



NATIONAL BEEF CASE STUDY

WATER & ENERGY SOLUTIONS

redefining efficiency since 1969

Kemco Systems

recently partnered with a beef processing plant to assist with their hot water sanitation needs while the plant underwent process expansions. As one of the highest volume beef processing plants in the industry, the company needed to replace antiquated equipment with updated, efficient and cost-effective technology.

Project Overview

To create an accurate installation blueprint, Kemco's field engineers performed an on-site plant and process evaluation. Through this evaluation, Kemco engineers determined the best-suited equipment to improve system efficiency while confirming sizing and technical specifications could be met prior to installation.

The company has installed and utilized several Kemco products across multiple facilities since 1997. By partnering through a channel partner, Kemco installed two 25 mil BTU direct contact water heaters in the beef processing facility allowing the facility to heat water on demand for sanitation purposes.



Recent Issues

Before updating their process with the help of Kemco Systems, the beef processing plant's originally required a large boiler to properly heat water for sanitation purposes. The boiler was approaching the end of its lifespan, prompting the facility to search for boiler replacement solutions. This search led them to Kemco's direct contact water heater. Unlike traditional boilers, a direct contact water heater utilizes thermal heat energy, decreasing the amount of heat required for effective water sanitation.



Solution Overview

Kemco's direct contact water heaters are non-pressurized vessels designed to generate hot water with a 99.7% fuel efficiency rate while also reducing CO2 emissions. Direct contact water heaters allow combustion products to come into direct contact with the water it heats.

Installing two direct contact water heaters will allow the beef processing plant a 25% increase in system efficiency as the units will generate 60,000 gallons of water per hour on demand. This process significantly lowers fuel expenditures, emissions and labor costs. Kemco's direct contact water heaters do not require boiler feed chemicals and reduce costs associated with traditional boiler maintenance.

Results

The beef processing plant will achieve a cleaner water sanitation process as well as tangible returns on its investment. The recently installed direct contact water heaters are projected to reduce the facility's water heating costs by \$364,000 each year, compared to conventional gas-fired heaters or boilers operating at a 65% efficiency. This cost reduction is based on operating 40 hours per week, 52 weeks per year heating 1,000GPM of water from 60°F to 160°F with a natural gas cost of \$6.50 per 1,000 Ft³.

