

# Comparative Case Study

Cambridge Space Heaters vs. Recirculation Heaters

## Large Distribution Warehouses

### Cambridge Space Heaters



#### Operating Costs

Based on 6,149 Heating Degree Days @ 60°

\$0.17/ft<sup>2</sup> Gas cost @ \$1.00/therm

\$0.02/ft<sup>2</sup> Electric cost @ \$0.08/kWh

**\$0.19/ft<sup>2</sup> Total cost**

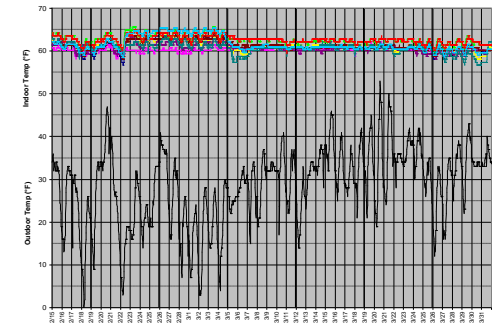
#### Building Specifications

- 1,400,000 ft<sup>2</sup> x 36' high
- R-14 Roof / R-10 Walls
- 256 Dock Doors
- Located in Upstate NY

#### Heating System

- (17) Cambridge Space Heaters
- Roof top mounting
- 37,400 MBH total
- 11,600 CFM average
- 197,150 CFM total
- 162.5 HP total - intermittent

#### Performance



± 6° indoor temperature variation  
from 60° setpoint

### Recirculation Heaters



#### Operating Costs

Based on 5,770 Heating Degree Days @ 60°

\$0.41/ft<sup>2</sup> Gas cost @ \$1.00/therm

\$0.14/ft<sup>2</sup> Electric cost @ \$0.08/kWh

**\$0.55/ft<sup>2</sup> Total cost**

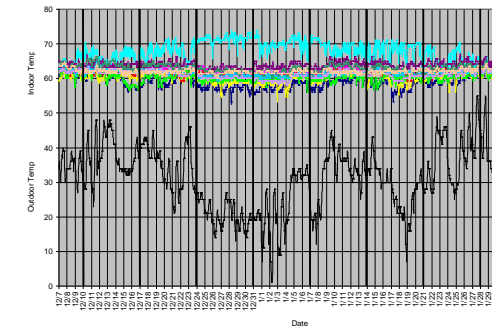
#### Building Specifications

- 825,000 ft<sup>2</sup> x 35' high
- R-19 Roof / R-12 Walls
- 164 Dock Doors
- Located in Lansing, MI

#### Heating Systems

- (8) Direct Fired Recirculation
  - 61,600 MBH total
  - 560,000 CFM total
  - 280 HP total - continuous
- (2) Indirect Fired Recirculation
  - 6,000 MBH total
  - 200,000 CFM total
  - 20 HP total - continuous

#### Performance



± 12° indoor temperature variation  
from 60° setpoint

#### Summary

The Cambridge system used over **65% less** total energy with less temperature variation in a colder climate.  
If the 825,000 ft<sup>2</sup> facility had installed a Cambridge system they could have saved approximately **\$297,000/year** operating at \$0.19/ft<sup>2</sup> vs. \$0.55/ft<sup>2</sup>.



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