

EMS Case Study

Copperweld

Steel Tubing Manufacturer in Chicago, IL



Energy Management Systems

Problem: Rising Natural Gas Prices

Average Price per Dth in the 1990's . . . \$2 - \$3

Price Range per Dth in 2005 and 2006 . . . \$6 - \$14

Case Study: **Copperweld Chicago, IL**

Building Size – 325,000 sq. ft.

Heating/Cooling Equipment

- **5 Air Make-up Units**
- **10 Unit Heaters**
- **19 Tube Heaters**
- **6 Miscellaneous Heaters**
- **10 Air Conditioning Units**
- **16 Heat/Cool Units**



Energy Management Systems

Energy Challenges

- **Difficult to control 66 pieces of equipment spread over large areas and different departments.**
- **Employees turning thermostats up, even in mild weather.**
- **Lock boxes were not effective.**
- **Heating/cooling equipment not turned back at night or weekends.**
- **Heaters run in mild weather when overhead doors are left open.**
- **Internal quality problems due to humidity.**
- **Heat cost \$430,000/year.**

With an EMS System Installed . . .

- **66 thermostats were replaced with tamper-proof electronic temperature sensors.**
- **13 TAC control panels control all HVAC equipment.**
- **All networked to a central PC with custom software programmed by EMS.**
- **Humidity monitored in 4 areas of the plant.**
- **Time required to train client on the system: 4 hours.**



New Energy-Saving Strategies **Automatic and Consistent**

- **Plant temperatures remain at sensible and comfortable levels.**
- **Temperatures setback 20 degrees during unoccupied hours.**
- **Plant heaters never run when outdoor temperature is above 55 degrees.**



Benefits

- **Humidity is no longer a problem.**
- **Lifecycle of heating equipment is extended 8-12 years.**
 - **Downstream savings of thousands of dollars.**
- **HVAC maintenance is reduced.**
- **Monitoring HVAC equipment is convenient.**

Client Energy Savings Per Year

Year 1 \$260,000 – adjusted for temperature differences

Year 2 \$275,000

TOTAL: \$535,000

