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Bennett Lumber Company

Piedmont (Calhoun County)

After refurbishing a used boiler in 2006, Bennett Lumber Company increased throughput so much that they were able to completely shut down their natural gas-fired kiln.

Bennett Lumber Company is a manufacturer of lumber and crating and pallet material. Their manufacturing facility consists of sawmill, drying kilns, and planer operations.

Bennett Lumber Company is operating a wood-fired boiler rated at 250 bhp to supply steam to their drying kiln. The boiler system consists of the actual boiler, a fuel silo, automatic fuel metering, a chemical premix and preheat water tank, ash removal system, and above-ground steam lines to the kiln. The boiler is kept fired 24 hours per day, 7 days per week to support kiln requirements. The boiler was purchased as a used system from Superior Hardwoods in Louisville, Kentucky. Industrial Boiler Services out of Boston, Georgia, was contracted to assist in the refurbishment of the system and to design the appropriate control system needed at Bennett. The Bennett Lumber system was designed to burn pine sawdust and shavings produced in their planer mill. This sawdust contains approximately 12-19 percent wet basis moisture content.

The Bennett Lumber Company's boiler system is supplying steam to one drying kiln. A second natural gas fired kiln, the original system that was replaced by the wood-fired boiler and steam kiln, is available onsite but is not being used. The new steam kiln has the capability to dry 55,000 board-feet in 15 hours to 19 percent moisture content, while the natural gas kiln takes 72 hours to process the same amount of lumber. This increase in throughput has allowed Bennett to completely shut down the natural gas-fired kiln and to eliminate the natural gas usage required by that system. The drying capability of the new kiln has also allowed Bennett to pursue a market expansion into larger lumber sizes, specifically 4"x 4" and 6"x 6" lumber. The original kiln system was unable to dry these larger sizes to an adequate moisture content level, which restricted production to 1" thickness boards of varying widths.

In the first few months of operation, the wood-fired boiler and steam kiln have already proven to be a successful investment for Bennett Lumber by eliminating the need for

natural gas in the drying kiln. During the visit, James Bennett reported, "I don't know if we'd still be here if we hadn't put in this boiler."