



O&M Services/Turnkey Installation

Customer: Chef Francisco - H.J. Heinz

Location: King of Prussia, PA

Scope of Work: Armstrong International owns, operates, and maintains the utility assets, including steam, compressed air, and wastewater treatment. Additionally, Armstrong is responsible for the maintenance of the steam and air distribution systems throughout the Chef Francisco facility.

The powerhouse produces a peak of 105,000 lbs/hr of steam and 7000 cfm of compressed air.

The Armstrong engineering team conducted several upgrade projects in the steam, compressed air, and wastewater systems.

Armstrong maintains a crew of four on-site employees who are responsible for the operation and maintenance of the utility assets and the steam and air distribution systems. This includes an Armstrong site supervisor who has overall responsibility for these systems including system efficiency, reliability, and reporting.

Upgrade Projects:

- Reduce boiler blowdown
- Increase condensate return
- Repair and/or replace failed steam traps
- Compressor cooling heat recovery
- Recover heat from refrigeration machines
- Upgrade hot water system for lines A&B
- Improve air quality and reduce system pressure drops
- Replace damaged or missing insulation on steam/condensate pipe lines
- Installed new air compress with a VFD, saving substantial energy
- Installed new receiver tank for compressed air system
- Boiler combustion optimization
- Installed compressed air condensate drains
- Reduce air compressor's operating pressure
- Installed water separator
- Upgrade pH adjustment and DAF Unit
- Installed industrial vacuum pumps to eliminate "Venturi" air waste
- Installed capacitor bank to increase the power factory avoiding electricity penalties
- Installed an Energy Optimization System (EOS) to monitor energy usage and utility systems performance

Contract: The agreement's total value is in excess of \$62 million. The financing was secured utilizing Armstrong strategic partners, Americas Power Partners/LaSalle Bank. The type of contract is an Energy Service Agreement.

Terms: 26-year operation and maintenance term began September 2001.

Benefits: Heinz avoided \$2 million in capital expenditures and improved reliability and environmental concerns. All savings were guaranteed (savings amounts cannot be shared by confidentiality agreement). Heinz received a capital payment for the powerhouse assets.

