



INDIAN SUMMER

LOCATION

Ludington, Michigan

PROFILE

An increase in production required additional steam from the boiler system.

CHALLENGE

Deciding to retrofit or replace the boiler equipment to meet production needs with an energy-efficient, sustainable solution.

SOLUTION

Perform a BOOST (Boiler Operation Optimization Savings Test) analysis on the existing boiler room to determine the best equipment solution to meet their steam and sustainability needs. The report recommended a boiler replacement for reduced fuel usage and NOx emissions.

RESULTS

With an estimated 35-month payback for the new system, they also benefit from:

- 32% reduction in plant fuel usage
- An estimated 9% increase in production

Indian Summer Reduces Fuel Expense 32% by Installing New Boiler System

Company Initially Wanted to Repair Current System, Changed Mind Following BOOSTSM Comparative Analysis

BACKGROUND

In 2010, Indian Summer, manufacturer of apple juice and related products, was running three boilers between 100 to 300 HP, two of which were more than 30 years old. The plant, located in Ludington, Mich., had added more pasteurizers and filtration equipment to increase production, but according to Larry Morton, maintenance manager for Indian Summer, the boiler system was already maxed out.

Motivated by the need for more steam as well as escalating maintenance costs on their current equipment, the company contacted John Wallish at Dean Boiler in Grand Rapids, Mich. John Wallish met with executives at Indian Summer to understand the company's goals. He discovered that energy efficiency was top-of-mind for the company along with lowering emissions. The local utility company was offering rebates to manufacturers that made energy-efficient upgrades; however, the decision to purchase new equipment would have to be fiscally responsible in the long run.

"The new boiler runs the whole plant without any problem at all. We went from running three boilers to running one at 1/2 to 3/4 throttle. It doesn't even run wide open. It's a world of difference."

—Larry Morton, Maintenance Manager
Indian Summer

BOOST ANALYSIS PROVES RESULTS

Wallish believed that an investment in new equipment would be profitable for the company; however, he needed financial proof to convince them. As a result, he turned to BOOST (Boiler Operation Optimization Savings Test), a proprietary program offered by Cleaver-Brooks that details the annual cost savings to a company for making certain energy-efficient upgrades, retrofits or replacements. Wallish input information about Indian Summer's existing boiler room as the basis for the analysis and ran a comparison of their three boilers against several variations of a new Cleaver-Brooks system.

BOOST generated reports for each configuration, showing Indian Summer the predicted efficiency calculation and associated dollar savings of replacing versus repairing its current equipment. The reports also provided detailed financial analysis that showed Indian Summer its after-tax savings, net present value (NPV), internal rate of return (IRR) and after-tax payback.

THE SOLUTION

After analyzing the reports, Indian Summer decided to purchase a Cleaver-Brooks CBR 500 HP boiler with economizer, feed system, blowdown heat recovery and separator at a total project cost of \$350,000 - \$400,000. According to BOOST, the overall savings was projected to be \$965,312 over a 10-year period, with an estimated 18.9% reduction in overall energy expense and a 17% reduction in NOx emissions.

BOOST DELIVERS RESULTS

The new boiler equipment was delivered in August 2010. After installing the new system, Dean Boiler started shutting down the plant's old boilers one by one. Due to the energy-efficiency of the new system, Wallish found that he could shut down all three of the plant's existing boilers and carry the full load, including the increase in BTUs, with the Cleaver-Brooks boiler.

In the initial BOOST analysis, Dean Boiler had anticipated having to run one of the older boilers alongside the new system, but that has not been the case. According to Morton, "The new boiler runs the whole plant without any problem at all. We went from running three boilers to running one at ½ to ¾ throttle. It doesn't even run wide open. It's a world of difference."

As a result of the system's increased efficiency, production has increased 9% and the plant is using 32% less fuel with an estimated 32- to 37-month payback.

Shutting down the older boilers significantly increased the system's efficiency and projected payback period. As a result, production has increased 9% and the plant is using 32% less fuel. Whereas, the initial payback period was projected to be 51 months, Wallish said the company will reach this mark in 32-37 months.

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