

*"The Powerit system is a great tool. We have achieved the predicted savings and would definitely recommend it to others."*

**Dick Winsemius, Plant Engineering and Maintenance Manager, Cannon-Muskegon**

## Case Study: Cannon-Muskegon Corporation



### Powerit's Financial & Environmental Impact:



26% decrease in peak demand



ROI: 10 months



Avoided the generation capacity to power 999 homes\*



Equals generation capacity CO2 offset of 1,755 acres of fir tree forests

\*Based on the US DOE Residential Energy Consumption Survey, 2003, and based on the definition of a single-family home.



**Cannon-Muskegon Corporation** in Muskegon, Michigan, develops and produces premium grade superalloys for commercial, medical, and aerospace applications. Specifically, Cannon-Muskegon's patented single crystal CMSX® and directionally solidified superalloys are found in advanced aerospace and industrial gas turbine engines, and their medical alloys are used in the production of medical prosthetic implants. In operation for over 50 years, Cannon-Muskegon supplies the investment casting industry with engineered products as well as the foundry industry by producing certified ingots for remelt. Cannon-Muskegon is owned by Precision Castparts Corp., a worldwide, diversified manufacturer of complex metal components and products headquartered in Portland, Oregon.

### **Cannon-Muskegon Corporation, Muskegon, Michigan**

#### **Initial Load Management Requirements:**

- 6 Furnace Loads

#### **Powerit Solutions Installed:**

- Energy Management Hardware and Software
- Konnekt Wireless I/O™
- Energy Sub-metering



### **A Powerful Need**

Cannon-Muskegon's existing demand control system was installed in the early 1970s. An updated system was needed to keep control of escalating costs vital in keeping a competitive edge. Business was booming. They had just added new furnaces to the facility and needed a system to seamlessly integrate with new power supplies. Their outdated system was allowing the load level to skyrocket to 6,800 kW resulting in painful peak demand charges, a very significant part of their electric bill.

Powerit was contacted to address this issue and conducted a free onsite energy assessment, taking careful consideration of equipment loads and necessary production schedules. They found by integrating a Powerit Solutions system, the facility's load level could be cut to reduce costly peak demand charges. It would seamlessly integrate with new equipment and reduce average monthly demand without risk to production. Powerit helped the facility analyze peak loads and understand their rate structure. They developed a load shedding strategy to lower consumption during periods of peak demand.

### **A Powerful Solution**

Powerit installed the system, and six furnace loads were identified as primary targets for reducing peak demand. The system uses embedded operator intelligence from plant personnel then integrates into the controller by Powerit. When the software predicts a peak demand situation, it automatically reduces furnace power. Facility engineers were trained on how to optimize the capabilities of this new system and were shown how they could use automatic reporting to track system performance. Immediately after installation, Cannon-Muskegon used the system to reduce their peak load level from the original setpoint of 6,800kW down to 4,800 kW, resulting in an average monthly savings of over \$8,000. Production was kept in top priority and costly peak demand was reduced by 26%.

With the steady increase in business, new production records were achieved at the lower setpoint. After only 10 months of using the system, Cannon-Muskegon had received their full ROI and continues to save each month.

