Pinnacle Foods Group Inc.

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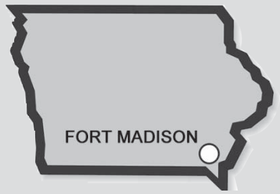


Pinnacle Foods Group Inc., a manufacturer of 12 national leading food brands, added the Fort Madison Armour® plant in 2006. The 420,000 square-foot Fort Madison facility lies on 117 acres and employees about 500 people. The multi-million dollar plant produces canned foods including Vienna Sausage, Treet®, chili, stew, hash, spreads, dried beef and Lunchbuckets®.

Project Background

The project goal is to present the Fort Madison food plant with well-developed opportunities to conserve energy. The project is oriented towards energy conservation in the following targeted and prioritized areas: compressed air, heat reclamation, and load shedding.

Incentives to Change

Pinnacle Foods emphasizes sustainability and strives for continuous improvement of their processes and environmental record. Improving energy efficiencies has significant economic benefit for the company and a positive impact on the environment.

Results

Compressor run time

The compressors are controlled using load/unload pressure set points and are sequenced in a cascading manner to minimize the number of compressors running. Running reciprocating compressors when there is only intermittent demand is more efficient than running a rotary screw compressor without a VFD. This opportunity exists during sanitation hours and will save $6,800 annually.

Reduce artificial demand

Artificial demand causes additional compressors to run to satisfy spikes in air demand. Installing a demand side controller will create useful air storage by maintaining a pressure differential between the supply and demand side of the system. The controller will level off demand and prevent additional compressors from coming online. The reduced run time of the compressors will potentially save $23,000 annually.

Reduce Compressed Air Leaks

The leak load in the system is estimated to be 264 CFM. This is 15 percent of the total compressor capacity and costs $27,800 annually.

Implementing a leak detection program, utilizing an ultrasonic leak detector, can reduce the leak load to 10 percent of the total compressor capacity, saving $10,300 annually.

Improve end use efficiency

Compressed air blow-offs are used for drying and forcing applications. These blow-offs can be replaced with engineered air nozzles and knives, significantly reducing air consumption. Replacement of 28 targeted blow-offs with engineered nozzles will result in $12,900 annual savings based on three shift operation. Electrically driven blowers are an alternative to using compressed air for blow-off applications. Replacing three compressed air flat nozzles with three air knives supplied by one centrifugal blower will save $4,000 annually based on three shift operation.

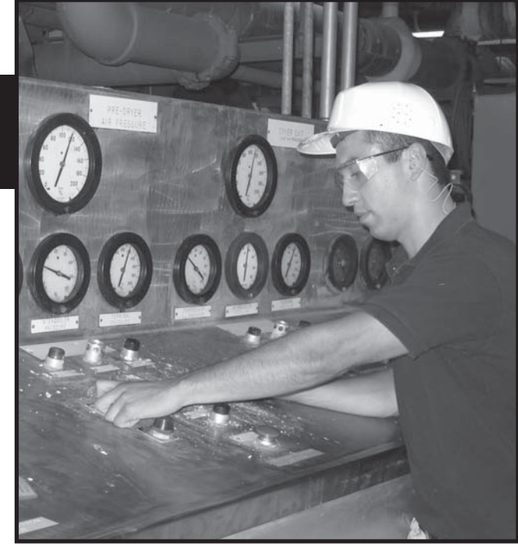
Air motors greater than 1 HP are not typically cost effective to run. When these motors fail, it is recommended to replace them with hydraulic pumps and motors. Replacing four 3 HP air motors will save $10,600 annually.

Heat Reclamation

Several wasted heat sources have been identified and evaluated: single pass cooling on compressor, cooling water discharging from cookers, and flue gas in boiler stacks. One use for this wasted heat is for boiler make-up water. By sending preheated make-up water instead of 60°F water, a substantial amount of savings can be attained from reduced natural gas use. The heat reclamation from the single pass cooling on the compressor will save $20,000 annually.

Load Shedding

Using power monitoring equipment, ten 100+ HP motors have been logged and the data has been analyzed to determine an optimal run time schedule. Reducing the peak electric demand by 100 kWh will save $14,800 annually.



Air Pollutants Diverted in Tons

	Total for all sectors
SO2	2.44
CO	0.25
NOX	1.16
VOC	0.04
LEAD	0.0
PM	0.06

Green House Gases Diverted in Tons (CO_2 Equivalent)

	Total for all sectors
CO2	455.51
CH4	15.02
N2O	4.96
CFCS	5.5

Project	Annual Cost Savings	Environmental Results	Status
REDUCE COMPRESSOR RUN TIME	$7,100	273,077 kWh	Recommended
REDUCE ARTIFICIAL DEMAND	$23,000	401,538 kWh	Noted; not recommended
REDUCE COMPRESSED AIR LEAKS	$10,300	396,153 kWh	In progress
IMPROVE END USE EFFICIENCY	$23,500	903,846 kWh	Recommended
HEAT RECLAMATION	TBD	TBD	Further evaluation needed
LOAD SHEDDING	TBD	TBD	Evaluation in progress