

A Windy Dilemma

Wind farms present a challenge for small distribution utilities that must supply producers with electricity to operate turbines

By Pam Blair

Imagine adding a 350-home subdivision to a 2,800-member rural electric cooperative service area that went 10 years with no new homes, and rarely adds more than a couple a year.

That essentially is what faces Jerry Healy, manager of Columbia Basin Electric Cooperative, based in Heppner. But instead of houses, wind turbines are moving into the neighborhood.

Healy already has five wind projects in his north-central Oregon service area that he says buy “up to a half million kilowatt-hours of power from us a month.”

The newest, Shepherd Flats, will add up to 900 megawatts, and is expected to become Oregon’s largest wind farm.

“They are a huge new customer,” Healy says. “In winter, each turbine uses more electricity than an average-sized home.”

About 100 miles down the road in The Dalles, Jeff Davis, general manager of Wasco Electric Cooperative, can commiserate. His 2,980-member utility serves 11 different wind projects encompassing 572 turbines and 1,061 MW—and he is bracing for more. Another 1,100 MW are permitted or going through that process.

Wind development has been a boon for the local economy. As an example, revenues in Sherman County—home to all of the Wasco Electric projects—more than tripled in the past eight years.

Lease payments from wind developers also has been a lifesaver for farmers who have struggled to hold on to land that has been in their family for generations. Healy says the going rate he hears is \$10,000 a year for each 1.5-MW turbine. It used to be \$2,500, he notes.

As the physical landscape has changed, so has the make up of those two co-ops.

“The wind farms comprise our largest individual consumer,” Davis says, noting that together they account for 13 percent of his utility’s load. “They are

a significant part of the revenue of the co-op.”

While the power they draw is generated locally, most of the power they produce is shipped out of the area.

Electricity is needed to keep lubricants for the turbines warm, run the computers that reposition blades into the wind, and power offices and substations. All components are fully functioning even when the blades are not turning.

Dale Coyle, manager of Portland General Electric’s 450-MW Biglow Canyon Wind Farm, says that requires 5 to 20 kilowatts a turbine—comparable to the 10 to 20 kW used by a single-family home.

“If we can get one or two turning, we can power the site,” Coyle says. “We obviously want to generate more than we use. Last year was a bad wind year, producing 3 to 4 percent less than we’ve had in the past. This year is on a good pace. Forecasting is a big deal and a delicate process.”

The same is true for the utilities serving the wind farms—particularly in light of new two-tiered contracts with the region’s primary wholesale power supplier, the Bonneville Power Administration.

Beginning October 1, BPA will implement a new pricing structure. Tier 1 power—allocated based on each utility’s historic loads—will be priced at cost from power generated by the federal system. Any power BPA provides beyond that is Tier 2 and will be charged at market rates.

Wasco Electric is preparing a cost of service study and considering how to set up its billing structure, Davis says, noting “wind development will be a significant reason we move into Tier 2 power.” ■

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