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Quick Response, Teamwork Put Weyerhaeuser Boiler Back in Business

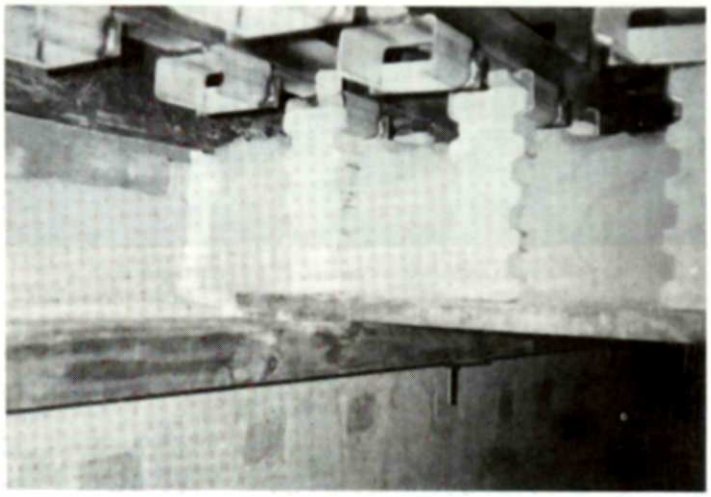
This summer, a CHM|C-U crew was doing routine maintenance work at Weyerhaeuser's Raymond, Wash. stud mill, when they got an emergency call from Weyerhaeuser/Cosmopolis about 30 miles away. The pulp and paper mill had just shut down their #1 red liquor boiler after finding that some loose refractory from the burner area had fallen out the bottom of the furnace.

Within half an hour, CH Murphy|Clark-Ullman had a team of superintendents on the Cosmopolis site. Refractory superintendent Dan Dean and boiler superintendent Wayne Schutt were able to make on-the-spot decisions about the work needed, immediately order the necessary scaffolding and start organizing repair crews.

> *"It became clear that it called for a major repair."*

"Mike Blazek, the plant maintenance engineer, was waiting for us when we got there," said Dan. "They pulled the burners so we could visually inspect the unit. Under two of the burners, brick was falling out and the steel behind it was heat-damaged."

The first order of business was to remove enough loose brick so that it would be safe to put up scaffolding inside the boiler.



View of boiler interior shows system of metal hangers and anchor bricks used to support the plastic refractory material.

Once the staging was in place, further inspection revealed more boiler damage in the 275-ton Babcock & Wilcox unit.

"It became clear that it called for a major repair," said CHM|C-U sales representative Dennis Sullivan.

"The steel skin near the burners was corroding and pitting badly. These units operate at around 2,500 degrees Fahrenheit, and the red liquor is slightly acidic. When you combine the acidity and high heat, the atmosphere becomes very reactive with anything it lands on," Dennis said.

"We also noticed that the superstructure supporting the roof was warped from heat because of the refractory starting to fail there," said Dan. "Plus, the refractory on the sidewalls had started to deteriorate."

Next, the challenge was to get enough new refractory material to the site in a hurry.

"We checked with a number of our refractory suppliers, and one of them was able to ship our order that same day," Dan said.

With materials enroute, the refractory crew started their tear-out while a CHM|C-U boilermaker crew cut out and replaced damaged steel. Metal work included replacing a wind box and valves on the boiler in addition to repairing structural steel and replacing a portion of the boiler skin.

CHM|C-U's shipment of 125,000 lbs. of plastic refractory arrived in less than three days, and was installed on the boiler walls and roof. The lower sidewalls featured a Bigelow Liptak setting. CHM|C-U was able to salvage much of the system, and as a result, the job was substantially more economical for Weyerhaeuser.

"We really combined all our skills – in refractory, steel and boiler work – to help the

continued on page 2

Slip-Joint Solves Boiler Expansion Problem

Sometimes the knowledge you bring to a job pays off in an unexpected way. A case in point was a job at the Potlatch Corporation mill in Lewiston, Idaho, where CH Murphy|Clark-Ullman was hired to renew the refractory in the #4 power boiler.

The mill had been experiencing particular trouble with rapid deterioration of the refractory in one of the corners. Based on past experience with similar equipment, CHM|C-U was able to identify and solve the problem.

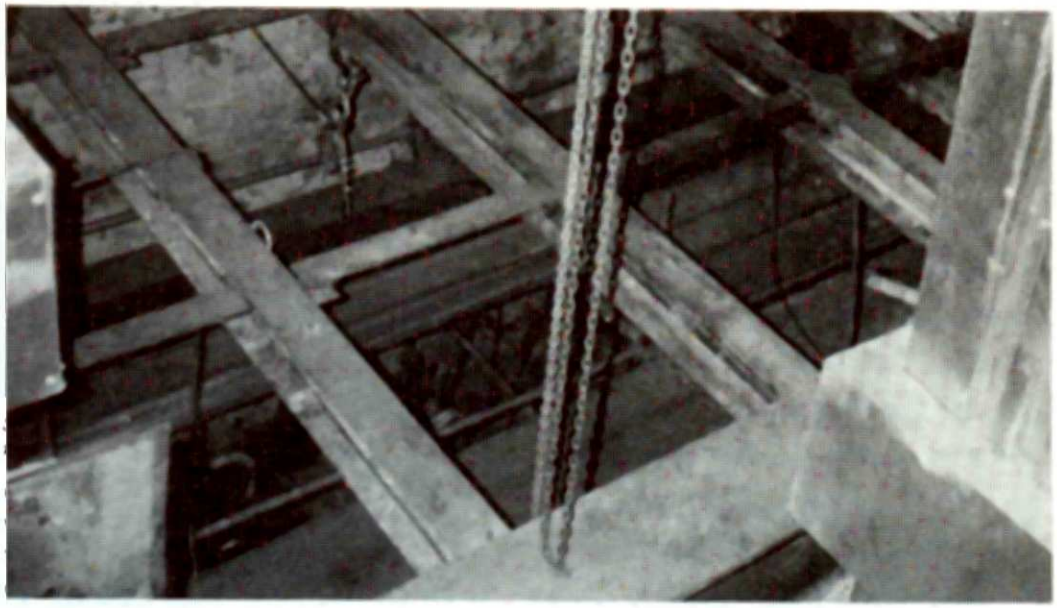
When operating, heat caused the boiler to expand as much as four inches. Sealed with gunnite refractory and unable to move in response to this expansion, the corner in question was subject to great stress — enough to damage the anchor system and compromise the refractory, allowing heat to escape.

To solve the problem, the CHM|C-U crew made a slip-joint where the two walls came together, allowing the corner to grow and contract with the boiler expansion, while still maintaining a proper seal. In place now for over two years, the refractory still looks as good as new.

If your mill has a problem that won't seem to go away, give us a call at CH Murphy|Clark-Ullman. Chances are pretty good that we've solved a problem just like it for someone else in the past.

Quick Response

continued from page 1



Structural steel supporting the boiler roof was also repaired and replaced by CHM|C-U.

customer," said Dennis. "They were able to come to one place for everything, including burner expertise. We have a burner man on staff who's a former B&W rep and can handle repairs."

CHM|C-U had the boiler back on line in just eight days.

"What's also great is that we had 45 people on site, and no accidents of any sort," Dan said.

Weyerhaeuser's Mike Blazek had praise for the way CHM|C-U worked.

"It's great doing business with CH Murphy|Clark-Ullman because they offer both the refractory expertise and the boilermaker expertise," he said. "I'm also impressed with their ability to get material here, man the job and get the job done on time."