LANDOWNER news

IBERDROLA RENEWABLES

Summer 2009 | Issue II

The Lempster Wind Farm in New Hampshire features 12 Gamesa G87 wind turbines that have a total capacity of 24 megawatts (MW).

INSIDE THIS ISSUE:

PROJECT PROFILE: NH's Lempster Wind Power Project

The Lempster Wind Farm is New Hampshire's first commercial wind farm and Iberdrola Renewables' first wind farm in New England. The project was completed and entered commercial operation in early November, 2008. Its 12 Gamesa G87 wind turbines have a total capacity of 24 megawatts (MW), and produce, on average, electricity to power more than 10,000 New Hampshire homes, and close to 35,000 homes at peak production. The project also contributes substantial amounts of tax revenue to the community, and provides lease payments to local landowners.

During construction in 2008, as many as 125 workers were on site at any one time, and Iberdrola Renewables contracted with a long list of local vendors for supplies and labor. In fact, most of the design, engineering, and construction was completed by New Hampshire workers, with substantial contributions by workers from Maine. Three landowners host all of the wind turbines, including the Onnela family, who played key roles in both promoting and working on the project. The Onnelas have raised beef cows and farmed the Lempster Mountain area for many years, and for a time had their own small wind turbine for electricity.

One of the unique aspects of the Lempster Wind Farm is its small "footprint" – the project impacted no wetlands, and was able to use narrow crane haul roads due to availability of a narrow-track crane. A second unique aspect is that the bulk of the civil and foundation work was done through the winter, in temperatures as low as minus 20 degrees Fahrenheit. Having New Englanders working on the project meant experience working in very low temperatures and winter conditions.

"We were able to meet the challenge of working through the winter, in steep topography dominated by rock ledge, due to the hard work and expertise of New England workers. The small site made logistics a challenge, but careful coordination kept the project on schedule," says Ed Cherian, Project Manager.

Senior Wind Technician Dan Dreier and his team manage the wind farm, ensuring that the turbines are working properly, and conducting scheduled maintenance.

US Wind Production Continues to Grow!

Wind power continues to grow in the United States, as more landowners are supporting the idea of generating wind to replace the country's dependence on oil and natural gas resources. According to the American Wind Energy Association, (AWEA) the industry installed more than 2,800 megawatts (MW) of new generating capacity in the first quarter of 2009, with new projects completed in 15 states and powering the equivalent of 816,000 homes.

"These brand new wind projects shine a ray of hope on our economy today, creating good jobs and powering homes with a clean, inexhaustible source of energy," said AWEA CEO Denise Bode.

The new wind power projects add up to 2,836 MW, according to initial AWEA estimates. The total wind power generating capacity in operation in the U.S. is now 28,206 MW, enough to serve over 8 million homes and avoid the emissions of 52 million tons of carbon dioxide annually—the equivalent of removing 8.8 million cars from the road. AWEA, Iberdrola Renewables and others are working hard to encourage long-term public policies that encourage continued growth in the wind industry.

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Power On: Connecting to the Grid Can Take Time

In many ways, interconnecting our wind farms to the regional transmission system, sometimes referred to as "the grid," is similar to how household appliances are connected to the local distribution line running down the street. A wind farm is just done on a larger scale.

For example, all types of electrical equipment (TVs, computers, alarm clocks, refrigerators, etc.) are plugged into outlets around a home. Wires inside the walls connect to all these outlets and run back to a common point, such as the circuit breaker box or fuse box. From there, a power line runs to the electrical meter, then out to the street where it connects to the local distribution line through a transformer that is typically attached to the pole.

When it comes to a wind farm, the equipment is the wind turbines that are plugged into a collector system, which serves the same function as the wires inside the walls of a house. The cables in the collector system run back to a collector substation, where circuit breakers, transformers, and electrical meters are located. Typically, wind farms are too large to safely connect to local distribution lines, so we look to connect with larger lines on the regional transmission system.

When we find a transmission line that we think may work, we make an application to the utility company asking for permission to connect to the transmission line. This begins a process where the utility evaluates the application to see if the connection would have any negative impacts on their transmission system. In many parts of the country, this evaluation is a three-part study process where the studies become more detailed as they progress. Throughout the course of the study, the utility is checking to make sure the reliability of the transmission system is not compromised in any way, a goal that is equally shared by both Iberdrola Renewables and the utility, since we need a reliable transmission system to get the electricity our wind farms produce to our customers. If during the course of the studies the utility finds that there is a problem with the transmission system, they then design the transmission improvement needed to fix the problem.

With the tremendous increase in wind energy development over the past several years, many utilities have been flooded with connection requests, creating a huge backlog of study work. Many areas of the country have not seen significant amounts of new transmission lines built in the past 30 years, so if too many wind projects try to connect in the same area, it often results in the need for new transmission lines or major upgrades to reliably accommodate the connection requests. As a consequence, it can take four years or more to have connection studies completed by the utility, and the costs to connect and upgrade the transmission system can make or break a project. Because of this lead time and the importance of the task, this is one of the first activities we initiate when we start development of a new wind project.

Mural Celebrates Illinois' Farming, Wind Power History

Wind power has a long and storied history in Illinois. That's why Iberdrola Renewables recently sponsored the painting of a mural in downtown Pontiac, Ill., near our Streator Cayuga Ridge South Wind Farm. The mural was painted along with 15 others around town at the end of June as part of a Wall Dogs event, which is an annual convention of artists and fun seekers who gather at a different place every year. The mural is titled "A Tradition of Farming" and celebrates Iberdrola Renewables' connection with the primary occupation of the majority of our landowners.

Minnesota's Elm Creek Wind Farm Serves as Model for Community Wind

Community wind sounds great, right? Do all the work, keep all the profits. Except, what happens when a community has already invested millions of dollars in a wind project and suddenly realizes it is in over its head?

The Elm Creek Wind Power Project, and the nearby Trimont Area Wind Farm, are Minnesota's best development models for a unique landowner partnership, according to Tim Seck, director of development for Iberdrola Renewables, the owner, builder and operator of the two wind farms.

"Elm Creek, like the Trimont Area Wind Farm before it, was born in the minds of local farmers," Seck said. "They wanted to get into the wind farming business and performed much of the initial development work."

"When we won a power purchase agreement from Great River Energy for the Trimont project, we knew we would not be able to secure turbines or build a project," said Neal VonOhlen, a landowner and chief manager of the landowner groups for both Trimont and Elm Creek. "So we said, 'let's bring in the professionals.'"

After a search of wind power companies, the landowners picked Iberdrola Renewables, then PPM Energy, to build and operate the 100-megawatt Trimont project. As a result of the successful working relationship at Trimont, Iberdrola Renewables and the local landowners partnered again to develop the Elm Creek project.

In return for performing much of the initial development work, participating farmers in the Trimont and Elm Creek projects share roughly $1.5 million each year in lease payments and revenue participation royalties. Meanwhile, the two projects pay Jackson and Martin counties property taxes ranging from between $700,000 and $800,000 every year.

"The Trimont model worked so well, everybody wanted to do it again," VonOhlen said.

The 99-megawatt Elm Creek project was dedicated July 11, and Elm Creek 2 is now in the permitting stage.

Already, these community projects provide 11 percent of Minnesota's total wind output, helping Minnesota meet its aggressive state Renewable Energy Standards that require utilities to generate 25 percent of the electricity sold in the state from renewable sources by the year 2020.

Currently, Minnesota is ranked fourth in the United States for installed wind power at 1,800 megawatts (MW) of wind energy generating capacity. The Trimont and Elm Creek projects account for 199 MW of that production.

The Elm Creek Wind Power Project, and the nearby Trimont Area Wind Farm, are Minnesota's best development models for a unique landowner partnership.

Summer 2009 | Issue II

Safety First: Crop Dusting and Wind Turbines Can Coexist

Some of the main concerns for aerial applicators include the obstruction of turbines and transmission lines and the location of met towers.

Large, open parcels of land and strong winds make Midwestern and Western farms prime real estate for wind power development. As wind production facilities continue to expand, it remains important that wind energy companies and farmers work together to ensure the continued high level of crop production. One concern with wind power projects we have successfully addressed for years is the safety and effectiveness of aerial applicators (crop dusters).

Since crop dusting is performed at a very low altitude, safety concerns for aerial applicators include the obstructions of turbines, transmission and overhead lines, and the location of meteorological (met) towers, which are used to measure and record wind data. The layout of turbines and transmission lines also varies location to location. In addition, some temporary met towers, overhead power lines and transmission lines are also more difficult to see for these agricultural pilots than 250-foot tall wind turbines.

As an industry leader, Iberdrola Renewables takes the safety of aerial applicators into account, and we take many steps to reduce the risk of an accident. Where reasonable, the company utilizes underground electrical cable collection systems from the wind turbines to the substation, which greatly reduces the amount of overhead wires and poles around farms. Tim Hughes, lead senior meteorologist with Iberdrola Renewables, explains that he considers many factors in determining the placement of turbines, including effectively spacing turbines to minimize impacts on cultivation where possible.

Iberdrola Renewables also takes many precautions to increase the visibility and pilot awareness of met towers. Markings include painting alternating red and white stripes near the top of the temporary tower (candy striping), installing orange marker balls and placing sleeves on the base of the guy wires. For permanent met towers, our internal standard requires un-guyed towers. In addition to visibility, Iberdrola Renewables communicates on safety issues according to many different local standards or as requested by communities, including notifying local airports, aerial applicators and farmers about the locations of the met towers and turbines.

One request Iberdrola Renewables has for aerial applicators and farmers is to notify the company before spraying. Employees, contractors, and highly sensitive electrical equipment inside turbines have been sprayed with pesticides and other substances which could have been averted by better teamwork.

Aerial application remains an important part of productive farming. With communication and cooperation, wind farms and aerial applicators can safely coexist into the future.

WE WANT YOUR FEEDBACK!

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