

# Highland officials share experience with wind

## *First meeting on wind, solar siting system held*

BY JAMES JACENICH • STAFF WRITER

STAUNTON — As the governing body first to review an application for an industrial wind utility, the Highland County Board of Supervisors had a lot to share with other counties this week.

At a meeting sponsored by Dr. Jonathan Miles of James Madison University and hosted by the Central Shenandoah Planning District Commission in Staunton, planners and officials from neighboring counties gathered to learn about a wind and solar scoring system JMU is being paid to develop for Virginia.

JMU is working on an \$80,000 budget to develop a scoring system Virginia localities can use to help determine whether certain properties are suitable for commercial wind or solar facilities.

Looking at Miles' presentation, supervisor Jerry Rexrode told the group his board had to review many of the features the system would use when Highland considered the 39-megawatt plant proposed by Highland New Wind Development LLC. "We had to look at all of this. I can see this as a tool in the future. Even in Highland County you may have a five (in wind strength) but it may not be a good site. Wind turbines are not for every part of every county.

"How do you get power out from a site?" said Rexrode. "Do you want to clear-cut a mountain just to get power out? The ultimate decision should be left up to local authorities to decide."

"Wind siting is a local decision," Miles agreed.

The scoring system is a result of legislation this year first proposed by Sen. Frank Wagner. It passed as the Virginia Energy Plan, and developing such a siting guide is one aspect of enacting the plan statewide.

"What if we had voted no (to the HNWD application), would you be doing this?" Highland supervisor Lee Blagg asked Miles.

"I believe Sen. Frank Wagner is looking at Virginia's energy problem as a whole," said Miles. Virginia has three indigenous sources of energy — coal, nuclear and wind, he explained, adding that coal is exported to some extent, uranium is available but has not been exploited, and wind is untapped as a resource. Water power, such as that from Bath County's

pumped storage station, is no more than a battery, said Miles. "It isn't a source of energy and it provides only a small percentage of the electricity produced in Virginia."

Fuel prices fluctuate, said Miles. The cost of fuel may have been a factor in the development of Virginia's energy plan that includes a renewable component. "What other alternatives are there?" asked Miles. "How can we diversify (our energy portfolio)? Wind is only a part of that."

He said wind is clean and renewable, but has limitations. "It is not the panacea (for Virginia's energy problems) we would like it to be, though I am comfortable with it," he said. "I look at it skeptically. It is not going to work everywhere. It won't replace coal or nuclear power. But when you roll it all together it matters. We need to go in a lot of different directions."

Sam Crickenberger of Rockbridge County noted Highland County's wind plant, if built, wouldn't add much electricity to the power grid.

"Part of that is interpretation," said Miles. "It may supply only 10,000 homes. But that is 10,000 homes."

Rexrode added that BARC uses 40 megawatts, and HNWD's project could produce 39 megawatts. "It can supply all the power for Highland and Bath and part of Allegheny County. They (wind turbines) have more capability than we think they do," he said.

Rexrode told planners wind turbines must have access to transmission lines, noting HNWD's project is sited near a power line on Allegheny Mountain.

Supervisor Robin Sullenberger noted HNWD's project would use all the excess capacity on the existing transmission line.

"We will apply a score that will address proximity to electrical lines," said Miles.

Highland County planning commission chair Jim Cobb asked Miles about including economically disadvantaged areas as a criteria in the scoring system.

Miles explained that aspect was mandated by the energy plan, but could work either way. Some areas would be at a disadvantage if wind turbines were built, other areas may find it an advantage to have them. "We were asked to consider it," said Miles.

Miles noted the difference between large

wind development and solar development, with solar taking more space and wind turbines having a greater impact on view shed.

Billy Vaughn, Rockingham County development director, asked if the system would be consistent across the state. "Who makes the final decision?" he asked. "I get leery about the state trying to help us."

Miles said communities would have the final say on how they use the scoring system. "This isn't a site guide or directive from Richmond. This isn't policy," said Miles. "This is about pure science. We want to provide you something you can modify until it reflects your own community.

"This may, however, inform future legislation," he said.

"Some think the state should control wind to make it viable," said Miles. "Some disagree. Local jurisdictions don't want the state to make the decision whether or not to do so."

"Revenues are one of the big issues," Rexrode told the group. "A lot of people ask you what kind of revenue you are going to get. The legislature gave us a guaranteed revenue that will amount to about \$195,000 a year from taxes."

Bath County planner Miranda Redinger noted Bath was considering a ridge-top protection ordinance, and wondered whether wind was as strong in the valleys as the ridge tops. Redinger said Bath may also consider differentiating between large and small wind operations. A small wind operation would be mostly for personal use, such as a system that generated electricity for one farm or home.

There are limitations to what the siting system will be able to do, Miles said. "We set out to devise a macro-siting tool based on GIS data," he said. "Some wanted the system to identify wildlife impacts, but the data is not there."

"This may be left open-ended," said Sullenberger. "You suggest you don't have resources to consider all components."

"As a researcher, everything remains open-ended," said Miles.

"Will you be looking for local government endorsement of the project?" asked Vaughn.

"The advisory working group will determine if it wants that," said Miles. "We have a modest grant to support the project."

“What you are going to end up seeing is you are going to have a plan showing the best places for industrial wind,” said Rexrode.

“We have diverse opinions in the JMU faculty,” said Miles. “I learn something every time I sit down with Maria (Papadakis).” Papadakis is a JMU professor and political economist.

“I am a little leery of the state stepping in and saying it wants to help,” said Vaughn. “Once the state gets it they will start regulating it. There are a lot of local factors not included in the plan. My hands will be tied a year from now. I can see the writing on the wall.”

“The siting tool will give the state and communities a better handle on where the better sites are,” said Miles. “I would disagree with your skepticism. Anyone can apply whatever they want to.”

“Any tool you can give to localities to use is helpful,” said Blagg. “We did a lot of homework (on the HNWD site). We had nothing to go by.”

“You have to separate fact from fiction,” said Rexrode.

“Be careful of oversimplification,” added Sullenberger. “Many ancillary issues are dealt with by advocacy groups. But the vast majority wants to know about the money and the view shed. These are the only issues of concern to them. Other things have a bearing, but even the energy portfolio argument is secondary.”

Sean Dougherty, representing Albemarle County, expressed concern about bird kills and flyways.

“Migratory species are difficult to tackle,” Miles said. “Bird activities are almost as local as wind itself. We don’t have the resources to determine kills in any one area. There are no magical factors to show impact. Avian experts don’t know the formula. The best we can do is take observations. But even observation (of bird kills) doesn’t mean significant impact.”

Miles hopes the siting system will serve as a guide to local planners. He does not believe it should be used as a substitute for local judgment. “Our intention isn’t to target any one particular community,” he said. “We want a tool a community can tweak so that tool can work for that community. We don’t want to produce a one size fits all system. You would start with default values and parameters and make adjustments.”

Frank Boger, planning director for Nelson County, said tourism was a primary concern in his area. “We don’t want to do anything to the ridge lines,” he said. “We have height requirements. Are we going to be able to pull out information for our county by itself?”

Miles said the whole state comes up in the siting guide, but each county could vary parameters. “If there are any particular parameters you want to build into this, we want to know that,” he said.

The system will consist of metrics, or measures, and a list of check-off-boxes planners

can follow to come up with a numerical ranking for a site under consideration for a renewable energy resource. “Hypothetically, you would have a scale from 1-10 with one end being suitable and the other end unsuitable. But it won’t be as simple as a one-page sheet,” Miles said. “I hope this will give you a tool to be a little more precise in your decision-making,” he said.

“We are learning what environmental constraints would be and pinpoint them,” said Miles. He said there are environmental and ecologically sensitive concerns that should be considered. “We are trying to roll in as many aspects as would have a relationship (to wind siting),” he said.

The system is based on a series of overlays of computer-based maps anyone would be able to access on the Web. The system will show wind velocity, sustained velocity, turbulence, proximity to electric power transmission systems, potential impacts to natural and historic resources and to economically disadvantaged or minority communities, and compatibility with the local land use plan.

Miles explained the siting plan is an enhancement of an earlier project, a Land Classification System for Virginia, which started as an exercise at JMU from 2003-05 and identified areas of Virginia in which wind turbine siting was not suitable or recommended.

The LCS began as a conversation over lunch and grew into an ad hoc committee of interested professionals from educational institutions and industry. After the LCS was completed, the group disbanded, he said.

The scoring system will be built onto the land classification system, with more layers. “In 2003, we recognized that layering a Geographical Information System map would allow local planners to have a broad look. Some try to target specific areas. That goes beyond the intent of this tool. Users can get a sense of areas and regions in miles, not meters or tens of meters.”

There are four areas of Virginia suitable for wind turbine development, Miles said — Western, Southwestern, Eastern Shore and Chesapeake Bay. “The best on land resources are on the western edge of Virginia,” he said, but noted a significant resource is the Chesapeake Bay.

Miles displayed a map of Virginia on the wall, showing a wide swath in red running along the Appalachian Trail atop the Blue Ridge Mountains. “The areas in red are unsuitable,” he said. A group of trail supporters did not want wind turbines within 10 miles of the trail, he said.

A blue outline surrounded areas in red which indicated a five-mile border where wind turbines may or may not be suitable. “Environment and aesthetics were reasons to put an area off limits,” said Miles.

Highland and Bath counties had ridgelines in orange, indicating suitable winds for tur-

bine development, sometimes overlapped by areas in blue and red indicating possible problems environmentally or culturally.

The map did not specifically leave out or include public lands. “Developing on federal lands is an unknown right now, particularly in the East,” said Miles. Some federal lands were flagged unsuitable, others suitable.

“If you get an area that is so pristine and unclassified, it is clearly not an area to impose a large wind development,” he said.

“My vision after local tweaking is that you will be able to pull up a pixel (on the map) and the pixel has a number,” said Miles.

Miles and two assistants will soon be receiving advice from an advisory group of around 12 members, expected to be announced next week. “The advisory working group will be established in the next week or so to help guide us through the process,” said Miles. “It represents fields of expertise where we don’t have expertise. I am not prepared to name names yet.”

Papadakis is chairing the working group, and Miles will not be a member. At the public hearing held later that night, Miles said, “We want to be advised by experts in the field without a stake in wind power development in Virginia. We don’t want to front load the group with pro-wind people.”

Miles said the structure of working group meetings will be up to Papadakis. He hopes that by the time the system is presented next year it will have been reviewed by many stake holders.

As for the advisory working group, Miles said, “I don’t think any of them have a stake in wind projects. Some have expressed skepticism. I can’t think of an individual who is an ardent wind advocate. We wanted a balanced group. I think we accomplished that.”

Miles said he was involved in the selection of working group members, but received advice on who should be a member from at least a dozen sources.

Sullenberger cautioned area officials to be clear about using a scoring system. “Make sure you reinforce the idea this is an educational search for information and ideas and not an advocacy of wind power,” he said. “My skepticism about wind power is well documented. I do not advocate or oppose it. But I have never asked this man (Miles) a question without getting an objective answer.

“There are no state or federal regulations or policy to give us guidance in Highland County,” he added.

Sullenberger told Miles, “I commend you for being objective. You have some affiliates at your organization that are not as objective as you are.”

“I am more affiliated with JMU than VWEC,” Miles said, referring to the Virginia Wind Energy Collaborative based at JMU.

At the public hearing held at Blue Ridge Community College Tuesday, 16 people

showed up to hear the same presentation Miles gave earlier to planners.

Highland resident Debora Ellington asked what part solar would play in the renewables scoring guide.

Miles said he expects solar data to come later in the process. "Local climate variations will affect solar siting," he said. "But there are not as many local variations as with wind." He said wind was not a consideration in a large part of the state, but that solar power could be.

Miles' colleague Mark Lotts handed a survey to those in attendance asking questions about wind turbine plants and how they felt about them. The questions addressed a variety of issues such as noise, effect on real estate prices, view sheds, ridge tops and national forests. The survey also asked for perceptions as to the benefits of wind turbine development, such as job creation, increased energy security and reduction in electricity prices.

As with the earlier meeting with planners and government officials, the public meeting was the first in a series of five planned throughout the state in the next seven months.

Miles has not decided how to disseminate information gathered at the meetings. He may place updates on a Web site, but that has not yet been developed. "We need to balance our interest in sharing information with getting into the trenches and getting some work done," he said.

In response to a question about his affiliation with the Virginia Wind Energy Collaborative, he said VWEC consisted of himself and three other people who developed the landscape classification system with an environmental working group of five members.

Despite the room's sign that said "VWEC meeting," Miles told the group, "This is not a VWEC meeting ... the grant was made to JMU. VWEC is an affiliation I have, a wind working group.

"I am the principal investigator on this project. VWEC is a loose association of people who share a common interest. Grant money goes to their respective institutions. I am more affiliated with JMU and have colleagues in my building who are opposed to wind power," he said.

"Objectivity is less of an issue for me. This is a scientific endeavor, not policy. It is meant to provide information. We want to provide a tool to provide enough information to make siting decisions."

To see the landscape classification system, go to: [www.vwec.cisat.jmu.edu](http://www.vwec.cisat.jmu.edu). Miles's email address is: [milesjj@jmu.edu](mailto:milesjj@jmu.edu) and office number is (540) 568-3044.