

# Retrofit Case Study

## Cambridge Space Heaters vs. Hot Water Boiler Heavy Equipment Warehouse



### Facility Specifications

- (8) 134,375 ft<sup>2</sup> buildings
- 1,075,000 ft<sup>2</sup> total
- 24' high
- Concrete walls
- Concrete roof w/ 1 1/2" insulation
- Located in Delavan, IL

## Before – Hot Water Boiler/Unit Heaters

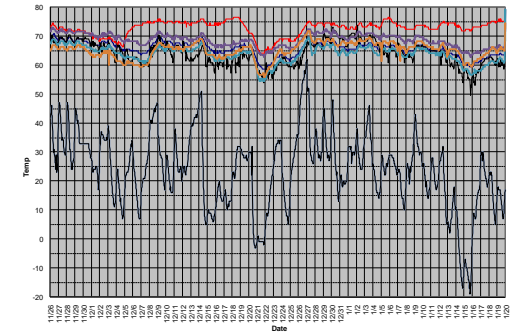
### Performance

- Uneven temperatures
- Cold draft areas
- High maintenance cost
- High gas and electric bills

### Operating Costs

Based on:  
589,793 therms/1,640,667 kWh for 2008  
Normalized to 30 year averages

**\$0.55/ft<sup>2</sup> Gas cost @ \$1.00/therm**  
**\$0.14/ft<sup>2</sup> Electrical cost @ \$0.09/kWh**



## After - Cambridge Space Heaters

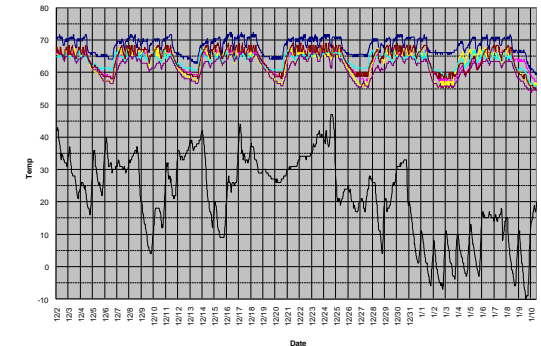
### Performance

- More even temperatures
- Reduced maintenance costs
- Reduced gas and electric bills

### Operating Costs

Based on:  
406,256 therms/267,216 kWh for 2010  
Normalized to 30 year averages

**\$0.38/ft<sup>2</sup> Gas cost @ \$1.00/therm**  
**\$0.02/ft<sup>2</sup> Electrical cost @ \$0.09/kWh**



### Summary

The Cambridge system used **42% less** total energy.  
The Cambridge system saved approximately **\$312,000/year** operating at  
\$0.40/ft<sup>2</sup> vs \$0.69/ft<sup>2</sup>.



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