

**National Wind Coordinating Committee  
Business Meeting 35  
June 9, 2005  
Richmond, Virginia  
Commonwealth Park Suites Hotel**

## *Meeting Summary*

### **Welcome and Introductions**

Abby Arnold from RESOLVE welcomed meeting participants and explained the work of the National Wind Coordinating Committee (NWCC) in bringing together various stakeholders to ensure the environmentally, economically, and politically sustainable development of wind power. Ms. Arnold clarified that while the NWCC staff facilitate the group's activities, it is the NWCC membership that drives agenda development. NWCC members and associate members introduced themselves, followed by participant observers. Ms. Arnold reviewed the NWCC groundrules and meeting specific groundrules with all attendees, obtaining confirmation from all parties that they understood and would adhere to the groundrules.

### **Siting Workgroup**

Ed DeMeo of Renewable Energy Consulting Services presented an overview of the Siting Workgroup's activities which include:

- **Siting Case Studies**

The siting case studies, written by BBC research and reviewed extensively by NWCC staff and members, look at wind power sites around the US before, during and after construction. Three sites received a detailed analysis and six others a more perfunctory review. Two opportunities have been provided for NWCC participants to provide feedback on the case studies, with comments incorporated after each round of review. Part of the revision process included verifying the linkages between case studies and their findings. The case studies indicate communicating with the community is key to successfully siting wind projects. A final version should be available by the end of June and will be distributed as an NWCC resource document, primarily via the internet.
- **Siting Technical Workshop**

The Siting Workgroup has never held a meeting on the technical and scientific aspects of siting, so the purpose of holding a technical workshop is to get such issues on the table and develop proceedings that collect that knowledge and make it available to the public. Specific topics the workshop will cover include:

- Visual impacts
- Lighting and FAA Guidelines
- Communications Interference
- Sound
- Safety
- Other: archeological, cultural, historical

Technical experts on these topics will be invited to attend and participate. The proceedings are intended to be used as an unbiased resource for siting permitting

cases. The meeting will be held November 15 and/or 16, 2005 in Washington DC at the RESOLVE office.

- **State Siting Factsheets**

The NWCC, in cooperation with the National Conference of State Legislatures (NCSL), plans to create state-by-state wind energy siting factsheets. There are a number of states with relatively well developed siting guidelines and the goal is to put these guidelines together into an easily accessible format for public information. The audience for the factsheets includes legislators, regulators, and staff; state agencies, wind developers and wind-interested stakeholders, potential interveners, advocates, electric utilities, and other parties.

Factsheets will be created for a small number (6-12) key states and be accompanied by a summary document that describes trends, gives a quick overview of states with siting guidelines, and offers some comparative analysis with best practices, recommendations, and commonalities. Specific topics the factsheets will cover are:

- What do the state guidelines govern/require?
- Are they voluntary or mandatory?
- What state agencies are involved?
- Are local or other authorities designated?
- Is there a lead agency? Contact information for agency.

The following clarifications were made based on participant questions:

- The word “guidelines” will be broadly interpreted; really covers different approaches to shaping the siting process.
- In contrast to other energy sources, wind energy is often subject to guidelines rather than laws.
- The focus will not be only on states with renewable portfolio standards (RPS) but on any states with good siting guidance.
- NCSL has created similar factsheets on a variety of topics.

Meeting attendees offered the following comments on the siting factsheets concept:

- It would be helpful to know what federal regulations on siting wind facilities are.
- A comparison of siting requirements for wind compared to other power generation technologies would be informative for determining whether wind requirements are in line with the requirements imposed on others. This type of document might also be of use to county commissioners in deciding what type of energy project to build.
- Minnesota might be a good state to create a factsheet for.

### **Economic Development Brief**

As Katie Kalinowski from the NWCC described, the NWCC transitioned from having an economic development workgroup to releasing a bi-annual brief providing reference to recent presentations and publication on economic development impacts of wind power. ED Brief Vol. 1 came out in December 2004 and Vol. 2 was released in draft form on June 1, 2005. A conference call to discuss Vol. 2 was held on June 8 and the following suggestions were made:

- List issue areas before regional issues
- Replace references to WINDPOWER conference proceedings with presenters’ original presentations on the web
- Collapse volumes into one continuously updated database or document

The call group also discussed whether a need exists for the NWCC to hold an economic development workshop. There was interest on the call in conducting outreach to national economic development associations.

Ms. Kalinowski asked for the comments on the ED Brief and on the economic development workshop idea and meeting participants said:

- The NWCC should consider widening the scope of the ED Brief.
- The American Planners Association would be a good partner for conducting an economic development workshop.
- To determine what is needed on the county level to help county decision makers best serve their communities, the NWCC could canvas wind working groups about what economic development information is relevant to share at that level.
- Economic development decision makers should be sought out to determine what kind of role wind power plays, especially in comparison to other economic development opportunities both from energy (e.g. coal, natural gas) and non-energy (e.g. hog facilities, prisons) ventures.
- In many communities, decisions on pursuing projects go beyond economic value to economic survival.
- The USDA has a mandate to compare economic development from a variety of sources. Joseph Ben Israel is the contact person for this work.
- A focus on jobs and other economic benefits is good, but the discussion should be expanded to include quality of life questions.
- The environment (rural vs. urban) of a project can make a difference in terms of economic development impact, not to mention associated externalities.
- Construction of transmission faces similar challenges in convincing people of the accompanying opportunities for economic development.
- The NWCC should consider letting the state wind working groups take the lead on economic development and not hold a workshop.
- The NWCC could commission a white paper on economic development with examples of ingredients for valuing benefits and identifying site dependent variables.
- One NWCC role is to verify that information coming out is objective. For instance, some conservationists feel the NREL JEDI model is too ambitious and optimistic.
- It can be difficult to establish economic benefits of wind at individual sites and guarantees do not exist that a local community will accrue promised benefits.

There was not agreement among members as to whether NWCC should host a workshop. One member suggested holding a technical workshop to help clarify differences among economic development experts, questions about models, and so on. Another idea involved doing outreach to national economic development groups about what their needs are and what questions they are facing. NWCC staff will look for more reactions to these ideas from the economic development call group and the steering committee.

### **Transmission Workgroup**

Ron Lehr with the American Wind Energy Association explained how lack of adequate transmission capacity can be a limiting factor for wind power. Transmission is an issue that covers broad geographic boundaries and ties in to related areas like siting and economic development. Given transmission's complexity and the interest by many parties for transmission to keep pace with wind energy development, regional transmission organizations are forming in several states to allow for organizing markets and to plan for transmission. The NWCC Transmission Workgroup follows these developments and works on both national and regional

levels to provide information on transmission in the form of consensus and resource documents, as well as forums for dialogue and problem solving on transmission issues.

### **FERC Interaction**

The activities of the Federal Energy Regulatory Commission (FERC) are tracked by the Transmission Workgroup, in particular wind interconnection rules and imbalance penalties. The FERC interconnection rule strives to treat energy sources equally while recognizing that wind has differences from other power sources. Imbalance penalties are assessed when wind facilities incorrectly forecast the amount of energy they will provide. A proposal has been made for wind energy providers to bear the cost of their schedule being incorrect without an actual penalty and the FERC docket is open for comments. Regional activities in the West, Midwest, and Southwest Power Pool (SPP) are also monitored, particularly transmission expansion plans, cost allocation, and transmission authorities.

### **Transmission Update**

A bi-monthly Transmission Update is hosted by the Transmission Workgroup and was formerly known as the RTO Update. A new format was introduced this year, with discussions about key transmission issues conducted among the key parties by Kevin Porter at Exeter Associates and Miles Keogh at NWCC. A Transmission Update Briefing is released after the call and posted on the NWCC website.

### **Transmission Case Studies**

The Transmission Workgroup is also doing a series of case studies to answer the question “Can transmission be built for wind?” The study sites are Buffalo Ridge, MN; McCamey, TX; Lamar, CO; and potentially Tehachapi, CA. The goal of this project is to make information about problems and possible solutions regarding transmission available to a larger audience. The key stakeholders to reach are the transmission investors, those with load, and parties in the middle of those two groups. The case studies reveal that transmission cannot be built only for wind, but there is a push to get transmission built in advance of the need, i.e. have existing transmission ready for wind to take advantage of.

### **Workshops: West, Midwest, Southwest Power Pool**

Regional workshops are also conducted by the Transmission Workgroup on transmission planning, new market tariffs, policies, infrastructure authorities, and information sharing by regions and FERC for regulators, legislators, governors’ offices, environmentalists, transmission owners, utilities, and others. A workshop was held in the SPP last October and another is anticipated in September in Topeka, Kansas. The next workshop is June 22, 2005 in St. Paul, Minnesota.

Meeting attendees made the following comments:

- A way needs to be found to make developers responsible for partially funding new transmission.
- Utilities do not want transmission payments to mirror turbine payments because they are afraid that people who already have transmission lines built on their property will seek additional money.
- Offshore wind projects might bring the transmission issues to the Eastern US.

Ron Lehr responded to comments and questions with these responses:

- There is a timing mismatch between wind projects and transmission lines. The projects can be built in under a year, but transmission expansion can take decades.

Also, there is a chicken and egg problem—should projects come first or transmission come first?

- Transmission payments are not of the same scale as those provided for wind turbines. There may be call to do something to make transmission lines more acceptable. However, a production royalty or similar concept is outside of the normal line of thinking on transmission. Wind could consider having an open season similar to that used by natural gas pipelines.
- The transmission grid in the Northeast is tighter and has operated together longer, so wind stands an easier chance of getting into the market from that perspective.
- The Lamar, Colorado transmission connection is separate from a larger interconnection developed because of a merger between Texas and Colorado utilities.

### **Wildlife Workgroup**

Abby Arnold from RESOLVE, Inc. described how the Wildlife Workgroup, founded as the Avian Subcommittee in 1994, focuses on defining and discussing wind-wildlife interaction issues, prioritizes those issues, conducts research, and shares research results to assist decision makers and others. Members come from a variety of sectors and strive to achieve the following goals:

- Provide a forum for raising issues
- Identify and conduct research
- Provide a vehicle for regular communication
- Hold research meetings and develop proceedings

Wildlife Workgroup activities are decided at the research meetings and proceedings from these meetings are available online at

<http://www.nationalwind.org/publications/avian/avian04/default.htm> At the last meeting in November 2004, subgroups were formed to look at:

- What is known and what needs to be learned about grassland species
- Updating NWCC's guidance document on wind-wildlife interaction with methods and metrics on nocturnal species
- How risk is assessed and can risk assessment tools from other fields be applied to wind
- Strategies used in the US and overseas for mitigation to develop a toolbox of mitigation methods

### **Grassland**

The Grassland/Shrub Steppe Species Subgroup is trying to determine what impact wind is having on grassland and shrub steppe species, particularly avian populations. Various experts are involved in this effort and a meeting was held March 28-29, 2005 to discuss how to go about developing a research plan. The Subgroup is planning to sponsor a critical literature review and is developing technical research plans, one for prairie chickens and one for songbirds. The research plans will be distributed to experts in the field for their input. An October technical workshop is proposed for reviewing research plans and to share information about recent research. The NWCC is trying to obtain research funding and determining how to administer such funds.

The following points were clarified by NWCC staff:

- Shrub steppe is part of this group's focus to be inclusive of sage grouse. *Post meeting, staff identified that shrub steppe is found in parts of Washington, Oregon, Idaho, Nevada, Utah, Wyoming, and Colorado.*
- There are good leads for research funding, in particular the USGS's Quick Response Research funds

- Waterfowl might be included in the research plan for songbirds and other grassland birds besides prairie chickens.

### **Nocturnal Methods / Metrics**

In 1999, the NWCC released *Studying Wind Energy/Bird Interactions: A Guidance Document*, an informally peer-reviewed publication. The Nocturnal Methods and Metrics Subgroup is working to have a companion document written on methods and metrics for nocturnal species. Who will do the update and how is currently being determined.

### **Risk Assessment**

The Risk Assessment Subgroup is currently conferring about what type of vehicle is best for conveying information about risk assessment applicability to wind power. It is also beginning preliminary research on risk assessment methods and applications.

### **Mitigation Toolbox**

During the winter, information on mitigation types, methods, and applications was collected for the Mitigation Toolbox Subgroup. While this Subgroup is inactive at this time to prioritize other projects, the Subgroup does plan to assemble a compendium of mitigation strategies for use by the wind industry to offset adverse impacts to wildlife.

### **Info from BWEC**

The activities Bats and Wind Energy Cooperative (BWEC) are being followed by the NWCC and the 2004 BWEC Final Report is now available at <http://www.batcon.org/wind/research.html>.

Ms. Arnold fielded questions about BWEC and provided the following information:

- Bat research plans for 2005 do appear to be moving forward, although they may not involve testing of feathering turbines.
- Members of BWEC on the Wildlife Workgroup should be contacted for more information, e.g. Ed Arnett, Bat Conservation International; Tom Gray, AWEA; Alex Hoar, USFWS.

Meeting Attendees offered the following comments in response to the BWEC discussion:

- Acoustical testing may be part of the 2005 research and that the feathering topic is not closed permanently, it is just not being pursued right now.
- A supplement to the meeting summary with a BWEC update should be provided when more information is available from the cooperative.

### **Core Group Proposal**

To conclude, Ms. Arnold presented the core group concept proposed at the last Wildlife Workgroup meeting held May 4-5, 2005 in Aurora, Colorado. The core group is to include members from the various sectors of the Workgroup and will be regularly consulted on wildlife matters. This is intended to add structure, balance of representation, and continuity to the Wildlife Workgroup.

Meeting participants provided feedback on the last Wildlife Workgroup meeting and the core group concept:

- A lot of good people were involved in the last Workgroup meeting, a result of good outreach; this should serve as a model for other Workgroups. However, with new people in attendance, tools need to be prepared to bring participants up to speed before beginning with NWCC business.

- The Workgroup should consider using a regional focus rather than a species focus for Subgroups.
- Regional representation is needed on the core group, even if there is some redundancy.

Responses to participant questions on the May meeting and the core group concept included:

- The NWCC plans to offer briefings before future meetings.
- Information on USFWS-USGS research using radar available at <http://www.nationalwind.org/events/wildlife/2005-1/presentations/manville.pdf>.
- Using a regional focus for the NWCC is possible, but more resources might be needed in order to do so.
- The NWCC staff does not know of bird interaction studies similar to the bird/power line studies done by the Avian Power Line Interaction Committee (APLAC) using other items like windows. The USFWS has a communication tower working group, but its work has been impeded because the tower owners are not particularly forthcoming with information. The NWCC Wildlife Workgroup is keeping an updated fact sheet on bird/wind interaction.
- State government representatives will be sought for the core group.
- A Wildlife Research meeting for March 2006 is being considered.

#### **Update on NWCC Meetings and Outreach Schedule for 2005-2006**

Miles Keogh, NWCC Outreach Coordinator, reviewed a handout listing anticipated NWCC meetings and workshops for 2005-2006, with magic moments listed on the back. The schedule for the June 10<sup>th</sup> National Conference of State Legislators (NCSL)'s Legislative Wind Institute was also provided. Major NWCC upcoming meetings include the June 22<sup>nd</sup> Midwest Transmission Workshop in St. Paul, Minnesota; the SPP Transmission meeting September 19<sup>th</sup> in Topeka, Kansas; Business Meeting #36 on October 20<sup>th</sup> in Lansing, Michigan; a Grassland/Shrub Steppe Species Subgroup Technical Workshop on October 24-25, location to be determined; and a Siting Technical Workshop November 15-16 in Washington, DC. Additional business meetings remain to be scheduled through the contract end in October 2006.

NWCC staff answered questions on upcoming NWCC activities with the following:

- The NWCC meeting schedule is determined in part by attempts to coordinate with other organizations, such as with NCSL during this business meeting, and in part by its budget.
- The next business meeting is scheduled for October 20<sup>th</sup> in Lansing, Michigan to coordinate with meetings of the Michigan Wind Working Group and Great Lakes Renewable Energy Association. Potential topics include air quality or a siting issues forum.
- The NWCC Workgroup blueprints are revised annually and will be done at the January business meeting. Creation of a long-term vision for the NWCC is a separate exercise from the blueprints and will be undertaken in the fall.
- The Massachusetts Energy Collaborative is doing work on offshore wind and NWCC staff can provide more information by request.

Meeting participants made the following suggestions and comments:

- Nevada is recommended as a future business meeting location because the state is building a great deal of new transmission and there is political interest in wind power.
- Representatives affiliated with Wind Powering America will suggest priority states for future business meetings to NWCC staff.

- If air quality is a business meeting topic, information on environmental justice for downwind parties should be included.
- A RTO panel on institutionalizing interconnections, loads, etc. is a potential business meeting activity.
- A business meeting opportunity to look more in depth at renewable portfolio standards and renewable energy credits, including their trading and out of state transfer, would be welcome. Certifying green power, assigning values, and eligibility would also fall under this topic.
- A business meeting could discuss variability of recovery rates and stranded costs, as these items are being dealt with differently by various states and it is not clear that there is equitable treatment.
- Ryan Wisser and others are researching performance based regulation. The question of risk and award incentive penalties, which is built into Colorado law, could also be a business meeting item.
- NCSL has a study coming out soon on renewable portfolio standards and green pricing.
- September 11-13, 2005 South Dakota and DOE are conducting a wind conference in Brookings.

### **Mid-Atlantic Regional Issues: Maryland, Virginia, and North Carolina Wind Working Groups**

#### **VIRGINIA**

Jonathan Miles spoke on behalf of the Virginia Wind Energy Collaborative (VWEC), a group made up of the following partners and supporting agencies:

- Alexandria Research Institute of Virginia Tech
- Environmental Resources Trust
- George Washington University Law School
- James Madison University
- National Renewable Energy Laboratory
- Old Mill Power Company
- Virginia Department of Mines, Minerals and Energy

One of the group's next initiatives is to expand its membership to include more utilities, developers, and environmentalists and the group will decide this summer how to conduct outreach across the state.

Virginia is ranked 14<sup>th</sup> in the nation for wind potential, with promising locations on Forest Service lands, private property, and offshore. No large wind developments are in Virginia at this time, although there is a proposal for such a facility in Highland County. Virginia has a tax incentive for solar, but it is not applicable to wind. For small wind, James Madison University is running a pilot program on small wind incentives through next year. The state does have a strong net metering law and VWEC is working break down barriers to small wind like zoning ordinances. Economic development benefits of wind is an area of interest, so there is an interest in streamlining processes for bringing wind projects online.

Mr. Miles brought a brochure on VWEC and its activities. (More information about VWEC is available online at <http://vwec.cisat.jmu.edu/aboutus.htm>.) Key VWEC projects include:

- Virginia anemometer program—currently anemometers are provided for parties that request them, but the program plans to start targeting landowners with good wind resources;
- A GIS-based landscape classification system—two versions available, each with different descriptions; and
- Revised Virginia small wind guidebook.

The classification system and small wind guidebook are available from the VWEC website. VWEC would like to develop a database on the web where landowners can input their address and receive information on the area's wind resources, comparison of energy costs with and without wind, and turbine model prices and features.

Mr. Miles stressed the importance of pre- and post-construction monitoring as projects come up for development.

## **MARYLAND**

Susan Shipman with the Maryland Energy Administration explained that Maryland currently has no large wind facilities in operation, but there are good wind resources in western Maryland and offshore. Maryland has a renewable portfolio standard (RPS) of 7.5% renewables by 2019, which also stipulates that siting guidelines be created and these are under development. Once the RPS goes into effect, in 2006 the state will likely have a renewable energy fund fed by compliance fees dedicated to promoting new Tier I resources like wind. Maryland does have net metering. A bill was brought up last legislative session to have the accounting occur on an annual cycle instead of a monthly cycle, while this did not pass last session it is likely to come up again. Several states offer tax credits to encourage wind power development, there are a number of parties looking to develop something similar for Maryland. An additive state PTC bill was proposed last year it passed one chamber in the form of a grant program and will likely come up again next session.

Approximately five developers are investigating locating projects in Maryland; two received permits but are still securing financing. One facility may be constructed before the end of 2005. There is a small wind demonstration turbine located at a U. S. Fish and Wildlife refuge on the eastern shore. Extensive environmental monitoring has taken place and little to no detrimental environmental impacts have been identified. Landowners are making inquiries about having wind facilities and small onsite generation. The state does not currently have an anemometer loan program in place, though one is underdevelopment to provide assistance to landowners wishing to quantify their wind resources.

The Maryland Wind Working Group met for the first time in March and a summary with the presentations is available online at <http://www.energy.state.md.us/programs/renewable/wind/workgroup.htm>. A core group from the working group is forming to carry out proposals like the anemometer loan program.

## **NORTH CAROLINA**

Larry Shirley from the North Carolina State Energy Office noted that North Carolina has good wind potential in the mountains and on the coast, especially in the sounds. Each area has an active working group looking at wind energy regulations, particularly a law regulating the placement of turbines on mountain ridges. The mountain ridge protection act exempts windmills, but this is being challenged by wind opponents on the basis that the windmill exemption was not intended for commercial wind turbines. The coastal working group looks intensely at waterfowl migration and its influence on wind development. In a survey conducted by Appalachian State

University, 80% of North Carolinians indicated they strongly support wind development, including strong acceptance of having a turbine within view. That said, there is considerable opposition from various communities, particularly in the mountains. Survey results are available at [http://www.ncsc.ncsu.edu/programs/Western\\_NC\\_Wind\\_Attitudes\\_Survey.pdf](http://www.ncsc.ncsu.edu/programs/Western_NC_Wind_Attitudes_Survey.pdf).

The North Carolina legislature is not universally supportive of wind, although a renewable portfolio standard is being considered. The wind working groups are proposing a 6.5% by 2015 renewable target. A 35% tax credit on turbine applications is up for renewal and a tax credit for wind component manufacturing is a possibility. A priority for the wind working groups is to educate legislators on wind power. Economic development potential is expected to be a major driver, as it is generally the state's economically depressed areas where wind facilities are proposed. Significant economic development impacts have been calculated using the Department of Energy Job and Economic Development Impact (JEDI) model. North Carolina does have an anemometer loan program and a test area for small wind on Beech Mountain. In addition, air quality monitoring is being conducted by area universities.

Mr. Shirley responded to questions with the following:

- North Carolina has no fossil fuels, so energy purchases primarily result in money leaving the state.
- Coastal wind development is likely to be hindered by inadequate transmission. North Carolina is wondering where it will get new grid capacity.
- Net metering is not available in North Carolina, although a docket on net metering has been open for three years without passing.
- No projects have been built in North Carolina yet, but pre- and post-construction study would be encouraged were a project implemented.
- Coal is the 5<sup>th</sup> leading cause of death in North Carolina; without more renewable energy, coal and nuclear power are primarily used to meet energy demands.

#### **Panel Discussion**

NWCC staff provided the following comments based on this panel and subsequent questions:

- Pre- and post-construction study is taking place in states like New York, which already has wind projects in place. The U.S. Fish and Wildlife Service and U.S. Geological Survey are also studying migration patterns using radar. Research done on private land is sometimes, but not always, made available publicly.
- The panelists can be consulted individually about which areas in their states are seeing controversy over wind development.

**The meeting adjourned at 1:30 pm and was followed by the NWCC's Issue Forum on "Wind Energy And Natural Gas: Balancing Price And Supply Volatility".**