

Technical Reviewers' Comment Clarification
R002-A
Small Wind Turbine Training Center

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1. The proposed small wind turbine training center was patterned somewhat after a similar program initiated by the U.S. Department of Energy (DOE) in 2007 called "Wind for Schools." From DOE's literature (see attachment), the three primary goals of the Wind for Schools project are to:
 - Engage rural school teachers and students in wind energy.
 - Educate college students in wind energy applications, which will equip engineers for the growing U.S. wind industry.
 - Introduce wind energy to rural communities, initiating a discussion of wind energy's benefits and challenges.

Although both programs intend to install wind turbines and expose students to wind energy, the proposed small wind turbine training center also plans to educate the adult population, specifically those individuals interested in installing their own wind turbines.

I would agree with Reviewer 2F that North Dakota has little activity related to small wind turbines largely because of economics and state policy, both of which can and do change. That said, the lack of small wind activity is not necessarily an indication of the need for education. There does exist a sizeable number of individuals with a desire to install their own wind turbines who should be educated as to the pros and cons of the projects they are considering.

As far as the target participants that Reviewer 2F was unclear about, the proposal refers to hosting workshops targeted at individuals wanting to learn more about small wind turbine installations and operation and maintenance of these machines. Based on telephone conversations that I have had with individuals regarding small wind projects, I would estimate that attendees will be rural residents, ag producers, and other individuals with a strong environmental bias.

2. Regarding Reviewer 2F's concern about DOE already funding the project and uncertainty as to why additional funds are needed, the proposal states on page 7 in the first paragraph of the North Dakota Renewable Energy Fund (NDREF) Scope of Activities that there was an unanticipated budget shortfall because of the length of time that has been required to work through the permitting and NEPA approval process.
3. No comments.

4. Regarding Reviewer 2F's comments that the proposed project will not create wealth, tax revenue, etc. for the state, I would tend to agree in the short term. The project was not proposed to do so; it was proposed to educate. Whether that education will lead to additional engineers choosing to work in the field of wind energy (that is certainly DOE's intent with its project) or whether a small wind energy industry will ever emerge in North Dakota, I can not say. Again, the proposed project is being proposed as an educational tool.
5. No comments.
6. No comments.
7. As stated in the proposal, the EERC is currently working through the permitting of the site and NEPA approval. If awarded by the NDREF, the EERC will order the wind turbines and continue finalizing the site and electrical interconnection design. The EERC intends to install the wind turbines during the summer or fall of 2008 (pending determination of turbine delivery schedule) and possibly host the first workshop in conjunction with the wind turbine installations. In addition, all these milestones are conditional upon receiving the necessary approvals from entities such as the Federal Aviation Administration, DOE, and the city of Grand Forks.
8. The two turbines proposed (Endurance 4.25 kW and Skystream 1.8 kW) were done so with the inclusion of DOE. Both of these wind turbines have recently finished field verification testing at the National Wind Technology Center and possess some of the latest improvements in blade and generator design. Ideally, additional wind turbines would have been part of the training center but, as stated earlier, the budget was limited.
9. No comments.
10. Regarding Reviewer 2F's concern about the need for NDREF funding for an already-funded DOE project, I will be clear, DOE funds are not sufficient to complete the originally proposed scope of activities, and the NDREF funds are not going to "supplant" DOE funds. The budget shortfall was from a combination of a funding reduction and the length of time it is currently taking to work through the permitting process.

Regarding Reviewer 2F's comments about no private funding, there actually is some level of private sector funding in the project. Both turbine manufacturers are providing cost share in the form of discounted turbines and engineering field time. These items were not called out since they are realized on the DOE side of the ledger. Additionally, I am uncertain the relevance of the other funding source. If the funding source is part of the review criteria, the guidelines should state that private cost share is preferred over federal cost share.