

## Adapting to Change

Rough and Ready evolves with ever-changing industry

*By William Cornett*

Smoke columns from the Biscuit Fire were visible from the conference room in the offices of Rough and Ready Mill when owners Jennifer and Link Phillippi first discussed adding a cogeneration facility. The half-million acre fire that dominated the 2002 fire season presented an obvious lesson in the opportunities to be garnered from reducing forest fuel loads and enhancing woodland health.

Rough and Ready Lumber was already going through a transition at the time of the fire. A family owned business near Cave Junction, Ore., since 1922, Rough and Ready found its seemingly enchanted position (in a county composed of eighty percent National Forest and BLM land) eroded by changes in Federal forest policy.

“This used to be a really good spot for a sawmill—right in the heart of the Federal forest. When that went away, we struggled for a long time,” says Jennifer.

### **Major Changes & Retooling**

Rather than follow the industry trend toward retooling for smaller logs, Rough and Ready chose a more dramatic but ultimately pragmatic approach. “With the timber supply being shut down around us, we had to go back to our roots,” says Link.

Rough and Ready adapted to the shift in forest management priorities by changing from a three shift, two mill operation to a one mill, single shift “small as you can be” enterprise. Through downsizing their operation, they focused on high quality, low production specialty items.

This transition necessitated a different sort of retooling. Seeking to dry more lumber, Rough and Ready could no longer rely on air-drying. They needed greater boiler capacity to heat more dry kilns.

“We felt that was the future of the business,” says Link. “It happened at the same time the forest health issue was coming about, and the Federal Government was looking at supplying an awful lot more of this wood fuel that we could burn in a plant.”

Jennifer adds, “The key is that you can haul that biomass a maximum of 40 miles. Around this mill, within a thirty to forty mile radius, there are two million acres of forest.” That it was in high need of fuel reduction was as obvious as the smoke pillars rising to their west.

### **Financing a Cogen Facility**

Initially, Rough and Ready Lumber was uncertain that a cogeneration facility was within its means. Larger mills



had embraced the technology, but high costs and long, slow pay-offs made cogeneration appear unprofitable. Government incentives rewarding greener industry practices made the transition less daunting than they feared, although pulling the project together required considerable research, and Link acquiring skills at writing grant proposals.

Rough and Ready determined, with the assistance of the Energy Trust of Oregon, that their project would be a Federal Energy Regulatory Commission (FERC) qualified facility. The Energy Trust of Oregon is a nonprofit corporation charged by the Oregon Public Utility Commission with using revenues collected by Oregon's publicly owned utilities to encourage innovative, renewable energy production. FERC qualification is crucial to accessing potential grants, tax credits, and loan guarantees.

Rough and Ready applied for, and received, two federal grants available only to small, rural businesses. A \$243,500 Woody Biomass Grant through the United States Forest Service Forest Products Lab, in Wisconsin, offset engineering consultant costs. Rough and Ready also received a \$500,000 grant through the United States Department of Agriculture's Rural Development-Renewable Energy program.

The Energy Trust of Oregon again became a useful resource, as its mission includes finding and funding renewable energy projects. Rough and Ready applied for this competitive grant program in 2005, and their proposal paid off by the end of 2006.

"You basically had to have a project that showed that it would work," says Link. "That showed that it would pay itself back, that it had legs to stand on."

"I think people tend to like the size of this project," adds Jennifer. "The size is comfortable for Energy Trust and for environmental groups. The small size also makes it difficult to do. But I think that groups like Energy Trust would like to have a bunch of these little plants all over the place, rather than have mega-plants in only a few places."

The 1.7 million dollar Energy Trust of Oregon grant is administered in the form of a power production premium. Rough and Ready is paid a premium of \$42 per megawatt hour for the electricity it produces. At this rate, the grant will be paid out over the first four years of the cogeneration facility, and it provided a tremendous incentive to the whole program.

Rough and Ready also has a five-year power purchase agreement with Pacificorp. All of the electricity produced by the operation is purchased by the utility, and the mill buys back what it needs to function.

Because the power Rough and Ready is generating is renewable, the utility pays an escalating premium to purchase it over the extent of the agreement, while Rough and Ready's costs are at regular rates.

## **Tax Credits**



Finally, Rough and Ready received a trio of tax credits through the process of incorporating a cogeneration plant into its lumber operations. The largest was the State of Oregon's Business Energy Tax Credit, which provided a ten percent credit over five years on 50% of the eligible project construction costs. The BETC program provides recipients with the option of selling the credits at a 33% discount to a pass-through partner.

Additional tax credits included the Federal Production Tax Credit, providing Rough and Ready with a \$9 per megawatt hour credit over the course of the next decade, and an Oregon Pollution Control Tax Credit, which provides a 35% credit for pollution control equipment, capped at \$200,000, over three years.

Link calculates that with the various credits and incentives, what would have been a fifteen year pay-back on the 6 million dollar cost of the facility was reduced to between four and five years.

"That's a pretty significant difference for a little company like ours," he concludes.

### **Harnessing the Green Power**

Rough and Ready Lumber's new cogeneration plant now stands alongside its old boiler, conveyor tracks drawing bark and wood waste from the mill. It features a Wellons 40,000 pound per hour 300 psi boiler that feeds saturated steam into a 1.5 megawatt Coppus Murray backpressure steam turbine which is harnessed by a Kato Reliance generator. The discharge steam is reduced to 20 psi and used to heat 12 double-track dry kilns. Kiln condensation is then returned to the boiler to be reheated.

Operating the cogeneration plant created two jobs at the sawmill, and keeping it supplied with biomass has created another eight to ten in the surrounding forests. It may also create an opportunity for a local artist, as the Phillippi's envision a new logo or mural on its most visible face.

One unexpected benefit of Rough and Ready's increased drying capacity has been to mitigate potential gaps in sawmill production caused by the different drying schedules of Ponderosa, Sugar Pine, and Douglas-fir. Because California markets are moving from green to dry, Rough and Ready is finding opportunities to custom dry for other lumber producers, and they are grateful for their expanded operational capacity that permits this.

In an area of Oregon where the value of forestry has frequently been the source of public dispute, the cogeneration plant at Rough and Ready has played a positive role in redefining public perception of the industry. Whether people voice concern about forest health, energy prices, or climate change, Rough and Ready Lumber demonstrates that even a small family-owned operation is capable of responding positively and successfully.