

Contract No. R002-005
“Small Wind Turbine Training Center”

Submitted by Energy & Environmental Research Center
Principal Investigator: Bradley G. Stevens, P.E.

PARTICIPANTS

Sponsor	Cost Share
Energy & Environmental Research Center Utilizing U.S. Department of Energy (DOE)	\$ 50,000
North Dakota Industrial Commission	<u>\$ 50,000</u>
Total Project Cost	\$100,000

Project Schedule – 12 months	Project Deliverables:
Contract Date – November 7, 2008	Status Report: March 31, 2009 v
Start Date – July 1, 2008	Status Report: June 30, 2009 v
Completion Date – December 31, 2011	Status Report: September 30, 2009 v
	Status Report – March 31, 2010 v
	Status Report – June 30, 2010 v
	Status Report - September 30, 2010 v
	Status Report – December 31, 2010 v
	Status Report – March 31, 2011 v
	Status Report – June 30, 2011 v
	Status Report – September 30 2011
	Final Report– December 31, 2011

OBJECTIVE/STATEMENT OF WORK:

This project, utilizing the Energy & Environmental Research Center (EERC) Plains Organization for Wind Energy Resources® (POWER®) as part of an existing U.S. Department of Energy award, will expand the scope of activities related to developing a small wind turbine training center. The small wind turbine training center will consist of up to two small wind turbines less than 20 kW in size. Once constructed, the facility would provide educational opportunities to a wide range of participants including grade school- through college-level students and the general public. The EERC has agreed that qualified staff will be provided to lead facilitated discussions for groups wishing to tour the site for a minimum period of two years following the commencement of turbine operation. In addition, the facility will allow the EERC to provide technical training workshops related to the installation, operation, and maintenance of small

wind turbines The Commission conditioned the commitment of funds to this project upon the EERC agreeing to provide at least three planned technical workshops or educational events during the contract period.

STATUS

A status report for the two quarters October 1, 2008 – March 31, 2009 was received in May, 2009. The report shows that EERC is (i) continuing its efforts to finalize the Engineering and Construction Plan document for submission to the City of Grand Forks; (ii) updating price quotes from Endurance Wind Power, Inc., and (iii) compiling mailing lists for individuals interested in attending workshops.

A status report for the quarter ending June 30, 2009 was received in August, 2009. The report shows that EERC is (i) continuing its efforts to finalize the Engineering and Construction Plan document for submission to the City of Grand Forks; (ii) has submitted a purchase order to Endurance for the procurement of one S-250 wind turbine and (iii) EERC continues to plan its educational and technical workshops.

A status report for the quarter ending September 30, 2009 was received in October, 2009. The report shows that EERC (i) has finalized the Engineering and Construction Plan document and submitted it to Grand Forks City officials; continued discussions regarding site location; NEPA consideration is ongoing; (ii) Endurance S-250 wind turbine has been purchased and will be shipped during fourth quarter of 2009; (iii) EERC continues to plan is educational and technical workshops.

As a result of permitting delays and weather conditions, an extension for completing this project was granted. The final report deadline was extended to September 30, 2010 and two additional status reports were requested during the year 2010.

A status report for the quarter ending March 31, 2010 was received in April, 2010. The report shows that EERC is (i) continuing to meet with Grand Forks personnel to finalize site and permitting requirements; (ii) the Endurance S-250 wind turbine has been received and is stored at the EERC; (iii) the first small wind turbine workshop has been scheduled for May 18, 2010 with the focus being on general information about small wind turbines—programs, incentives and wind resource, wind turbine installation and maintenance and utility interconnection.

A status report for the quarter ending June 30, 2010 was received in July, 2010. The report shows that EERC is (i) continuing to meet with Grand Forks City personnel and has nearly

completed its negotiations on a site agreement. Work is being done to arrange for an interconnection to the Nodak Electric Cooperative; (ii) the Endurance S-250 wind turbine is being stored at the EERC; (iii) the first small wind turbine workshop was held on May 18, 2010 with 40 attendees from North Dakota and Minnesota with the following topics being presented and discussed – introduction, programs, incentives, wind resources; wind turbine installation and maintenance; and utility interconnection. A list of the participants is available in the Commission files.

September, 2010

As a result of delays in establishing a site agreement, obtaining permits and receiving final U.S. Department of Energy National Environmental Policy Act approval an extension from September 30, 2010 to March 31, 2011 was requested and granted. The final report deadline is now March 31, 2011.

October, 2010

A status report for the quarter ending September 30, 2010 was received in October, 2010. The report shows that EERC is continuing its work to obtain the necessary approvals to install the wind turbine. EERC indicates that these efforts are nearly complete. The site agreement with the City of Grand Forks is complete; the interconnection agreement between the City of Grand Forks and Nodak Electric Cooperative is complete; National Environmental Policy Act approval has been granted from the US Department of Energy; and the City of Grand Forks has received approval from the ND State Historical Society. Plans are underway to host the second small wind turbine workshop and to complete the installation and commissioning of the wind turbine.

January, 2011

A status report for the quarter ending December 31, 2010 was received in January, 2011. The report shows that the EERC is continuing its work on the project and that a small wind workshop is being scheduled for March 8, 2011. Work is also continuing to complete the installation and commissioning of the wind turbine.

April, 2011

A status report for the quarter ending March 31, 2011 was received in April, 2011. A summary and evaluation of the second small wind turbine workshop held on March 8, 2011 was included. There were 27 attendees from North Dakota and Minnesota who heard presentations discussing programs, incentives, wind resource, wind turbine installation and maintenance and utility interconnection. Work is continuing to finalize the plans for the wind turbine installation,

the installation of the wind turbine foundation and wind turbine and the commissioning of the wind turbine.

June, 2011

As a result of delays in establishing a site agreement, obtaining permits, and received final U.S. Department of Energy National Environmental Policy Act approval an extension from March 31, 2011 to December 31, 2011 was requested and granted. The final report deadline is now December 31, 2011.

July, 2011

Discussions continue with City of Grand Forks officials to finalize the exact wind turbine location within the Public Safety Center property.

7/27/11