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Pollutant breakdown

Collins Products uses a biofiltration system to clean its air before it is released

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In response to stricter air regulation standards, Collins Products installed a biofiltration system to help clean its air before it's released from the lumber product plant.

H&N photo by Andrew Mariman

Eric Poppe, Collins Products particleboard production superintendent shows a large "tea bag," consisting of compost that feeds the bacteria and fungi that make the biofiltration system work.

The company budgeted $4.2 million for the Bio-Reaction Industries machine in the particleboard section of the Klamath Falls plant. A separate, slightly different machine is used for hardboard production.

In initial tests, the system had a pollutant destruction rate of 94.8 percent, said Steve Metz, particleboard plant manager. The machine was required to reach 90 percent to be efficient.

The system includes large enclosed piping that brings air and pollutants from the production areas to the outside machine, which resembles a concrete slab building.

It is a living machine, said Dale Slate, Collins Products general manager.

Help from bacteria

The filtration system works because naturally occurring bacteria and fungi capture and decompose the pollutants, including formaldehyde used at the plant. Within about 45 seconds from when the air is funneled into the system, cleaned air is released.

"And it's doing a really good job," Slate said.

In the past, pollutants were burned using natural gas.

The biofiltration system is more environmentally friendly and cost-effective, Metz said. Ongoing costs for the filtration system include electricity to power water pumps and air movement fans, and feed for the bacteria and fungi if the plant is not producing enough pollutants.

Not a lot of maintenance is required, but the system is periodically inspected.

Ten years ago, Eric Poppe, Collins Products particleboard production superintendent, didn't think such a system would be used at the plant.

"This is the best system we could come up with for our plant here," he said.

He said he's looking forward to when it will run at full capacity, after the housing market improves and the plant's products are required again.