

STIMSON LUMBER fast tracks energy efficiency improvements to reduce operating and maintenance costs.



The time and cost of routine roll case maintenance had become too much for Stimson Lumber. Two roll cases—industrial conveyors without belts—at the company’s lumber mill in Clatskanie, Oregon, receive large timbers after they have been cut. The roll cases move each timber to a steel backstop, where they are lifted for transportation and storage.

For years, the roll cases had been operating continuously for 10 hours per day, five days a week. With cut timbers only arriving once every four minutes on average, the roll cases were wasting a significant amount of energy. They were also creating maintenance issues.

“Our timbers are 16 by 20 inches in diameter and up to 32 feet long,” says Spencer Hull, Electrician and Energy Champion for Stimson Lumber, one of the oldest, continuously operating forest products companies in the United States. “That’s a lot of mass to bring to a stop.”

With the rollers operating nonstop and at full speed, the timbers would slam into the backstop, causing significant wear and tear on the roll cases. And because the rollers continued to run after the timbers reached the backstop and before they were lifted, they also had the potential to mar Stimson’s product.

“We were probably spending \$300 each month on roll case maintenance,” Hull reveals. “Not to mention the energy costs associated with the rollers running nonstop.”

Stimson had been working with its serving utility, Clatskanie PUD, and Bonneville Power Administration’s (BPA) Energy Smart Industrial (ESI) program to improve the energy efficiency of its compressed air and lighting systems. BPA’s ESI program works with Northwest public utilities and their industrial customers—offering program management, technical assistance and financial incentives—to advance energy efficiency throughout the region. Stimson’s roll case issues presented an excellent opportunity to reduce energy use and improve performance; a perfect fit for the ESI program.

“I mentioned our roll cases to an ESI representative during a meeting, and asked if there were any energy efficiency incentives available,” says Hull. “We went down to the

TRADE ALLY

N/A

UTILITY

Clatskanie PUD

PROJECT

Roll case #3

ENERGY SAVINGS (kWh)

3,601 kWh/yr

ENERGY SAVINGS (\$)

\$139 per year

PROJECT COST

\$1.472

INCENTIVE

\$900

PAYBACK

4.1 years

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roll cases immediately after the meeting, and he started taking measurements. He had a data logger with him, and did a quick spot check of the roll case voltage, amp draw and cut timber timing."

Within two weeks, a proposal was developed and approved by Clatskanie PUD and BPA.

VFD CONTROLS AND PHOTOCCELL SENSORS IMPROVE ROLL CASE EFFICIENCY

With financial incentives from Clatskanie PUD and guidance from the BPA ESI team, Stimson Lumber began improving the energy efficiency of its timber sawing operations. Variable frequency drive (VFD) controls and photocell sensors were installed for both roll cases.

The rollers are now turned on by the VFDs once the timbers have been cut and are ready for transportation. The new photocell sensors, placed at the midpoint of the roll cases, tell the VFDs when to turn off the rollers.

"The VFDs and photocell sensors have been terrific," says Hull. "Instead of running continuously, our roll cases only turn on when a timber is present, which is about 15 seconds every four minutes. And instead of slamming into the backstops, our timbers come to a gentle stop."

The improvements have reduced the energy consumption of the roll cases by 87 percent, saving 3,601 kilowatt-hours (kWh) and \$139 per year. A \$900 incentive from Clatskanie PUD through the BPA ESI program covered 70 percent of the total project cost. And perhaps most importantly, the project helped ease the time and cost of roll case maintenance, which had totaled thousands of dollars each year.

"It was amazing how quickly this project came together," says Hull. "It took less than two weeks from proposal to approval, and less than two months from approval to installation.

"I was really impressed with the skills Clatskanie PUD and the BPA ESI team brought to the table," he concludes. "They knew exactly what to monitor and check. They handled the proposal and the incentive paperwork. And they made sure the process was fast and seamless. It was a small project, but a very successful one."

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For information about BPA ESI:

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