Description
The facility historically discharged waste heat via a heat transfer system from the cupola iron melting process to the atmosphere. A heat recovery loop was added to provide building heat during the colder months. The closed-loop system was designed to transfer heat via a propylene glycol solution circulating through heat transfer coils. The heating coils pre-heat the ambient air prior to intake by the space heating units in various zones throughout the facility.

Environmental Benefits
• The completed heat recovery system provides 70% of the plant’s heating requirements for a typical winter, resulting in energy conservation.
• As an added benefit, the system provides hot water to the facility throughout the year.

Cost & Savings
• Heating costs have been reduced and carbon dioxide emissions have been cut by 4,600 metric tons of carbon dioxide per year.
• The initial cost of equipment was paid for within two years by savings on heating costs.

Other Benefits
• Strengthened business continuity due to reduced energy dependence.
• The project earned the 2009 State Governor’s Award for Excellence in Environmental Performance.

Applicability
• This project would be transferable to any facility that has waste heat discharged into the ambient environment.

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