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MINNESOTA POWER, DULUTH PORT REACH WIND SHIPMENT MILESTONE



Minnesota Power and the Duluth Port reached a supply chain milestone recently as the 15th ship bearing wind generation equipment destined for a Minnesota Power wind installation in North Dakota arrived at the harbor beneath the Aerial Lift Bridge.

The BBC cargo ship, Peter Roenna arrived in Duluth in mid-July carrying over two dozen wind energy components after a voyage from Brande, Denmark, where the equipment is manufactured by Siemens. Two other shiploads of Siemens wind equipment bound for North Dakota arrived at the port in June; two more are expected before the end of September.

Since the port first started handing these project cargoes for Minnesota Power, a total of 15 shiploads of wind energy equipment — including these nacelle cooling units and generators — have crossed the Atlantic Ocean, sailing through the Saint Lawrence Seaway and across the Great Lakes into Duluth. The components were then loaded onto trucks for delivery to the Bison Wind Energy Center near New Salem, North Dakota.

The first shipments in 2006 included blades for a 98-MW wind farm in Oliver County, N.D. from which Minnesota Power purchases all the electric generation.

That wind installation was constructed, and is owned by, NextEra Energy. Minnesota Power subsequently built the first three phases of its Bison Wind Energy Center adjacent to the initial wind farm located in Oliver County about a 90-minute drive east of Bismarck, North Dakota.

Bison 4, a 205-MW addition to the wind farm, will utilize larger, more powerful Siemens wind turbines than those installed last year in phases 2 and 3 of the project. Because the generators are more powerful, it will take only 64 turbines to produce about the same amount of electricity produced by 70 turbines in last year's installation. Once operational, Bison 4 will push Minnesota Power past the 25 percent renewable energy goal established by Minnesota legislation 11 years ahead of schedule.

The first of the 64 new wind turbine generators was erected and installed earlier this month. A nacelle was attached to the top of the first Bison 4 tower July 2, and three days later, three wind turbine blades attached to a hub were "flown" to the tower top. Two large crawler cranes are positioned to continue Bison 4 assembly throughout the summer.

"This latest shipment of wind components is meaningful on several levels," said Dave McMillan,

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senior vice president of external affairs at ALLETE and executive vice president of Minnesota Power. "It turns a spotlight on the global nature of sustainable energy and the importance of efficiently transporting goods and services. This international ship's arrival represents the resourcefulness Minnesota Power has shown in striving to reach the renewable energy mandate." McMillan also serves on the Saint Lawrence Seaway Development Corporation's Advisory Board.

The Clure Public Marine Terminal — this Port's only general cargo terminal — is owned by the Duluth Seaway Port Authority and operated by Lake Superior Warehousing. "The strategic location of this port, the capacity of this facility, and the quality of LSW's workforce has earned Duluth a reputation for efficient cargo

handling, secure storage and delivery, particularly for shippers of dimensional cargo," noted Vanta Coda, Port Authority executive director. "We are pleased to have been able to serve as a transport hub for Minnesota Power's wind projects since their launch, and congratulate them on meeting the 25 percent renewable energy goal more than a full decade ahead of the state's 2025 goal."

This year, to make delivery even more efficient, the generators were separated at the manufacturer from the back ends (main body) of each nacelle, rather than being shipped together as one large dimensional unit as in previous years. Dividing the huge power units into two parts makes them easier to transport by truck, eliminating the requirement to hire extra "flag crew" vehicles to accompany the trucks from the

Port of Duluth to New Salem.

"We appreciate the support, the trust placed in us by Minnesota Power," added Jonathan Lamb, LSW president. "We've forged a close working relationship over these many years. We also know how much moving their project cargo through the Port of Duluth also supports the greater business community."

Tower sections, manufactured in Manitowoc, Wis., using steel produced with Minnesota iron ore, will be transported through Hinckley and Brainerd on their way to Bison as construction continues. With a portion of the nacelle units now manufactured at a Siemens plant in Hutchinson, Kan. and the turbine blades fabricated in Fort Madison, Ia. Bison 4 will have more American-made components than the earlier Bison phases. ↗



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EDF-RE REACHES COMMERCIAL OPERATION ON SPINNING SPUR II IN TEXAS PANHANDLE



EDF Renewable Energy recently announced that the 161 MW Spinning Spur II Wind Project in Texas has reached commercial operation. The company further announced the close of structured equity financing from GE Energy Financial Services and MUFG Union Bank, N.A. The completion of construction and COD milestone allows the closing of the sale of 50 percent of EDF Renewable Energy's equity interest in the project to UBS International Infrastructure Fund. Financial details were not disclosed.

Spinning Spur II commenced construction of 87 GE 1.85-megawatt, 87-meter rotor wind turbines

40 miles west of Amarillo in June 2013. The power is sold pursuant to an 11-year purchase agreement. The project is one of the first to feed into the new CREZ (Competitive Renewable Energy Zones) transmission infrastructure which enables access to the strong renewable resources of West Texas and the Texas Panhandle and delivery of the wind energy resource to the high electricity demand areas in the state. Texas leads the country in installed wind capacity with 12,300 megawatts, enough clean electricity to power 3.3 million average homes in the United States.

Mortenson Construction's Renewable Energy Groups provided

HEADLINES

EDF EN Canada and Enbridge dedicate Blackspring Ridge Wind Project

EDF EN Canada Inc., and Enbridge Inc., recently dedicated the 300 MW Blackspring Ridge Wind Project. Located in Vulcan County, Alberta, the project is the largest investment in wind energy in Western Canada.

EDF EN Canada and Enbridge officials joined Alberta Energy Minister Diana McQueen, Derrick Annable, Reeve of Vulcan County, Kym Nichols, Mayor of Carmangay, and more than 100 other invited guests to mark the occasion.

Construction of the 166 turbine project commenced in May 2013 and reached commercial operation twelve months later in May 2014. Mortenson Canada served as the construction contractor.

Pattern receives EAC for British Columbia project

Reaching a key milestone in the development process, Pattern Energy Group LP announced it has received an Environmental Assessment Certificate for its Meikle Wind project, a 185 MW wind power project located in British Columbia.

"This is Pattern Development's first project in British Columbia, expanding the Company's presence to a third province in Canada," said Mike Garland, CEO of Pattern Development. "We have now received the major environmental approval for this project, which was the last big milestone before arranging construction financing."

The Meikle Wind project, which has a 25-year power purchase agreement with BC Hydro, is expected to commence commercial operation in late 2016.

Meikle Wind is one of the seven projects on which Pattern Energy holds the right of first offer rights to purchase.

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engineering, procurement, and construction of all access roads, foundations, wind turbine erection, collection system, operations and maintenance building and the installation of MET towers for the Spinning Spur II project. Approximately 200 jobs were created throughout the course of construction which began in June 2013.

"The announcement today exemplifies EDF Renewable Energy's strategy to develop renewable energy projects with strong local community support, and first tier equipment suppliers and contractors, and then invite the investment from longstanding financial partners," commented Tristan Grimbert, President and CEO of EDF Renewable Energy. "EDF RE will retain substantial ownership in the facility and bring our expertise in operations and maintenance through EDF Renewable Services to optimize long-term investment profitability." With the Spinning Spur II project in operation, the Group's installed capacity since entering the Texas market in 2012 reaches 472 MW with another 700 MW in late-stage development.

"We're very pleased to have partnered with EDF Renewable Energy on our 24th successful project together and to have been part of building one of the

first projects to connect to the CREZ," (Competitive Renewable Energy Zone) said Tim Maag, vice president and general manager of Mortenson Construction's Wind Energy group.

Spinning Spur II will generate enough electricity to power approximately 44,000 homes — according to US Energy Environmental Protection Agency methodology — avoiding approximately 332,000 metric tons of greenhouse gas emissions per year, the equivalent of the annual emissions from approximately 70,000 passenger vehicles.

EDF Renewable Services will provide long-term operations and maintenance for the facility, balance of plant, project oversight, and 24/7 remote monitoring from its NERC compliant Operations Control Center (OCC).

The OCC provides an efficient, reliable, and secure operating platform, while benefiting from the centralization of SCADA (Supervisory Control and Data Acquisition) functions and consolidation of multiple vendor SCADA environments to provide a common operating view. EDF Renewable Services is an industry leader, providing O&M services to more than 7.4 gigawatts of renewable energy projects across North America. ✕



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RES AMERICAS CLOSES \$508 MILLION IN CONSTRUCTION LOANS

Financing set for two projects in North Dakota and Minnesota totaling 350 MW

RES Americas, has reached financial close of a \$222 million construction loan for the 150 MW Border Winds Project in Rolette County, North Dakota, and a \$286 million construction loan for the 200 MW Pleasant Valley Wind Project in Mower and Dodge Counties, Minnesota.

Bayerische Landesbank, New York Branch (BayernLB) and Société Générale acted as the Joint Lead Arrangers, Coordinating Lead Arrangers and Joint Bookrunners for both transactions. Additionally, Landesbank Hessen-Thüringen Girozentrale, New York Branch, MUFG Union Bank, N.A. and CoBank, ACB acted as Mandated Lead Arrangers for both deals. The Administrative Agent and Collateral Agent for Border Winds is Société Générale and for Pleasant Valley is BayernLB.

"We appreciate the dedication, creativity and financial strength that BayernLB, Société Générale, and the rest of the bank groups have brought to these transactions," said Seth McIntosh, Vice President of RES Americas.

"Having these global institutions on the Border Winds and Pleasant Valley teams is a key to the success of these projects."

RES Americas is the developer and engineering, procurement, and construction (EPC) contractor of Border Winds and Pleasant Valley projects which will utilize 175 V100-2.0 MW Vestas turbines. Upon completion, RES Americas will transfer the projects to Xcel Energy which will own and operate them.

"We are proud to support RES Americas and Vestas, important BayernLB partners, by financing the construction of the Pleasant

Valley and Border Winds projects, which will provide clean and competitively priced power to Minnesota, North Dakota and the

surrounding regions," said Alexander von Dobschütz, Global Head of Financial Institutions & Structured Finance at BayernLB. ↗

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