. The bank was facing a major investment to expand the current air-conditioning system in order to meet demand.

PNC Bank hired ThermalTech to analyze the facility operation. The objectives of the analysis were to determine all economically feasible means of reducing utility costs and to allow for the possibility of adding more data processing equipment without installing new cooling systems.

Extensive instrumented field measurements were taken on all energy systems. Dozens of opportunities were investigated to cut costs and increase system capacity, including:

- On-site boilers instead of purchased steam
- Power-factor correction
- Improved air handler temperature control
- "Free-cooling" methods for the chilled water system
- Air distribution system modifications
- Lighting modifications

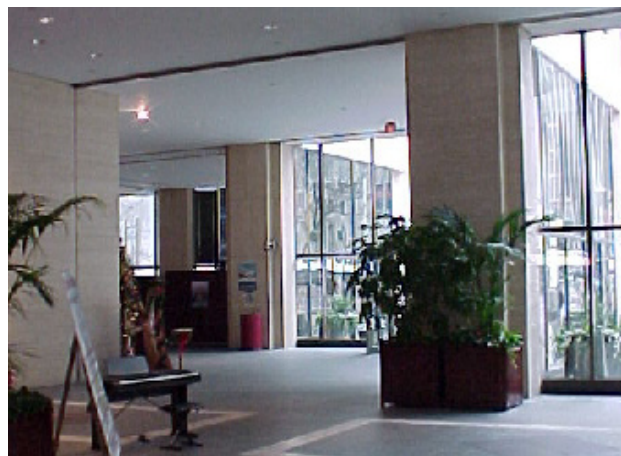


American Society of Heating, Refrigerating,
and Air-Conditioning Engineers

Over sixty separate opportunities were recommended as a result of the analysis. ThermalTech was then retained to provide the design and construction observation to implement the selected improvements.

The project identified \$90,000 in utility savings for a \$120,000 investment, which accounted for a 20% utility cost reduction. 25% additional cooling capacity was obtained from the existing equipment, which saved PNC from spending \$150,000 on new cooling system equipment. In addition, ThermalTech was able to obtain a \$14,000 refund from the steam supplier for past overcharges.

ThermalTech earned a First-Place ASHRAE Award in the Cincinnati Chapter competition for the cost-reduction engineering on this project.



**Large windows in the building allowed for
high-efficiency lighting solutions**