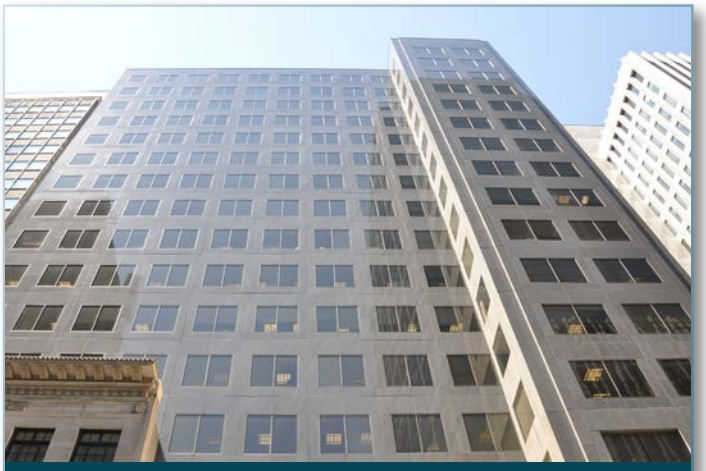
DIMAX
Driving Building Performance

Avoiding Energy "Creep" - Commercial Office

Issue

A 245,000 square foot office tower in downtown Toronto began showing signs of increased natural gas consumption. Historically the consumption of natural gas in this building tracked normally in accordance with outdoor air temperatures. Towards the end of the 2010 heating season gas consumption began tracking approximately 7% higher than in prior years.

With the resultant higher than expected utility costs, the building was not expected to meet its operating expense budget. In addition, the overheating condition began to cause tenant discomfort, driving up complaints and service requests.



- 245,000 square feet, 18 story office tower
- High efficiency perimeter radiation heating and VAV compartment unit cooling

Action

Through *Dimax's* Building Performance solution and its connection to the buildings' intelligent systems the behaviour of the heating equipment was analysed in detail.

Dimax quickly identified:

- The 6-inch, 3-way heating valve serving the perimeter radiation loop for the entire building was not modulating properly.
- The perimeter heating loop was operating at excessively high temperatures.
- The zone valves were bypassing resulting in the return water being only a few degrees cooler than the supply water.

In concert with building operations corrective measures were taken to address these operational anomalies.

Results

The cause of the excess gas consumption was resolved by rebuilding the actuator in the 6-inch, 3-way heating valve serving the perimeter radiation loop. Repairs were carried out immediately and excess gas consumption was eliminated within a matter of a few weeks. Had this not been recognized and resolved promptly the excess consumption would likely have been assumed to be weather related and not addressed.

An ongoing cost increase of approximately $1,500 to $2,500 per month was avoided due to continuous, real-time measurement and verification.

Identifying Gas Consumption "Creep"