AMERICAN BIRD CONSERVANCY

Bringing back the birds

August 10, 2020

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

Re: Rocky Forge Wind Permit By Rule Modification Application

Dear Ms. Major and Review Team,

Thank you for the opportunity to provide these comments on the permit by rule modification application for the Rocky Forge Wind project. American Bird Conservancy has opposed this project since its inception due to its poorly chosen location and lack of mitigation for likely impacts to birds. As currently planned, this project poses unacceptably high impacts to birds. We are concerned that this sets a poor precedent for wind energy development in the State, and potentially elsewhere in the region.

American Bird Conservancy is a 501(c)(3), non-profit membership organization whose mission is to conserve native birds and their habitats, working throughout the Americas to safeguard the rarest bird species, restore habitats, and reduce threats. We support wind energy development that minimizes impacts to birds; our Bird-Smart Wind Energy program has had staff dedicated to promoting such practices for more than 10 years.

Recent estimates show that more than a half million birds are killed annually from collisions with wind turbines in the U.S. Given projected industry build-out, that figure is projected to increase to more than 1.4 million annually by 2030. Some species, such as Golden Eagles, are more vulnerable to turbine collisions, and due to their slow reproductive rates have less capacity to recover from losses.

We understand that Virginia has recently committed to the admirable goal of 100% clean energy by 2050. We applaud this goal, and support responsible wind energy development. However, such development requires project siting in locations that minimize risks to birds. As we have consistently argued, Rocky Forge falls well short on this critically important point.

We encourage the State to require that: (1) a permit for take of Golden Eagles be obtained to comply with the Bald and Golden Eagle Protection Act, (2) impacts to Golden Eagles be mitigated through compensatory conservation actions, and (3) bird studies for this project be updated. This would allow the State to act as a leader not just in climate-friendly energy, but in ensuring that this development is done in an environmentally responsible manner.

We hope that our comments provide a blueprint for improving the science underlying the Rocky Forge project plans, and practices for minimizing impacts to birds.

Risks to Golden Eagles

Foremost among our concerns is the risk that this project poses to the Eastern population of Golden Eagles. An April 2016 report from the U.S. Fish and Wildlife Service (USFWS)[1] estimated that there are approximately 5,000 Golden Eagles in the species' Eastern population, accounting for less than 13% of the nationwide total. This was a considerable increase from previous estimates, which placed the Eastern population at 1,000 – 2,500 birds.[2] Studies agree that populations are likely decreasing, though the USFWS report suggests that it may be stable. Indeed, prior to an update of the Federal Bald and Golden Eagle Protection Act permitting process in 2017, no permits were allowed for predictable take of Eastern Golden Eagles.

The Eastern population differs from Western birds in many ways, which requires a different approach for surveys, monitoring, and mitigation. The USFWS report[1] indicated that in a study of tagged birds, more than half were killed by human-caused factors (e.g., wind facilities and power line electrocutions). Eastern Golden Eagles "are found in greatest numbers during winter in the north-central Appalachian Mountains of Pennsylvania, West Virginia, and Virginia." This demonstrates the importance of caution when considering permitting actions that harm the species in this key area.

A study of eight Eastern Golden Eagles fitted with GPS tags[3] found that these birds migrated and wintered along the Appalachian Mountain range. Migratory birds flew at higher elevations than birds engaged in daily movements on wintering grounds. Further, birds flying over areas of high topographic relief (including ridgetops and steep slopes) flew at lower altitudes. They concluded that "Turbine development on ridgetops and near steep slopes over which eagles fly at lower altitudes should therefore proceed with extreme caution and careful attention to possible mitigation measures."

Primary threats to Eastern Golden Eagles include incidental trap mortality and lead poisoning. Collisions with standing infrastructure and electrocutions are key threats to Western populations, and a recent review indicated that "with increasing numbers of industrial-scale wind energy facilities at high elevations in breeding, migratory, and wintering ranges, Golden Eagles in eastern North America will likely face similar threats."[2]

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[1] U.S. Fish and Wildlife Service. 2016. Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management, Washington D.C., USA.
[2] Katzner et al. 2012. Status, biology, and conservation priorities for North America's Eastern Golden Eagle (Aquila chrysaetos) population. The Auk 129: 168-176.
[3] Katzner et al. 2012. Topography drives migratory flight altitude of golden eagles: implications for on-shore wind energy development. Journal of Applied Ecology 49: 1178-1186.

The above shows that the Rocky Forge site is in an area known to be important for migratory and wintering Eastern Golden Eagles, and that the topography of the site is ideally suited for this species' use. It is also clear that this population cannot sustain additional substantial sources of mortality, such as that caused by wind energy facility development.

So it is no surprise that studies on the Rocky Forge site found Golden Eagles using the site. What is surprising is that the developer is not pursuing a permit under the Federal Bald and Golden Eagle Protection Act, nor are they being required to do so. This project is very likely to kill Golden Eagles, which must be effectively and legally addressed and appropriate compensatory mitigation provided. This project sets a poor precedent from a conservation perspective, located at a site that is used by the small and declining population of Eastern Golden Eagles, as well as migratory songbirds.

We urge the State to take the appropriate steps to ensure that the Rocky Forge project complies with applicable Federal environmental law, and protects important bird species.

Recommendations

We recommend that the following measures be required for the Rocky Forge project:

- Consultation with U.S. Fish and Wildlife Service should be initiated, to result in obtaining a permit for incidental take of Golden Eagles in compliance with the Bald and Golden Eagle Protection Act.
- Compensatory mitigation for take of Golden Eagles should be provided, with said mitigation taking into account that the key threats for the Eastern population of Golden Eagles differ from the Western population (i.e., incidental trap mortality and lead poisoning are more important than electrocution).

Risks Posed by Taller Turbines and Outdated Avian Studies

A significant alteration has been made to this project by way of substituting taller turbines for the previously-permitted design. A 2013 study, viewed as a primary resource for bird mortality resulting from collisions with wind turbines, found that more birds are killed by taller wind turbines than shorter ones,[4] though we note that other studies have reached different conclusions. This is in addition to the aforementioned study of Eastern Golden Eagles, which found that migratory and wintering birds fly at different elevations. In addition to the increased turbine height, the taller turbines now being used have an increased rotor-swept area, making each turbine a greater risk to birds given the limited ridgetop airspace. Collectively, this poses a

[4] Loss et al. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. Biological Conservation 168: 201-209.

great deal of uncertainty with regard to the risks posed to birds from the substantial increase in the height of the turbine blades for the Rocky Forge project.

The previously-mentioned study of GPS-tracked Golden Eagles addressed specific needs for evaluating risk to birds at wind facilities: "pre- and post-construction surveys conducted at proposed and existing wind sites should focus on documenting flight paths of locally moving individuals as well as the more common practice of counting birds in active migration through or past the site."[3]

In considering ways to minimize impacts to Golden Eagles, a study in Pennsylvania indicated that "Preconstruction model assessments can reduce risk if they are used to guide siting of individual high-risk turbines into adjacent yet lower risk areas. Moreover, post-construction mitigation is also possible by shutting down particularly high–risk turbines during periods when eagles occur with highest frequency."[5] The issue of curtailment (shutting down high-risk turbines during certain time periods to minimize collision risks) should be considered for Rocky Forge.

Lastly, the Virginia Department of Environmental Quality's Wind Permit By Rule Guidance (7/21/17) provides the shelf life of field studies for wildlife to support wind energy facility planning. These indicate that a negative survey, defined as a survey where no State-listed species was found, have a limitation of one to two years, depending on the species. This is further indication that avian studies for the project must be updated.

Given the changes to the project plan, avian studies conducted to date are now outdated and likely inaccurate. We urge the State to take the appropriate steps to ensure that the Rocky Forge project adequately evaluates the current risk that this project poses to birds, given significant changes to the project plan and associated changes in likely impacts.

Recommendations

We recommend that the following measure be required for the Rocky Forge project:

- Avian studies conducted for the project to date, and conclusions therein, should be updated to provide a more accurate assessment of risks to birds given changes in the project design and associated changes in likely impacts. Updated field studies should be conducted for a minimum of 12 months. Studies for Golden Eagles should be conducted during both the migratory period and winter months, with a frequency and methodology sufficient to effectively detect birds and evaluate local movements.

[5] Miller et al. 2014. Assessing risk to birds from industrial wind energy development via paired resource selection models. Conservation Biology 28: 745-755.

- An assessment should be conducted regarding the need for and efficacy of curtailment of specific turbines during periods of high risk for Golden Eagles as a measure to minimize collision risks.

Additional Recommendations

Minimizing Conflict Through Third-Party Review

One perennial source of conflict and delay in energy project development planning is the debate about the methods by which data are collected, the resulting integrity of that data, and interpretation thereof. The process typically entails procurement of a consultant by the developer, who then conducts studies and provides reports and analysis on the developer's behalf. This creates an actual, or at the least, the perception of a conflict of interest, which creates distrust and in many instances leads to protracted conflict. The State can substantially minimize this problem and set a positive example for other states by requiring that site assessment and avian studies be conducted by a qualified third party not contracted or in the employ of the project proponent.

Improving Transparency of Impact Monitoring

Wind energy facilities typically maintain post-construction bird mortality monitoring data as a proprietary trade secret. The State has an opportunity to create a positive precedent by making this data publicly available, providing an understanding of the actual impacts, informing assessment of cumulative impacts of the industry as a whole, and informing project-specific adaptive management.

Closing

A recent study by Cornell Laboratory of Ornithology, American Bird Conservancy, and others shows that the United States and Canada have lost nearly 3 billion birds – almost 30% of the total population – since 1970.[6] We must not let our shared sense of urgency to address climate change overwhelm the importance of protecting our vulnerable bird populations, which already face an overwhelming suite of threats.

In light of the current Federal administration's weakening of the Migratory Bird Treaty Act, by which the wind energy industry benefits tremendously, the State of Virginia is taking the appropriate and laudable step to protect migratory birds in the State via legislation currently under consideration. We urge the State to similarly set a similarly positive example in its consideration of its first onshore wind energy facility.

[6] Rosenberg et al. 2019. Decline of the North American avifauna. Science 366: 120-124.

AMERICAN BIRD CONSERVANCY

Shaping the future for birds

Thank you for your time and consideration in this important matter. We offer ourselves as a resource moving forward, and welcome you to contact us at any point for further discussion.

Sincerely,

Joel Merriman

Director, Bird-Smart Wind Energy Campaign
American Bird Conservancy
P: (202) 888-7471
jmerriman@abcbirds.org

From: Albert Anderson
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 4:22:28 PM

Dear Mr. Johnson,

Dear Sir,
I am in favor of the Rocky Forge Wind Project for the following reasons.

I have seen wind turbine installations in other areas. I understand their visual impact. I have also seen the coal mining areas of southwest Virginia. There is no way to produce electricity that does not have some negative impact.

Wind turbines could help us reduce carbon emissions. They need to be sited somewhere. In a way they are beautiful visually to me because they represent a step towards preserving our world.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Joseph Anderson

Regards,
Albert Anderson
990 Whetstone Rd
Ferrum, VA 24088 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f94804798&c=E,1,RTerkdfpoG4m6nqAw2Zgyc-IzflmEnP_VWGivIgf61gH_CCfvYBkYr2Rq7YAc7-nraaLQgzJnApzx_oiuVunVFhZCc0g8yM9aqEWNwILgQiSqeCYPi5JGw,,&typo=1>

#001

Posted by **BotCo-resident** on **08/08/2020** at **11:18pm** [Comment ID: 22] - Link

Type: Question

Agree: 0, Disagree: 0

Note the correct spelling of "Assessment". This header section of your RF Public Comment website has three misspellings on three successive lines. Is this a Freudian slip? This reflects poorly on Apex's attention to detail, and makes one wonder...what other oversights exist in Apex's haste?

#002

Posted by **BotCo-resident** on **08/08/2020** at **10:37pm** [Comment ID: 19] - Link
Type: Question
Agree: 0, Disagree: 0
In one inset graphic in the Rocky Forge Site Plan, the dimensions of the apparent turbine tower base are indicated as 35.5' in radius, or 71' in diameter. What is the actual tower base diameter for the Rocky Forge turbines, and will they be concrete or steel? A recent study indicates turbines with concrete towers produce less noise--an environmental benefit.

#003

Posted by **BotCo-resident** on **08/08/2020** at **10:44pm** [Comment ID: 20] - Link
Type: Question
Agree: 0, Disagree: 0
"Expected to generate" is not a specific condition. Neither is "up to 20,000 homes annually". What quantity of electrical power does Apex guarantee to be produced as a minimum each year, in kWh, and what portion is expected to be produced each month, including the months when the turbines are stopped at night to prevent bat deaths?

#004

Posted by **BotCo-resident** on **08/08/2020** at **10:58pm** [Comment ID: 21] - Link
Type: Question
Agree: 0, Disagree: 0
Verified by whom? The wind resource cannot be validated without the wind data from the North Mtn. meteorological towers being public, and these data have never been made public. Will Apex publicly provide a standard Wind Rose diagram for each month in a calendar year, for all the years the MET towers have collected data, containing the wind speed, wind altitude, direction, and duration? This should be necessary for DEQ evaluation prior to being granted application complete status. Wind rose diagrams are necessary to validate that sufficient winds exist (benefit) for the project to be with the immense costs (environmental damage, visual viewshed destroyed, local property values reduced, etc.)

#005

Posted by **Karen Lanning** on **07/21/2020** at **10:14am** [Comment ID: 3] - Link
Type: Suggestion
Agree: 0, Disagree: 0
The Rocky Forge Wind Project is a poorly conceived idea in a view shed and wilderness area, and should be cancelled.

#001

Posted by **Karen Lanning** on **07/21/2020** at **10:15am** [Comment ID: 4] - Link
Type: Suggestion
Agree: 0, Disagree: 0
The Rocky Forge Wind Project is a poorly conceived idea in a view shed and wilderness area, and should be cancelled.

#002

Posted by **BotCo-resident** on **08/08/2020** at **11:26pm** [Comment ID: 23] - Link

Type: Question

Agree: 0, Disagree: 0

This engineering drawing indicates each tower radius is 35.5 feet, or 71 feet in diameter, base height. The visual assessment appears to have used 16 feet diameter, base height. Please explain the discrepancy. Which tower diameter is correct?

From: Steven Banks
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 9, 2020 12:58:22 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Steven Banks
2001 Hardwick St
Blacksburg, VA 24060

From: Jana Bean
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 9, 2020 4:22:50 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Jana Bean
1130 Persinger Rd SW
Roanoke, VA 24015

From: Michael Bentley
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 27, 2020 5:51:53 PM

Dear Mr. Johnson,

I'm a retired professor and a scientist who taught a graduate-level course in climate for many years. I'm quite convinced that the climate crisis is real and a transition to solar and wind essential, therefore I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

This wind project is an investment in our local economy - money for property owners, local government services, and schools for ~30 years. The project will also add to county tax revenue and new local jobs will be created.

Apex has modified its Wind application to allow the utilization of new turbine technology, resulting in more efficient production. I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you .

Regards,
Michael Bentley
312 N Broad St
Salem, VA 24153 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f93568810&c=E,1,Q6EHnlIDc9q0ooPDXg-InM5EpktNqrzNezPXVApj2RP3rGgnTDHXsvRRVqG-pea3_XQr_gOup4gXM5W0mN2KD72bt90ZvUyf2AvMXVdbz8vuRnqjSN6J6npQgWl3&typo=1>

From: Mary Bishop
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 9, 2020 11:52:28 AM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Mary Bishop
2311 Kipling St SW
Roanoke, VA 24018

From: James Breakell
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, August 7, 2020 2:40:51 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
James Breakell
525 Clydesdale St SW
Roanoke, VA 24014

From: Michael Brown
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Tuesday, July 14, 2020 4:30:20 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Michael Brown
63 Rose Dr
Eagle Rock, VA 24085

Mr. Charlie Johnson
Apex Clean Energy, Inc.
310 4th St. NE, Suite 300
Charlottesville, Virginia 22902

10 August 2020

Dear Mr. Johnson:

I am pleased to offer the following comments on behalf of the Center for the Advancement of Sustainable Energy (CASE) at James Madison University. CASE engages in efforts that support education, involve outreach, and advance research in fields pertaining to sustainable energy, and one of our centerpiece activities is to assist localities in evaluating the opportunities and challenges associated with renewable energy projects proposed by industry. Several years ago our center provided guidance and assistance to Botetourt County while the original utility-scale wind ordinance for Botetourt County was being developed. It is within our mission to serve communities as an honest broker of information relevant to sustainable energy development, and to provide resources that will aid in the decision-making process.

I have revisited the original utility-scale wind ordinance approved in 2015 as well as suggested modifications to the ordinance that provide accommodations for wind turbines taller than originally proposed. Since 2015 wind power technologies and practices have advanced significantly, with projects especially in the Mid-Atlantic and Southeast now favoring taller towers and larger-diameter rotors. Such turbines provide important benefits to the developer and operator of a project as well as to the community in which a project is constructed. A Rocky Forge wind power plant as re-defined with taller turbines will result in (i) a more robust economic outlook; (ii) reduced operating and maintenance costs; (iii) reduced impacts on the environment and the surroundings during installation and operations; and (iv) visual impacts comparable to (or by some measures even less intrusive than) those presented by the project as originally approved.

By my own estimation, Apex has operated in good faith and in the best interests of the community throughout their engagement with Botetourt County and continues to do so. As the Rocky Forge wind project had already been permitted by the county and the state, Apex was positioned to proceed with construction when agreements were struck in late 2019 with Dominion Energy and the Commonwealth of Virginia. Apex opted instead to pursue the installation of taller turbines than originally planned, a course of action that added significant risk and cost to the project but would result in a project that takes advantage of the very best technologies and practices available today. This reflects their commitment to bring to the citizens of Botetourt County the most successful project possible.

Some individuals who have submitted comments already have expressed concerns that the Rocky Forge Wind project might bear negatively in terms of environmental impacts especially as pertain to avian wildlife, sound emissions, and visual impacts. My response to such concerns is to emphasize that the state wind permit-by-Rule, administered by the Virginia Department of Environmental Quality (DEQ) and published in 2010, is one of the most robust and intensive state-level wind permitting processes in the nation. I served

CENTER for the ADVANCEMENT of SUSTAINABLE ENERGY
JAMES MADISON UNIVERSITY

Jonathan Miles, Ph.D.
Executive Director,
Research Manager

Remy Pangle
Managing Director,
Education Manager

Dustyn Vallies
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Suite 120, MSC 4905
Harrisonburg, VA 22807

on the Regulatory Advisory Panel RAP that crafted the rules as informed by legislation mandating the creation of a wind PBR in Virginia, one that requires for a developer to engage the public in a highly transparent manner; anticipate through appropriate analyses the myriad benefits ***and*** adverse impacts of a wind project pertaining to our natural resources; draft plans to mitigate any impacts that are deemed to fall outside a standard of acceptability; and present for review all plans associated with the project. I was satisfied with the earlier effort by Apex to secure PBR approval and am as well with their more recent efforts to advance a modified plan consistent with the current state of the art.

I applaud Apex for the outstanding example they present to the citizens of Virginia, and to DEQ for conducting a very thoughtful and deliberate process. This effort is particularly timely in light of recent legislation that establishes, for the first time in Virginia history, a mandatory renewable portfolio standard, while setting the goal for Virginia to produce 100% of its power carbon-free by 2050. The Rocky Forge wind project is a crucial first step toward establishing land-based, utility-scale wind power in Virginia, a clean energy sector that will be of utmost importance if we are to meet the 2050 goal.

Sincerely,

Jonathan Miles
Professor, School of Integrated Sciences, James Madison University
Executive Director, Center for the Advancement of Sustainable Energy, JMU

From: Diana Christopulos
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 13, 2020 10:01:41 PM

Dear Mr. Johnson,

It is time for onshore wind in Virginia. This project has the full support of local outdoors and environmental organizations, has no impact on major trails and viewsheds, and requires virtually no new transmission lines, which are the most destructive aspect of wind energy. I urge you to provide the final permit for this project.

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Diana Christopulos
907 Greenbrier Ct
Salem, VA 24153

From: Eric Claunch
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 4:21:29 PM

Dear Mr. Johnson,

Apex has cleverly deceived Botetourt County's Board of Supervisors and its citizens in thinking that Rocky Forge Wind is environmentally beneficial and will produce electricity to power up to 21,000 homes. It will NOT. The actual wind data for North Mountain from the multiple MET towers that have been there for many years has never been provided to the county or to private citizens who have requested it--only a very superficial summary--making one seriously doubt whether the wind is truly adequate for generating electricity here.

The necessary road easements have not been obtained to transport the turbines to the mountain. Mr. Johnson, you purposely intended to deceive the Botetourt County Board of Supervisors when you told them you had "verbal agreement from the largest landowner" just to get them to approve your change requests. Two months after you said this, there is still no signed/written agreement with the largest landowner and with a smaller landowner as well (who you intentionally failed to mention).Redacted Sentence Personal Attack .

The failure of Apex, at this very late date, to document what make and model of wind turbine has been selected for Rocky Forge is quite telling; it appears Apex intends to give the county a "bait and switch", providing a wind turbine whose noise and safety specifications are unknown and untested. The infrasound noise level from wind turbines proposed for North Mountain has never been published. In fact, you publicly scoffed that infrasound noise generated by wind turbines is a documented issue. Measurements of infrasound noise from 680' wind turbines has never been documented publicly. This noise is fully expected to cause adverse health issues to both humans and wildlife.

Further disturbing the land on the mountain will cause watershed problems to Mill Creek, Rocky Creek, and Sinking Creek, and will cause the invasive Japanese Stiltgrass to take over all disturbed soil. The turbines blades will kill countless birds and bats. And the infrasound noise effects to pollinating insects have never been considered.

Mr. Johnson, I look forward to a response that provides clear, concise, direct and scientifically supported rebuttal to all of the environmentally damaging issues included above.

Regards,
Eric Claunch
2817 Mt Moriah Rd
Eagle Rock, VA 24085 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f94389870&c=E,1,ifM3CQx4TMxLOZ8zeIqGOPDbDZWj9qnzrqoRn5UUqSviRN3CrRQxyYhH376affVbsaSIdnw_QVIyoulKihcvt6iyt3aErZ4ozSwG--ZIdg,,&typo=1>

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: Comment Period on Rocky Forge Wind LLC
Date: Monday, August 10, 2020 1:43:17 PM

---------- Forwarded Message ----------

From: Dave C <davecondon@mindspring.com>

Date: 2020-08-09T22:47:52-04:00

Subject: Comment Period on Rocky Forge Wind LLC

To: info@rockyforgewind.com

Cc: mary.major@deq.virginia.gov

Charlie Johnson

Rocky Forge Wind, LLC

310 4th St. NE, Suite 300

Charlottesville, VA 22902

Dear Mr. Johnson;

Under the comments, you were forwarded a letter dated August 5, 2020 via US mail received at your office on August 6,2020 per tracking number EK 102352864 US which I have a confirmation. A copy of that was forwarded to DEQ att: Mary Major>

You may not be aware, but in 1969, 1985 and 1993, there was major flooding which my farm, Meadow Lawn comprising of nearly 2000 acres behind the Goshen Scout camp occured in many areas to include my farm and Rockbridge County on the Maury River and in Botetourt County on the streams located on the Fraley property and James River. In fact, the US Coast Guard used search and rescue helicopters to rescue people from their homes in Rockbridge Baths near Goshen in 1993. We have no control over weather. First it was 25 turbines, then 22 and possibly less. Have the plans been drawn up to include the exact amount of turbines with Latitude and longitude being noted? In addition, have you included in those plans any means to control runoff into the James River in the event of flooding during construction. I heard those plans were necessary before moving forward for approval.

I understand the James River is a major tributary of the Chesapeake Bay and without anything done to control runoff, this will fall under Federal jurisdiction under the Chesapeake Bay Clean Water Act. When Columbia Gas put in a new natural Gas Line, careful attention was given as the properties bordering the James River to include my property. Although the line was completed a year ago, those barriers to include silt fencing remain until enough vegetation has grown back. Thus the plans were required to protect the James River from runoff.

As for airborne fiberglass dust as well as airborne carbon fiber dust (I have worked with Kevlar and epoxy resins), health hazards include asthma,silicosis, lung damage, cancer, etc which has been asssociated to that of asbestos. The CDC did a report at the request of a turbine blade manufacturer and that report (on file with Botetourt County, stated under the best safety controls, fiberglass airborne dust was still very high. Should that dust settle or runoff on the James River, again that will fall under the federal Chesapeake Bay Clean Water Act. Thus a plan to prevent runoff into the James River is in order before any approval by the Department of Environmental Quality. Where is that plan?

IN JULY, 1975, FISHING, SHELLFISH AND SWIMMING WERE BANNED IN THE JAMES RIVER FROM HOPEWELL, VA TO THE CHESAPEAKE BAY BY GOVERNOR MILLS GODWIN DUE TO POISONING OF EMPLOYEES AT A PLANT FREOM KEPONE, AN INGREDIENT IN INSECTSIDE, THAT HAD ALSO LEACHED INTO THE RIVER CAUSING AN ENVIRONMENTAL DISASTER. ANY RUNOFF INTO THE JAMES RIVER IS NOT TAKEN LIGHTLY AND WITH FIBERGLASS/CARBON FIBER AIRBORNE DUST, ANYTHING CAN HAPPEN. THUS A PLAN NEEDS TO BE IN PLACE. AGAIN, DO YOU HAVE A PLAN TO PREVENT ANY RUNOFF OR ANY OF THE AIRBORNE DUST FROM SETTLING IN THE JAMES RIVER WHICH IS COVERED BY THE CHESAPEAKE CLEAN WATER ACT????

Appx. 7 years ago, an earthquake of 5.7 or better was felt in Glen Allen, VA just north of Richmond which was felt in Washington and as far south as Pulaski. I felt it in Pulaski. Today at 8 am, there was a 5.1 magnitude earthquake near the border of North Carolina and Virginia. There are two properties I know of that felt that earthquake within 2-4 miles of Eagle Rock, VA. I will be glad to provide the two names and addressesto the DEQ but there are others who felt it as well. In your plans, are the turbines designed to withstand earthquake activity. Although not well known, there is an underlying fault line under these mountains. Given what happened today, I am asking the DEQ to require those plans before any approval to confirm the turbines can withstand siesmic or earthquake activity.

Dave Condon

PO Box 297

Iron Gate, VA 24448

540-613-9478

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: Public comment period for Rocky Forge Wind Project
Date: Monday, August 10, 2020 1:43:59 PM

---------- Forwarded Message ----------
From: Lisa Connors <connors.halcyon@gmail.com>
Date: 2020-08-08T12:46:24-04:00
Subject: Public comment period for Rocky Forge Wind Project
To: info@rockyforgewind.com
Cc:

Please accept the message below as my statement for public comment on the Rocky Forge Wind Project. I did see the place online to comment, but did not wish to make an account in order to comment. Thank you.

I would like to express my concern for the Rocky Forge Wind Project as a neighbor in adjacent Rockbridge County, Virginia. I feel this project is not considering the severe environmental impacts of installing such large and heavy turbines on a mountain ridge. Soil erosion and stream water pollution will occur as well as an impact on migrating birds. I do not believe any positive gains of energy created outweigh the damages. There are better places to install wind turbines and other ways to create energy that are less damaging. While these environmental costs seem abstract to some, they do indeed exist both literally to humans financially and to the ecology of the landscape. If those making these decisions need more tangible costs, there is also the cost to adjacent property values from this project, and possibly an impact to tourism in the area. However, I do not believe I am alone in thinking there are better ways to grow as a company and projects such as this one are too risky to ensure long-term viability.

Thank you,

Lisa Connors

Rockbridge County

From: Jon Cooper
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 9, 2020 5:32:27 PM

Dear Mr. Johnson,

I fully support the development of renewable wind energy in Botetourt County, Virginia. Rocky Forge Wind will be the first onshore wind farm in our beautiful state, powering up to 21,000 homes. The state will now become more of a producer of green energy instead of just a consumer.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add up to $25 million in state and county tax revenue.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Jon Cooper
535 Hollymeade Ln
Daleville, VA 24083

From: Dan Crawford
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, July 10, 2020 4:45:25 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Dan Crawford
2311 Kipling St SW
Roanoke, VA 24018

From: JAMES CRUMLEY
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Tuesday, July 14, 2020 1:37:30 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
JAMES CRUMLEY
2917 Trebark Rd
Buchanan, VA 24066

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: Support
Date: Monday, August 10, 2020 1:40:40 PM

---------- Forwarded Message ----------

From: Sharon Crumley <sscrumley47@gmail.com>

Date: 2020-08-10T11:16:26-04:00

Subject: Support

To: info@rockyforgewind.com

Cc:

To Whom It May Concern,

My husband and I are residents of northern Botetourt county, we have put our 400 acres of land into a conservation easement.

I am currently serving my 14th year on the board of the National Wild Turkey Federation. I served eight years on the board of the Virginia Department of Game and Inland Fisheries (Department of Wildlife Resources), including a term as chairman. I am a conservationist .

We are very familiar with the proposed wind farm and the property on which it will be located. The Fraley family are conservationists and would do nothing that would harm the land or the wildlife on their land.

This is a rural land tract encompassing more than 9000 acres and in my opinion is the right place for a wind farm. It will have very little negative impact on the land or on surrounding residents. I have participated in many of the public hearings and it has been interesting to learn that most of those who object to this project do not even live in Botetourt county. This project has gotten overwhelming support from local residents from the beginning. Our local officials support the project.

In my opinion a wind farm has the least amount of environmental consequence of any energy source. Please approve this project.

Sherry Smith Crumley

2917 Trebark Road

Buchanan, VA 24066

Sent from my iPhone

From: David Denham
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Saturday, July 11, 2020 3:58:08 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
David Denham
3512 Wright Rd SW
Roanoke, VA 24015

From: Jim Dodd
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Tuesday, July 14, 2020 7:30:12 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Jim Dodd
1403 Greyledge Rd
Buchanan, VA 24066

From: Robert Egbert
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Wednesday, July 22, 2020 6:55:16 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Robert Egbert
2367 Idavere Rd SW
Roanoke, VA 24015

From: Peter Elliott
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Tuesday, July 28, 2020 2:33:58 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Peter Elliott
6101 Olivet Dr
Alexandria, VA 22315 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f93755325&c=E,1,Ngx4lPN7ajv5V26O54foJgIP6GYNTzbp7Ftp2XDwnWuoVim-2AoTR1P-l2_bcMCjVAsfMy6ig9vnFgKROakzXCe7FTRvBKfiB4iXMPSZxwURA0ZWXA8,&typo=1>

From: Deborah Freeman
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Sunday, July 12, 2020 7:41:12 AM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Deborah Freeman
5109 Falcon Ridge Rd
Cave Spring, VA 24018

From: Mark Hanson
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 20, 2020 9:08:18 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Mark Hanson
184 Vista Ln
Fincastle, VA 24090

From: James Harshfield
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 23, 2020 5:17:58 PM

Dear Mr. Johnson,

I very much support the development of renewable wind energy in Virginia.

While no energy source is perfect in all respects, wind energy is very, very good compared to alternatives. We need to eliminate our dependence on fossil fuels immediately.

Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
James Harshfield
2612 Robin Hood Road Southeast
Roanoke, VA 24014

From: Grace Harwin
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 11:22:30 AM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Grace Harwin
205 Morning Dove Ln
Blue Ridge, VA 24064

From: Melissa Hundley <rockysinkingcreek@gmail.com>

Date: 2020-08-05T16:17:12-04:00

Subject: Rocky Forge Public Comment

To: info@rockyforgewind.com

Cc:

*I am commenting on Rocky Forge Industrial Wind Turbines on a few issues that I am greatly concerned about. In regards to future flooding risks and decay of water quality of over 3 miles of streams and 856+ acres in conservation easements that the Virginia Outdoors Foundation holds on our property. **Our parents placed the lands and streams in these easements in good faith with the state to ensure their pristine quality. The VOF's statement on their website says, "* *The Virginia Outdoors Foundation (VOF) was established by the Virginia legislature in 1966 “to promote the preservation of open-space lands and to encourage private gifts of money, securities, land or other property to preserve the natural, scenic, historic, scientific, open space and recreational areas of the Commonwealth.” Today, VOF protects more than 850,000 acres in 111 counties and independent cities, making it one of the largest land conservation organizations in the nation. " *

*DCR's website states, "** Excess nutrients in runoff are a major threat to water quality. When it rains, the rain can cause erosion, pick up nutrients and chemicals, and run off into our waterways ." ** DCR's website then

takes you Virginia Soil and Water Conservation Board, there you find this statement; **The Virginia Soil and Water Conservation Board was established by the General Assembly to help guide the delivery of soil and water conservation services to citizens of the commonwealth. The board is supported mainly by DCR staff for programs covering soil and water conservation and dam safety and floodplain management. *

*Hopefully, these statements and the agreement to protect these streams and our land won't be ignored. *

*Rocky Creek and Sinking Creek on our family property lie below the mountain, the mountain top removal, blasting for foundations and the construction of new roads will have direct effects on the amount of water flow that will run off during a large storm. Over my lifetime, I have witnessed two major floods that brought the streams on the property over their banks and caused severe flooding. I am referring to the floods of 1969 and 1985. Sinking Creek came out of its banks and was within a few feet of the farmhouse, cabin, and the historic cabin (150+-year-old cabin) on the estate. Neither event caused the stream to encroach in or under any of these structures on the property. Nor did those historic floods damage or cover either bridge on the property. These past events and the construction of 22 giant turbines are causing me great concern for the future of our property and streams. For reference, you may wish to Google Earth, North Mountain, and observe all the roads and clear-cutting that has

occurred on the mountain in the past 30 years. I have observed the creek becoming wider in the past two decades and I have been told by DEQ, who has visited our family property in the past that's most likely caused by the runoff from the mountain from new roads and clear-cutting. I have invited Botetourt Supervisors on several occasions to come to visit and view my concerns but none have responded to the invite. How might extensive roads and mountaintop removal, and the deforestation that will occur of oaks and other mature trees hurt wildlife food and heat up the entire area? If they clear cut and the soil bakes up there, that is it for any living animal, plant, or pollinator. How will this affect our future health and property of the farm in conservation? Three miles of creeks running through our property is protected and for what? Might we lose our bridges, homes, and other structures because of extensive flooding like we have never seen before because of this new industrial site on top of a mountain? The hollow streams that lie below North Mountain can become raging rivers and wipe out homes along their way during a flood when massive construction destroys the trees and removes the topsoil that soaks up the rains. Who is responsible for making sure the construction doesn't destroy our homes, bridges, and ecosystem that we enjoy so much? How will the agreement with my family and the state be valid once this happens? *

*What of the remaining critters in our creeks? Won't this industrial site effects cause the creek to warm further? We have already lost our native trout and pickerel in Sinking Creek. Will we lose the Red-eye hatchery (DEQ words when they were visiting the property) and the natives in Rocky

Creek?*

All along the way of this process with Botetourt County, I and others have raised our concerns about the damage to water quality, the diverse wildlife concerns, visual, fire risks, and noise impacts. Every step of the way this project has been passed with little to no concern to the environment this project professes to save. My parents put their entire life work in Conservation Easements both land and water to try to protect all of our futures, yet I struggle to find any value in trying to do so when our government talks the talk yet sells out to a project that has little value to our beautiful state except to be the first to put the tallest structures on a mountain in this country. Virginia has yet to approve a building in this state as tall as these structures for many reasons, yet we will allow them on top of a mountain?I am including pictures for your reference. Please view the pictures they will help you understand my concerns. I also found the attached link that you should find interesting.

https://www.sentinelsource.com/news/local/noise-from-antrim-wind-turbines-draws-complaints/article_7277b3a6-9eaa-528a-ac4b-9acefcf98e2e.html?fbclid=IwAR3jeDRb6qw9_f_7SNm76Jp30SB4qd-xj1wN6gQhkOPH_yoTRSDY3YpLiu8

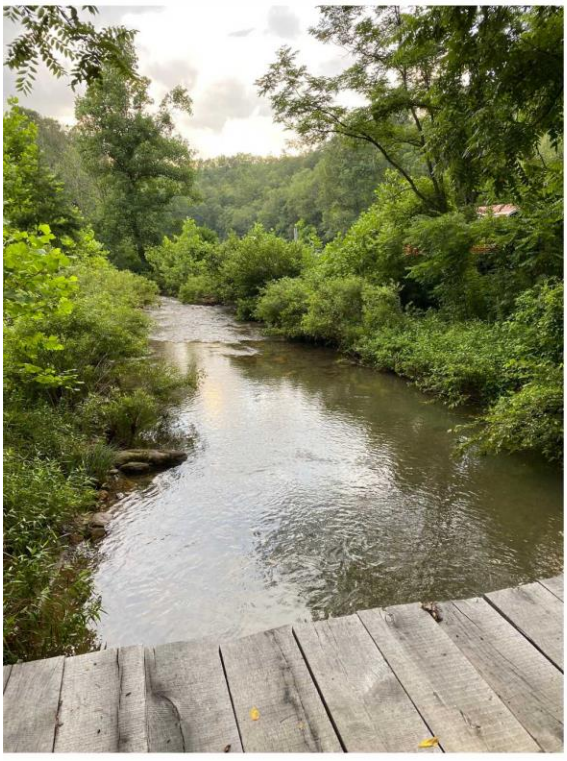
Melissa Hundley / Hundley Farm Trust

1183 Clydes Run Rd

Eagle Rock, VA

Melissa Hundley422 East Ridgeway StClifton Forge Va

After effects of a MINOR flood. The bridge was damaged only because of the dead ash trees floating down during high water.

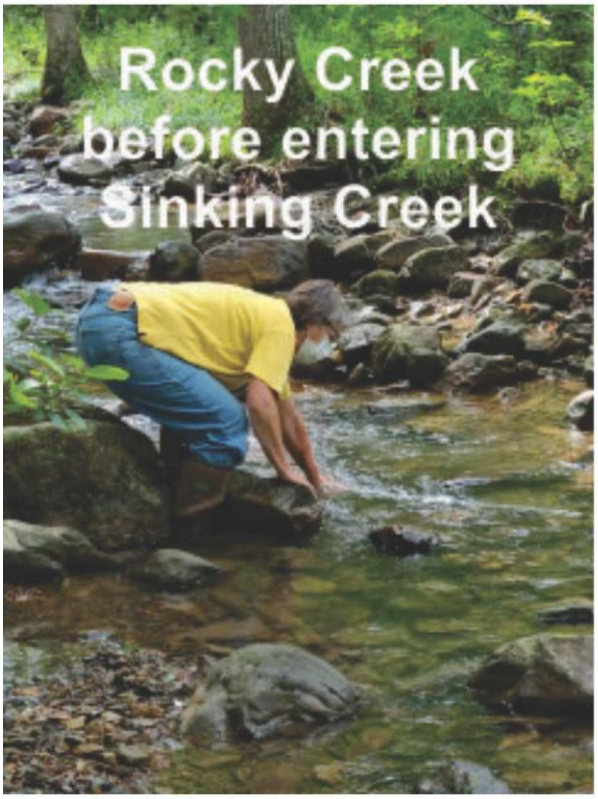


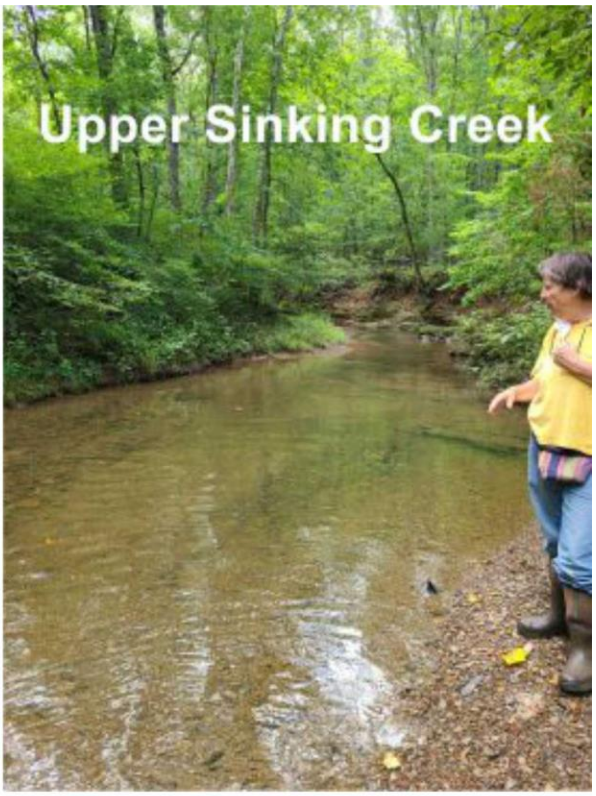
Water at normal level.

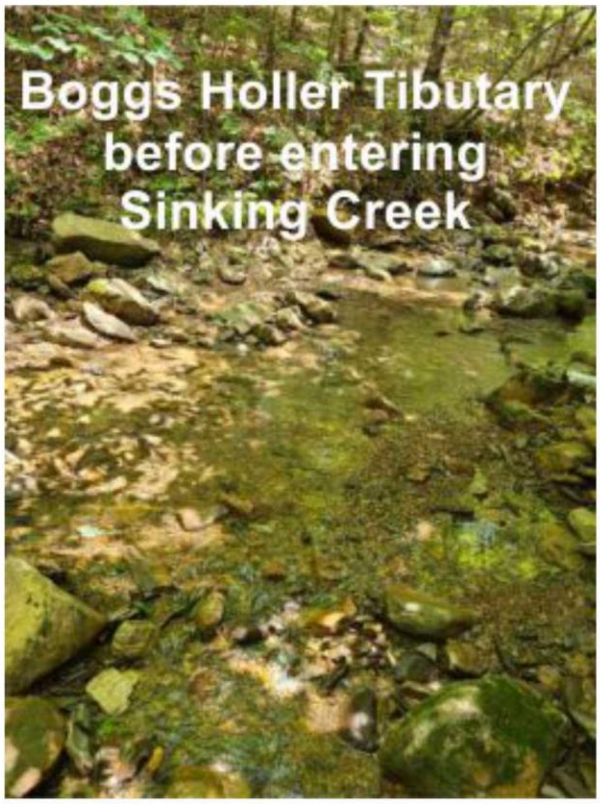
Just a few of the hundreds of Lady Slippers on the property.

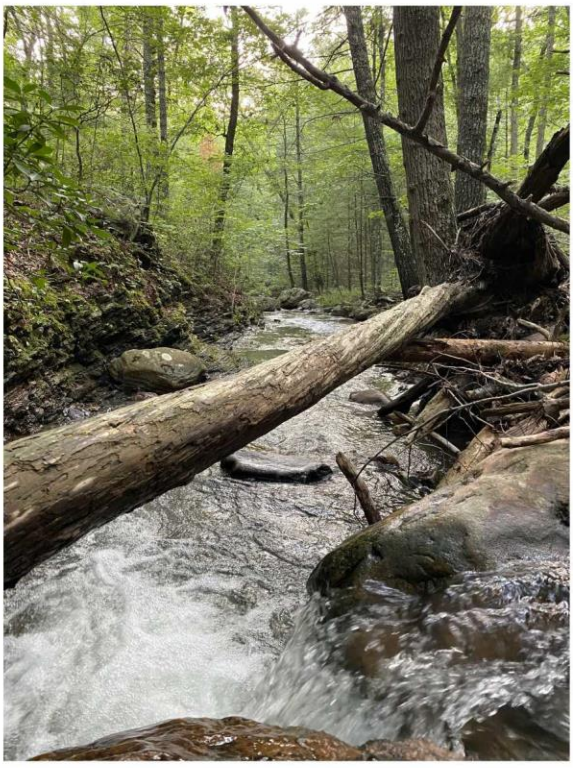

Waterline in past major floods


Waterline in past major floods









Upper Rocky Creek
on Hundley Farm Trust

From: Melissa Hundley
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 4:19:30 PM

Dear Mr. Johnson,

I strongly disagree with putting giant wind turbines on top of a mountain in Virginia. Virginia, has no building this tall so why would you put 22 enormous industrial wind turbines on a mountain of all places? I will quote Chairman and Chief Strategy Officer of Apex Clean Energy in a now-defunct Charlottesville publication The Hook:
"In a 2002 interview, Reisky revealed that his company typically would approach Midwestern ranchers and sign 40-year leases for the rights to place turbines on the land. Far from the critical slopes, delicate fauna, and crusading activists of scenic Appalachian areas, Reisky and Hantzmon said they encountered few political storms in the heartland"

Regards,
Melissa Hundley
422 E Ridgeway St
Clifton Forge, VA 24422 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f94362524&c=E,1,voc-aYL9v4WBA5yPlZk3ZjsM0Br38mS5X6DAZMoMb9xeAM96tA-OSjYIC-tX5d-9K7f3fY6Qf3vsPJHP98skU-g98IZal2w8-EehLyAgXg,,&typo=1>

1703 Fairview Avenue
McLean, VA 22101
July 26, 2020

BY E-MAIL
Rocky Forge Wind LLC
c/o Apex Clean Energy, Inc.
310 4th St. NE, Suite 200
Charlottesville, VA 22902

RE: Letter of Support for Rocky Forge Wind Project

To Whom It May Concern:

The purpose of these comments is to provide my support for the Rocky Forge Wind Project. In particular, I have addressed the requirement for an "analysis of potential environmental impacts of the … project's operations on attainment of national ambient air quality standards." (9VAC 15-40-30.A.6) I strongly support the overall conclusion of Rocky Forge Wind, LLC that the operation of the proposed wind farm will have a positive impact on the attainment of national ambient air quality standards.

My comments are based on a report that I co-authored in 2008 -- "Wind Energy and Air Emission Reduction Benefits: A Primer."[1] This report was funded by the U.S. Department of Energy.

The 2008 report also underscores the positive air quality benefits of wind generation, as follows:

> **Zero-Emissions Wind Energy Versus Emissions from Fossil Fuel-Fired Generation:** One of the obvious benefits of wind energy is that the production of electricity from this source *involves zero direct emissions of air pollutants. In contrast, fossil fuel-fired electric generation from coal, oil, or natural gas results in substantial direct emissions of numerous air pollutants that have adverse impacts on public health and the environment.*
>
> ***
>
> Health experts have documented that pollutants from fossil fueled power plants, particularly coal plants, result in a wide range of serious health effects. These adverse health effects include lung cancer and other respiratory diseases (e.g.,

[1] DEBRA JACOBSON & COLIN HIGH, NAT'L RENEWABLE ENERGY LAB. SUBCONTRACTOR REPORT #SR-500-42616, WIND ENERGY AND AIR EMISSION REDUCTION BENEFITS: A PRIMER (2008), *available at* http://apps2.eere.energy.gov/wind/windexchange/pdfs/policy/wind_air_emissions.pdf

asthma), other carcinogenic effects, neurotoxic effects, and elevation of heart disease risks.[2]

The 2008 report also supports the conclusion operating the wind Project will over time, and throughout the PJM Grid, reduce the need to operate traditional energy generating facilities that do have a negative impact on air quality. The 2008 report states that:

> **Wind Energy Displaces Emissions from Fossil Fuel-Fired Power Plants:** Wind generation results in reductions in air emissions because of the way the electric power system works. Wind energy is a preferred power source on an economic basis because the operating costs to run the turbines are very low and there are no fuel costs. Thus, when the wind turbines produce power, this power source will displace generation at fossil fueled plants, which have higher operating and fuel costs.[3]

The structure of the Clean Air Act provides the potential for the Rocky Forge Wind Farm to contribute to reductions in emissions of nitrogen oxides (NOx). Although NOx also is subject to emissions trading (cap and trade) requirements, the Clean Air Act and the U.S. Environmental Protection (EPA) have provided state governments with authority to issue rules governing NOx emissions trading that allow wind projects to reduce air emissions,[4] and Virginia has utilized this flexible authority. In 2005, the EPA formally recognized that wind energy purchases – combined with the retirement of a commensurate amount of emissions allowances by a wind developer or the state – can qualify for emissions reduction credit in a state air quality plan [addressing nonattainment of ambient air quality standards] under specified circumstances.[5] Moreover, Virginia's Clean Air Interstate Rule (CAIR) has facilitated this approach because it provides a set-aside of one percent of NOx allowances for renewable energy and energy efficiency under its NOx emissions trading program.[6]

In 2007, Virginia participated in the development of an air quality plan for the Metropolitan Washington Region that committed to increase wind purchases by three counties. This effort was reflected in the State Implementation Plan as one of the measures to reduce NOx emissions (an ozone precursor) and to thereby help demonstrate compliance with the ambient air quality standard for ozone.[7] This history demonstrates the potential for the Rocky Forge Wind Farm to reduce NOx emissions and contribute to efforts to attain the ambient air quality for ozone if certain regulatory requirements are met.

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[2] *Id.* at 4.
[3] *Id.*
[4] *Id.* at 14.
[5] *Id.* at 5, 14, 16.
[6] *Id.* at 33. Virginia can further this favorable approach by continuing the renewable energy/energy efficiency set aside when it replaces the CAIR Rule with the new Cross-State Air Pollution Rule.
[7] *Id.* at 17.

In addition, the operation of the Rocky Forge Wind Farm can be expected to reduce emissions of fine particulate matter -- another criteria pollutant subject to ambient air quality standards. Fine particulate matter is not currently subject to emissions trading requirements.[8]

In conclusion, I believe that the operation of the Rocky Forge Wind Farm will have a positive impact on the attainment of national ambient air quality standards.

Thank you for your consideration of these comments.

Sincerely,

Debra Jacobson
Former Lecturer in Energy and Environmental Law
The George Washington University Law School

[8] *Id.* at 5, 16.

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: Rocky Forge public comment
Date: Monday, August 10, 2020 1:42:05 PM

---------- Forwarded Message ----------
From: Ruth Johnson <rhsjohnson4@gmail.com>
Date: 2020-08-10T09:41:36-04:00
Subject: Rocky Forge public comment
To: info@rockyforgewind.com
Cc:

To whom it may concern,

This correspondence is to share my support for the Rocky Forge Wind project Permit By Rule Modification. As a Roanoke Valley resident, I can't think of a more exciting project to be hosting than the first onshore wind project in the Commonwealth. Rocky Forge has been sited responsibly, and will be a source of pride for SW Virginia in the future. Utilizing fewer, but larger turbines represents how the industry is trending and should be allowed as the newest technology is safer and more efficient. Please approve this application.

Ruth Johnson
Salem, VA

From: Bryan Jones
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 23, 2020 5:16:02 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community. MAKE THIS HAPPEN!!!

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Bryan Jones
2282 Flowing Spring Rd
Buchanan, VA 24066

June 29, '20

Dear Mr. Johnson,

Please add this to your Public Comments file —

I strongly object to the Rocky Forge Wind Project because:

1) Residents of Rockbridge County were given no voice in this development, even though it will affect our scenery, soundscape, environment, wildlife, and tourist industry negatively.

2) I treasure our migrating birds and bats, which will be killed in vast numbers. The Golden Eagle is on the federal endangered species list and will also be harmed by these huge blades.

3) The lights atop the 22 50-storey windmills will completely change the beauty of our mountain evenings and nights.

4) Evidence shows that the amount of energy generated by these gargantuan

blades will in no way offset the harm done to our environment.

5) I believe in green energy, but not at the expense of our lovely, quiet "remote" area — when the overall cost is so much greater than the benefit.

Please rethink your plans!
Thank you for your attention.

Kathleen Ball
Rockbridge County
540-463-3804

From: Leonard Kolstad
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 9, 2020 9:20:14 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Leonard Kolstad
2505 Longview Ave SW
Roanoke, VA 24014

From: EDGAR KYLE
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 13, 2020 10:01:40 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia because we need to move far more quickly than we have been away from using fossil fuels for electricity. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration. The livability of our planet depends on projects like this.

Regards,
EDGAR KYLE
5124 Falcon Ridge Rd
Cave Spring, VA 24018

From: Barbara Kyle
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 23, 2020 5:16:59 PM

Dear Mr. Johnson,

We are far behind in replacing fossil fuels with renewable energy sources that do not contribute to the warming of the planet. Our current period of hot weather is merely a mild harbinger of what is coming, and it will be far worse if we do not change our ways to produce energy..

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Barbara Kyle
5124 Falcon Ridge Rd
Cave Spring, VA 24018

From: Mark Laity-Snyder
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Wednesday, July 22, 2020 12:22:01 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Mark Laity-Snyder
1585 Stanley Branch Rd
Ferrum, VA 24088

From: Brian Lang
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 13, 2020 2:46:49 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Brian Lang
6752 Quail Pl
Hollins, VA 24019

From: Anne Lusby-Denham
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Saturday, July 11, 2020 3:17:25 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Anne Lusby-Denham
3512 Wright Rd SW
Roanoke, VA 24015

From: Ann Martyn
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Sunday, July 26, 2020 1:17:25 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Ann Martyn
1601 Wilbur Rd SW
Roanoke, VA 24015 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f93637115&c=E,1,cYkfXMY6F69GendrBHNFxKIDJ9Y0ZxBqax28wT5va1U48YqPmF9DgJyA_wQQUTLW700LShC_X5Il8ucNw46VKD06BEJs3MfHagsmmWzwoKBF5pwZesg,&typo=1>

From: Stockton Maxwell
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, July 10, 2020 1:17:46 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Stockton Maxwell
4951 Preston Forest Dr
Blacksburg, VA 24060

From: Edwin McCoy
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 8:22:48 AM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Edwin McCoy
489 Back Creek Ln
Buchanan, VA 24066

From: David McKelvey
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 16, 2020 3:30:15 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
David McKelvey
Wyndermere Dr
Laymantown, VA 24175

From: noreply@konveio.email
To: Natasha Montague
Subject: New comment on PBR Modification Application.
Date: Monday, August 10, 2020 3:48:46 PM

Hi SiteAdmin,

You have received a comment on: "PBR Modification Application"

August 10, 2020

Re: Rocky Forge Wind Permit By Rule Modification Application

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

Dear Ms. Major and Review Team,

Thank you for the opportunity to provide these comments on the permit by rule modification application for the Rocky Forge Wind project. American Bird Conservancy has opposed this project since its inception due to its poorly chosen location and lack of mitigation for likely impacts to birds. As currently planned, this project poses unacceptably high impacts to birds. We are concerned that this sets a poor precedent for wind energy development in the State, and potentially elsewhere in the region.

American Bird Conservancy is a 501(c)(3), non-profit membership organization whose mission is to conserve native birds and their habitats, working throughout the Americas to safeguard the rarest bird species, restore habitats, and reduce threats. We support wind energy development that minimizes impacts to birds; our Bird-Smart Wind Energy program has had staff dedicated to promoting such practices for more than 10 years.

Recent estimates show that more than a half million birds die each year due to collisions with wind turbines in the U.S. Given projected industry build-out, that figure is projected to increase to more than 1.4 million annually by 2030. Some species, such as Golden Eagles, are more vulnerable to turbine collisions, and due to their slow reproductive rates have less capacity to recover from losses.

We understand that Virginia has recently committed to the admirable goal of 100% clean energy by 2050. We applaud this goal, and support responsible wind energy development. However, such development requires project siting in locations that minimize risks to birds. As we have consistently argued, Rocky Forge falls well short on this critically important point.

We encourage the State to require that: (1) a permit for take of Golden Eagles be obtained to comply with the Bald and Golden Eagle Protection Act, (2) impacts to Golden Eagles be mitigated through compensatory conservation actions, and (3) bird studies for this project be updated. This would allow the State to act as a leader not just in climate-friendly energy, but in ensuring that this development is done in an environmentally responsible manner.

We hope that our comments provide a blueprint for improving the science underlying the Rocky Forge project plans, and practices for minimizing impacts to birds.

Risks to Golden Eagles

Foremost among our concerns is the risk that this project poses to the Eastern population of Golden Eagles. An April 2016 report from the U.S. Fish and Wildlife Service (USFWS 2016) estimated that there are approximately 5,000 Golden Eagles in the species' Eastern population, accounting for less than 13% of the nationwide total. This was a considerable increase from previous estimates, which placed the Eastern population at 1,000 – 2,500 birds (Katzner et al. 2012a). Studies agree that populations are likely decreasing, though the USFWS report suggests that it may be stable. Indeed, prior to an update of the Federal Bald and Golden Eagle Protection Act permitting process in 2017, no permits were allowed for predictable take of Eastern Golden Eagles.

The Eastern population differs from Western birds in many ways, which requires a different approach for surveys, monitoring, and mitigation. The USFWS (2016) report indicated that in a study of tagged birds, more than half died due to human-caused factors (e.g., wind facilities and power line electrocutions). Eastern Golden Eagles "are found in greatest numbers during winter in the north-central Appalachian Mountains of Pennsylvania, West Virginia, and Virginia" (Katzner et al. 2012a). This demonstrates the importance of caution when considering permitting actions that harm the species in this key area.

A study of eight Eastern Golden Eagles fitted with GPS tags found that these birds migrated and wintered along the Appalachian Mountain range. Migratory birds flew at higher elevations than birds engaged in daily movements on wintering grounds. Further, birds flying over areas of high topographic relief (including ridgetops and steep slopes) flew at lower altitudes. They concluded that "Turbine development on ridgetops and near steep slopes over which eagles fly at lower altitudes should therefore proceed with extreme caution and careful attention to possible mitigation measures" (Katzner et al. 2012b).

Primary threats to Eastern Golden Eagles include incidental trap mortality and lead poisoning. Collisions with standing infrastructure and electrocutions are key threats to Western populations, and a recent review indicated that "with increasing numbers of industrial-scale wind energy facilities at high elevations in breeding, migratory, and wintering ranges, Golden Eagles in eastern North America will likely face similar threats" (Katzner et al. 2012a).

The above shows that the Rocky Forge site is in an area known to be important for migratory and wintering Eastern Golden Eagles, and that the topography of the site is ideally suited for this species' use. It is also clear that this population cannot sustain additional substantial sources of mortality, such as that caused by wind energy facility development.

So it is no surprise that studies on the Rocky Forge site found Golden Eagles using the site. What is surprising is that the developer is not pursuing a permit under the Federal Bald and Golden Eagle Protection Act, nor are they being required to do so. This project is very likely to result in Golden Eagle mortality, which must be effectively and legally addressed and appropriate compensatory mitigation provided. This project sets a poor precedent from a conservation perspective, located at a site that is used by the small and declining population of Eastern Golden Eagles, as well as migratory songbirds.

We urge the State to take the appropriate steps to ensure that the Rocky Forge project complies with applicable Federal environmental law, and protects important bird species.

Recommendations

We recommend that the following measures be required for the Rocky Forge project:

Consultation with U.S. Fish and Wildlife Service should be initiated, to result in obtaining a permit for incidental take of Golden Eagles in compliance with the Bald and Golden Eagle Protection Act.

Compensatory mitigation for take of Golden Eagles should be provided, with said mitigation taking into account that the key threats for the Eastern population of Golden Eagles differ from the Western population (i.e., incidental trap mortality and lead poisoning are more important than electrocution).

Risks Posed by Taller Turbines and Outdated Avian Studies

A significant alteration has been made to this project by way of substituting taller turbines for the previously-permitted design. A 2013 study, viewed as a primary resource for bird mortality resulting from collisions with wind turbines, found that more birds die in collisions with taller wind turbines than shorter ones (Loss et al. 2013), though we note that other studies have reached different conclusions. This is in addition to the aforementioned study of Eastern Golden Eagles, which found that migratory and wintering birds fly at different elevations (Katzner et al. 2012b). In addition to the increased turbine height, the taller turbines now being used have an increased rotor-swept area, making each turbine a greater risk to birds given the limited ridgetop airspace. Collectively, this poses a great deal of uncertainty with regard to the risks posed to birds from the substantial increase in the height of the turbine blades for the Rocky Forge project.

The previously-mentioned study of GPS-tracked Golden Eagles addressed specific needs for evaluating risk to birds at wind facilities: "pre- and post-construction surveys conducted at proposed and existing wind sites should focus on documenting flight paths of locally moving

individuals as well as the more common practice of counting birds in active migration through or past the site" (Katzner et al. 2012b).

In considering ways to minimize impacts to Golden Eagles, a study in Pennsylvania indicated that "Preconstruction model assessments can reduce risk if they are used to guide siting of individual high-risk turbines into adjacent yet lower risk areas. Moreover, post-construction mitigation is also possible by shutting down particularly high–risk turbines during periods when eagles occur with highest frequency" (Miller et al. 2014). The issue of curtailment (shutting down high-risk turbines during certain time periods to minimize collision risks) should be considered for Rocky Forge.

Lastly, the Virginia Department of Environmental Quality's Wind Permit By Rule Guidance (7/21/17) provides the shelf life of field studies for wildlife to support wind energy facility planning. These indicate that a negative survey, defined as a survey where no State-listed species was found, have a limitation of one to two years, depending on the species. This is further indication that avian studies for the project must be updated.

Given the changes to the project plan, avian studies conducted to date are now outdated and likely inaccurate. We urge the State to take the appropriate steps to ensure that the Rocky Forge project adequately evaluates the current risk that this project poses to birds, given significant changes to the project plan and associated changes in likely impacts.

Recommendations

We recommend that the following measure be required for the Rocky Forge project:
Avian studies conducted for the project to date, and conclusions therein, should be updated to provide a more accurate assessment of risks to birds given changes in the project design and associated changes in likely impacts. Updated field studies should be conducted for a minimum of 12 months. Studies for Golden Eagles should be conducted during both the migratory period and winter months, with a frequency and methodology sufficient to effectively detect birds and evaluate local movements.

An assessment should be conducted regarding the need for and efficacy of curtailment of specific turbines during periods of high risk for Golden Eagles as a measure to minimize collision risks.

Additional Recommendations

Minimizing Conflict Through Third-Party Review

One perennial source of conflict and delay in energy project development planning is the debate about the methods by which data are collected, the resulting integrity of that data, and interpretation thereof. The process typically entails procurement of a consultant by the developer, who then conducts studies and provides reports and analysis on the developer's behalf. This creates an actual, or at the least, the perception of a conflict of interest, which creates distrust and in many instances leads to protracted conflict. The State can substantially minimize this problem and set a positive example for other states by requiring that site assessment and avian studies be conducted by a qualified third party not contracted or in the employ of the project proponent.

Improving Transparency of Impact Monitoring

Wind energy facilities typically maintain post-construction bird mortality monitoring data as a proprietary trade secret. The State has an opportunity to create a positive precedent by making this data publicly available, providing an understanding of the actual impacts, informing assessment of cumulative impacts of the industry as a whole, and informing project-specific adaptive management.

Closing

A recent study by Cornell Laboratory of Ornithology, American Bird Conservancy, and others shows that the United States and Canada have lost nearly 3 billion birds – almost 30% of the total population – since 1970. We must not let our shared sense of urgency to address climate change overwhelm the importance of protecting our vulnerable bird populations, which already face an overwhelming suite of threats.

In light of the current Federal administration's weakening of the Migratory Bird Treaty Act, by which the wind energy industry benefits tremendously, the State of Virginia is taking the appropriate and laudable step to protect migratory birds in the State via legislation currently under consideration. We urge the State to similarly set a similarly positive example in its consideration of its first

onshore wind energy facility.

Thank you for your time and consideration in this important matter. We offer ourselves as a resource moving forward, and welcome you to contact us at any point for further discussion.

Sincerely,

Joel Merriman

Director, Bird-Smart Wind Energy Campaign
American Bird Conservancy
P: (202) 888-7471
jmerriman@abcbirds.org

References

Katzner et al. 2012a. Status, biology, and conservation priorities for North America's Eastern Golden Eagle (Aquila chrysaetos) population. The Auk 129: 168-176.

Katzner et al. 2012b. Topography drives migratory flight altitude of golden eagles: implications for on-shore wind energy development. Journal of Applied Ecology 49: 1178-1186.

Miller et al. 2014. Assessing risk to birds from industrial wind energy development via paired resource selection models. Conservation Biology 28: 745-755.

Rosenberg et al. 2019. Decline of the North American avifauna. Science 366: 120-124.

U.S. Fish and Wildlife Service. 2016. Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management, Washington D.C., USA.

From: Jonathan Miles
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 3:50:09 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Jonathan Miles
6905 Harvest Farms Ln
Crozet, VA 22932 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2fcmail%2fopen%2fleg%2f374446%2f94933930&c=E,1,Aeoy9lYJekYgDrnfjT33aVjo5Gf7tK1dIpMuZRTh66CLK1j99Q0KXe5aTQZD8rXvZs5GIu25eO3x_dq1yH7n0Jw4LZkU5fRsHNeWx5YLb2KpIsTmBVJ--zQW6DZ4&typo=1>

#001

Posted by **Joel Merriman** on **08/10/2020** at **3:21pm** [Comment ID: 26] - Link
Type: Suggestion
Agree: 0, Disagree: 0
August 10, 2020

Re: Rocky Forge Wind Permit By Rule Modification Application

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

Dear Ms. Major and Review Team,

Thank you for the opportunity to provide these comments on the permit by rule modification application for the Rocky Forge Wind project. American Bird Conservancy has opposed this project since its inception due to its poorly chosen location and lack of mitigation for likely impacts to birds. As currently planned, this project poses unacceptably high impacts to birds. We are concerned that this sets a poor precedent for wind energy development in the State, and potentially elsewhere in the region.

American Bird Conservancy is a 501(c)(3), non-profit membership organization whose mission is to conserve native birds and their habitats, working throughout the Americas to safeguard the rarest bird species, restore habitats, and reduce threats. We support wind energy development that minimizes impacts to birds; our Bird-Smart Wind Energy program has had staff dedicated to promoting such practices for more than 10 years.

Recent estimates show that more than a half million birds die each year due to collisions with wind turbines in the U.S. Given projected industry build-out, that figure is projected to increase to more than 1.4 million annually by 2030. Some species, such as Golden Eagles, are more vulnerable to turbine collisions, and due to their slow reproductive rates have less capacity to recover from losses.

We understand that Virginia has recently committed to the admirable goal of 100% clean energy by 2050. We applaud this goal, and support responsible wind energy development. However, such development requires project siting in locations that minimize risks to birds. As we have consistently argued, Rocky Forge falls well short on this critically important point.

We encourage the State to require that: (1) a permit for take of Golden Eagles be obtained to comply with the Bald and Golden Eagle Protection Act, (2) impacts to Golden Eagles be mitigated through compensatory conservation actions, and (3) bird studies for this project be updated. This would allow the State to act as a leader not just in climate-friendly energy, but in ensuring that this development is done in an

environmentally responsible manner.

We hope that our comments provide a blueprint for improving the science underlying the Rocky Forge project plans, and practices for minimizing impacts to birds.

Risks to Golden Eagles

Foremost among our concerns is the risk that this project poses to the Eastern population of Golden Eagles. An April 2016 report from the U.S. Fish and Wildlife Service (USFWS 2016) estimated that there are approximately 5,000 Golden Eagles in the species' Eastern population, accounting for less than 13% of the nationwide total. This was a considerable increase from previous estimates, which placed the Eastern population at 1,000 – 2,500 birds (Katzner et al. 2012a). Studies agree that populations are likely decreasing, though the USFWS report suggests that it may be stable. Indeed, prior to an update of the Federal Bald and Golden Eagle Protection Act permitting process in 2017, no permits were allowed for predictable take of Eastern Golden Eagles.

The Eastern population differs from Western birds in many ways, which requires a different approach for surveys, monitoring, and mitigation. The USFWS (2016) report indicated that in a study of tagged birds, more than half died due to human-caused factors (e.g., wind facilities and power line electrocutions). Eastern Golden Eagles "are found in greatest numbers during winter in the north-central Appalachian Mountains of Pennsylvania, West Virginia, and Virginia" (Katzner et al. 2012a). This demonstrates the importance of caution when considering permitting actions that harm the species in this key area.

A study of eight Eastern Golden Eagles fitted with GPS tags found that these birds migrated and wintered along the Appalachian Mountain range. Migratory birds flew at higher elevations than birds engaged in daily movements on wintering grounds. Further, birds flying over areas of high topographic relief (including ridgetops and steep slopes) flew at lower altitudes. They concluded that "Turbine development on ridgetops and near steep slopes over which eagles fly at lower altitudes should therefore proceed with extreme caution and careful attention to possible mitigation measures" (Katzner et al. 2012b).

Primary threats to Eastern Golden Eagles include incidental trap mortality and lead poisoning. Collisions with standing infrastructure and electrocutions are key threats to Western populations, and a recent review indicated that "with increasing numbers of industrial-scale wind energy facilities at high elevations in breeding, migratory, and wintering ranges, Golden Eagles in eastern North America will likely face similar threats" (Katzner et al. 2012a).

The above shows that the Rocky Forge site is in an area known to be important for migratory and wintering Eastern Golden Eagles, and that the topography of the site is ideally suited for this species' use. It is also clear that this population cannot sustain additional substantial sources of mortality, such as that caused by wind energy facility

development.

So it is no surprise that studies on the Rocky Forge site found Golden Eagles using the site. What is surprising is that the developer is not pursuing a permit under the Federal Bald and Golden Eagle Protection Act, nor are they being required to do so. This project is very likely to result in Golden Eagle mortality, which must be effectively and legally addressed and appropriate compensatory mitigation provided. This project sets a poor precedent from a conservation perspective, located at a site that is used by the small and declining population of Eastern Golden Eagles, as well as migratory songbirds.

We urge the State to take the appropriate steps to ensure that the Rocky Forge project complies with applicable Federal environmental law, and protects important bird species.

Recommendations

We recommend that the following measures be required for the Rocky Forge project:

Consultation with U.S. Fish and Wildlife Service should be initiated, to result in obtaining a permit for incidental take of Golden Eagles in compliance with the Bald and Golden Eagle Protection Act.

Compensatory mitigation for take of Golden Eagles should be provided, with said mitigation taking into account that the key threats for the Eastern population of Golden Eagles differ from the Western population (i.e., incidental trap mortality and lead poisoning are more important than electrocution).

Risks Posed by Taller Turbines and Outdated Avian Studies

A significant alteration has been made to this project by way of substituting taller turbines for the previously-permitted design. A 2013 study, viewed as a primary resource for bird mortality resulting from collisions with wind turbines, found that more birds die in collisions with taller wind turbines than shorter ones (Loss et al. 2013), though we note that other studies have reached different conclusions. This is in addition to the aforementioned study of Eastern Golden Eagles, which found that migratory and wintering birds fly at different elevations (Katzner et al. 2012b). In addition to the increased turbine height, the taller turbines now being used have an increased rotor-swept area, making each turbine a greater risk to birds given the limited ridgetop airspace. Collectively, this poses a great deal of uncertainty with regard to the risks posed to birds from the substantial increase in the height of the turbine blades for the Rocky Forge project.

The previously-mentioned study of GPS-tracked Golden Eagles addressed specific needs for evaluating risk to birds at wind facilities: “pre- and post-construction surveys conducted at proposed and existing wind sites should focus on documenting flight paths of locally moving individuals as well as the more common practice of counting

birds in active migration through or past the site" (Katzner et al. 2012b).

In considering ways to minimize impacts to Golden Eagles, a study in Pennsylvania indicated that "Preconstruction model assessments can reduce risk if they are used to guide siting of individual high-risk turbines into adjacent yet lower risk areas. Moreover, post-construction mitigation is also possible by shutting down particularly high–risk turbines during periods when eagles occur with highest frequency" (Miller et al. 2014). The issue of curtailment (shutting down high-risk turbines during certain time periods to minimize collision risks) should be considered for Rocky Forge.

Lastly, the Virginia Department of Environmental Quality's Wind Permit By Rule Guidance (7/21/17) provides the shelf life of field studies for wildlife to support wind energy facility planning. These indicate that a negative survey, defined as a survey where no State-listed species was found, have a limitation of one to two years, depending on the species. This is further indication that avian studies for the project must be updated.

Given the changes to the project plan, avian studies conducted to date are now outdated and likely inaccurate. We urge the State to take the appropriate steps to ensure that the Rocky Forge project adequately evaluates the current risk that this project poses to birds, given significant changes to the project plan and associated changes in likely impacts.

Recommendations

We recommend that the following measure be required for the Rocky Forge project:
Avian studies conducted for the project to date, and conclusions therein, should be updated to provide a more accurate assessment of risks to birds given changes in the project design and associated changes in likely impacts. Updated field studies should be conducted for a minimum of 12 months. Studies for Golden Eagles should be conducted during both the migratory period and winter months, with a frequency and methodology sufficient to effectively detect birds and evaluate local movements.

An assessment should be conducted regarding the need for and efficacy of curtailment of specific turbines during periods of high risk for Golden Eagles as a measure to minimize collision risks.

Additional Recommendations

Minimizing Conflict Through Third-Party Review

One perennial source of conflict and delay in energy project development planning is the debate about the methods by which data are collected, the resulting integrity of that data, and interpretation thereof. The process typically entails procurement of a consultant by the developer, who then conducts studies and provides reports and analysis on the developer's behalf. This creates an actual, or at the least, the perception of a conflict of interest, which creates distrust and in many instances leads

to protracted conflict. The State can substantially minimize this problem and set a positive example for other states by requiring that site assessment and avian studies be conducted by a qualified third party not contracted or in the employ of the project proponent.

Improving Transparency of Impact Monitoring

Wind energy facilities typically maintain post-construction bird mortality monitoring data as a proprietary trade secret. The State has an opportunity to create a positive precedent by making this data publicly available, providing an understanding of the actual impacts, informing assessment of cumulative impacts of the industry as a whole, and informing project-specific adaptive management.

Closing

A recent study by Cornell Laboratory of Ornithology, American Bird Conservancy, and others shows that the United States and Canada have lost nearly 3 billion birds – almost 30% of the total population – since 1970. We must not let our shared sense of urgency to address climate change overwhelm the importance of protecting our vulnerable bird populations, which already face an overwhelming suite of threats.

In light of the current Federal administration's weakening of the Migratory Bird Treaty Act, by which the wind energy industry benefits tremendously, the State of Virginia is taking the appropriate and laudable step to protect migratory birds in the State via legislation currently under consideration. We urge the State to similarly set a similarly positive example in its consideration of its first onshore wind energy facility.

Thank you for your time and consideration in this important matter. We offer ourselves as a resource moving forward, and welcome you to contact us at any point for further discussion.

Sincerely,

Joel Merriman

Director, Bird-Smart Wind Energy Campaign
American Bird Conservancy
P: (202) 888-7471
jmerriman@abcbirds.org

References

Katzner et al. 2012a. Status, biology, and conservation priorities for North America's Eastern Golden Eagle (Aquila chrysaetos) population. The Auk 129: 168-176.

Katzner et al. 2012b. Topography drives migratory flight altitude of golden eagles:

implications for on-shore wind energy development. Journal of Applied Ecology 49: 1178-1186.

Miller et al. 2014. Assessing risk to birds from industrial wind energy development via paired resource selection models. Conservation Biology 28: 745-755.

Rosenberg et al. 2019. Decline of the North American avifauna. Science 366: 120-124.

U.S. Fish and Wildlife Service. 2016. Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management, Washington D.C., USA.

#002

Posted by **Tenney Mudge** on **08/07/2020** at **1:20pm** [Comment ID: 11] - Link

Type: Question

Agree: 0, Disagree: 0

I wish to comment to the Apex Modified Application as it pertains to the critical pre-construction breeding bird surveys specific to the PBR requirement 9VAC15-40-40.A and the Code of Virginia 10.1-1197.6 B7.

The bottom line is that any negative pre-construction survey for breeding birds has surpassed its shelf life and validity according to PBR Regulation and Guidance.

The Regulation and Guidance on pg. 7 of PBR Section ll Methodology under Wildlife Analyses defines SHELF LIFE as the number of years a negative survey, a survey where NO State-listed species is found, remains valid. In accordance to regulation, the number of years a negative survey for State-listed birds remains valid is 1-2 years depending on species.

The DEQ Permit by Rule Regulation and Guidance state the applicant will perform desk top surveys to indicate the presence of relative species using the DGIF and Fish and Wildlife Information Services databases - which Apex did. Apex did another desk top survey for the Modified Application. The number of Federal and State-listed threatened and endangered species and State-listed Tier 1/Tier 2 Species of Greatest Conservation Need (SGCN) with potential to occur within the project area for avian species was 17 in the original application and 11 in the Modified Application.

The regulation and guidance state that the applicant will perform field studies including breeding bird studies during the annual breeding season which Apex did – over 5 years ago.

Apex states in the Modified Application that in a phone call with DGIF on May 20th, 2020, DGIF said that no new analyses were needed.

The Modified Application states that “the breeding bird survey reports confirm that due to the location and nature of the proposed wind project, it is not EXPECTED to have a significant impact on breeding bird species. The Modifications requested in this application do not change the results of this analysis.”

These surveys analyses they are quoting in the Modified Application are invalid according to DEQ PBR regulations.

APEX and DGIF are ignoring that the results of the analysis are governed by the DEQ Permit by Rule requirements (9VAC15-40-40.A and the Code of Virginia 10.1-1197.6 B7) for Wildlife Analyses.

Beginning in 2014 through July 31st 2015, Apex completed the required breeding bird surveys for the original Apex PBR application.

The Apex original application states on pg. 15 item 2. Breeding Bird Surveys - NO State-Listed threatened or endangered species were observed and that only two Tier Two SGCN were documented (Cerulean warbler and Swainson’s Warbler). If No State-listed threatened species were found in on-site pre-construction surveys – these surveys are therefore negative. If only two SGCN species were found – then all other on-site surveys for species indicated in the desktop surveys would therefore be negative. In accordance with DEQ regulation, the shelf life of these negative pre-construction surveys for State- species have exceeded the number of years they remain valid by at least 3 years.

In addition, in April 2015, West conducted an aerial raptor nest survey to locate bald eagle nests and other raptor nests in or within 4 miles of the project to assess potential effects of the project on breeding eagles and other raptors. The application states that NO bald eagle nests or nests of other raptor species were observed during the survey.
The aerial raptor nest pre-construction surveys are therefore negative for State-listed species, including Golden Eagles, and have exceeded their shelf life according to PBR Regulation and Guidance.
The PBR Regulation states “To fulfill the requirement of 10.1-1197.6 B7 of the Code of Virginia the applicant shall conduct preconstruction wildlife analyses to include Breeding Bird Surveys”. It is common sense that surveys must be valid to satisfy the PBR regulation and must be updated for the Modified Application to be complete. It is essential that the Modified Application be in compliance with DEQ Regulation and Guidance for the DEQ definition of shelf life and validity of pre-construction surveys.
Required pre-construction breeding bird analyses that were negative surveys and were done from 2014 to July 2015 must be resubmitted.
There’s no room for error or non-compliance by Apex, Botetourt County, for DGIF or DEQ.
The DGIF, even states the Eastern Golden Eagle is believed to be a “small and potentially vulnerable population” that is geographically isolated and potentially distinct.” It has federally protected status and is a State designated Tier 1 SGCN by the Commonwealth of Virginia.
Apex consultants, WEST, support telemetry data that there are Golden Eagle concentrations on and in the siting of the Project Area. WEST reports 6 of the 8 Golden Eagles sited in the Avian Use Survey were within rotor swept heights and two flew across the area of the proposed turbines. This report was referring to 550’ turbine height not 680’ height which will have a grossly increased blade sweep.
Dr. Michael Hutchins, of the world renowned American Bird Conservancy has submitted multiple letters expressing that the Conservancy OPPOSES the poorly-sited Rocky Forge project and it is located in a GLOBALLY Important Bird Area. Dr. Hutchins has submitted in writing that Rocky Forge is cited precisely in the concentrated migration and NESTING location of the small and potentially vulnerable population of the Eastern Golden Eagle. This species is strictly protected by 3 Federal Acts and Treaties.
For a population as fragile as the protected Eastern Golden Eagle as well as other species it is deeply concerning that Apex could receive DEQ approval for the PBR Modified Application with Breeding Bird pre-construction surveys that are invalid in accordance to DEQ PBR regulation.
There is no room for error or non-compliance.
I voiced these concerns in the Apex phone comment session on 7.28.20 and they were basically not addressed and were simply dismissed.
Please address and answer to the above issues concerning pre-construction breeding bird surveys and the facts that the negative surveys are invalid by DEQ PBR Regulation and Guidance definition.
Thank you.
Tenney Mudge

#003

Posted by **Karen Lanning** on **07/21/2020** at **10:12am** [Comment ID: 2] - Link

Type: Suggestion

Agree: 0, Disagree: 0

The Rocky Forge Wind Project is a poorly conceived idea in a view shed and wilderness area, and should be cancelled.

#004

Posted by **BotCo-resident** on **08/08/2020** at **9:04pm** [Comment ID: 12] - Link

Type: Question

Agree: 0, Disagree: 0

Please explain--how it is possible for a professional engineer to certify the maximum output of the project is less than 100MW when Apex has not yet publicly specified which make and model of wind turbine has been selected for the project, and exactly how many turbines will be erected?

#005

Posted by **Steve Richards** on **08/09/2020** at **10:09pm** [Comment ID: 24] - Link

Agree: 0, Disagree: 0

I wrote a comment for the previous application stating that this is a poor site for wind generation because of diminishing winds at this latitude caused by warming in the Arctic. That comment was dated June 5, 2016. I won't belabor the point, it should be a matter of record and it includes a reference to an article in Science, 17 April 2015. My wife and I live within 5 miles of the site (although we are not in the view shed), and we have observed no wind for the past seven weeks, except for brief gusts associated with passing thunderstorms. Last evening we paused our busy lifestyle and spent an hour observing the sunset and some clouds. They did not move for the hour we observed them. A two mile high turbine would still have been consuming electricity, not generating it. Hopefully the people of Virginia are not financing this boondoggle, it's bad enough that we will have to buy the "green" power, no doubt at a premium. Take all the money and install solar, we would get a lot more energy for the effort and not ruin a mountaintop and the view shed.

#006

Posted by **BotCo-resident** on **08/08/2020** at **9:08pm** [Comment ID: 13] - Link

Type: Question

Agree: 0, Disagree: 0

Please explain--very specifically, not generally--how is it possible to reduce the need for traditional energy generating facilities when the wind does not always blow, and traditional energy sources must be in "hot-standby" mode at all times to prevent electric brown-outs and black-outs?

#007

Posted by **BotCo-resident** on **08/08/2020** at **9:18pm** [Comment ID: 14] - Link

Type: Question

Agree: 0, Disagree: 0

I live within a 10-mile radius of the proposed Rocky Forge project. Dozens of Little Brown Bats have lived in the roof of my house off and on over the last 3 years. One died, and I have this creature in my freezer as evidence. Citing specific and recent studies, how does Apex claim that the threat to this species from Rocky Forge is low?

#008

Posted by **Richardswe** on **08/10/2020** at **6:57am** [Comment ID: 25] - Link

Type: Suggestion

Agree: 0, Disagree: 0

Public Comment to Apex's plans to install the Rocky Forge Wind Project: In my opinion, the planned installation of the Rocky Forge Wind Project in Botetourt County, Virginia should not go forward. The site is not suitable for an efficient capture of wind energy. I am a 38 year resident of southern Rockbridge County, I live about 5 air miles from the proposed site and I can vouch for the fact that the amount of wind we experience in this area is slight. The amount of destruction and disturbance to a scenic natural area that will be involved in clearing an area to install 22 of the proposed 680 foot wind turbines does not make sense economically or ecologically. I am a proponent of wind energy in the right location but Rocky Forge, along the ridge top of North Mountain should be left as it is. Furthermore, the proposed wind turbine site is located on the edge of the Allegheny Highlands which is an area recognized by Audubon as a Globally Important Bird Area due to the presence of migrating birds. It is common knowledge that many species of birds are drastically declining, largely due to habitat loss and disruption. One of the most vulnerable species that migrates throughout the Valley and Ridge region is the Eastern Golden Eagle. I have been fortunate enough to see this magnificent species on at least two occasions as it flew over our farm. The specific dates are January 20, 2013 and January 7, 2019. It is inconceivable to me that with all the documented and well researched incidents of bird deaths caused by wind turbines that this project would go forward. There is no clear evidence that the Rocky Forge site will be a productive producer of energy. I have always valued the wide diversity of wildlife that inhabits this relatively undeveloped area of Virginia. I feel that if this project goes forward we stand to lose much more than we will gain. Respectively submitted, Wendy Richards

#009

Posted by **BotCo-resident** on **08/08/2020** at **9:28pm** [Comment ID: 15] - Link

Type: Question

Agree: 0, Disagree: 0

Any disturbed soil within at least the last five years in northern Botetourt County is highly likely to contain Japanese Stiltgrass, one of the 10 greatest invasive species in this area. Japanese Stiltgrass is highly likely to be growing today on the road shoulders leading up to the Rocky Forge project area. Specifically, what steps, at what locations, and at what stages of construction and operations will Apex take to ensure Japanese Stiltgrass does not invade the project site?

#010

Posted by **BotCo-resident** on **08/08/2020** at **9:54pm** [Comment ID: 16] - Link

Type: Question

Agree: 0, Disagree: 0

The Rocky Forge site will be readily visible from McAfee's Kn.ob (I can't spell it correctly because this site's Terms & Conditions prevent it), one of the best-known views on the entire Appalachian Trail, right in the middle of that viewshed. Is not McAfee's Kn.ob a state-designated scenic resource? The collection of wind turbines proposed, as seen from McAfee's Kn.ob, will appear as a man-made structure on a mountaintop against the horizon over 0.6 miles wide, easily observed, and destroying the visual impact of this spectacular scenic overlook. The potential sensitivity to the viewer to this change at this location is very high. With the massive size of this project, why was the Hill Studio assessment limited to only a five-mile radius around the project site? How does Apex intend to mitigate this issue? How does Apex intend to compensate for the damage rendered?

#011

Posted by **BotCo-resident** on **08/08/2020** at **10:10pm** [Comment ID: 17] - Link

Type: Question

Agree: 0, Disagree: 0

The entire stretch of the James River in Botetourt County, 45 miles, is a Virginia Scenic River, not just the 9.2 miles that were designated scenic when the study was conducted. Apex should not be able to obtain DEQ application complete status while using inaccurate values from an outdated study. Will Apex update the percentage and miles of the project being within the area of potential visual effect using all of the James River prior to requesting DEQ evaluation? Has Apex asked whether erecting the turbines will cause the James River to lose Scenic River status, and if so, what is the answer and what formal source provided it? Does Apex intend to compensate local businesses (such as those that rent canoes) for the potential loss of revenue from the tourists that will now stay away?

#012

Posted by **BotCo-resident** on **08/08/2020** at **10:26pm** [Comment ID: 18] - Link

Type: Question

Agree: 0, Disagree: 0

It is misleading to indicate Apex has obtained all necessary environmental permits, as some of them have expired and need to be done again since five years have passed from the original submission to DEQ. Apex should not be allowed to obtain DEQ submission completion status until all necessary environmental permits are obtained AND ARE STILL VALID. Will Apex please provide a table of all required environmental permits, the period of validity of each, when each permit was obtained, and when expired permits were re-accomplished?

August 10, 2020

Rocky Forge Wind, LLC
c/o Apex Clean Energy, Inc.
310 4th St. NE, Suite 200
Charlottesville, VA 22902
info@rockyforgewind.com

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

Reference: Rocky Forge Wind, LLC
Botetourt County, Virginia
Comments and question to the Rocky Forge Modified PBR application

Certification by a Licensed Professional Engineer:

This certification is not valid and does not meet the standard of care required by professional engineers making such certifications. In this certification the engineer, Dan Jamison, Senior Project Manager, Timmons Group, states "...the maximum generating capacity, as designed, ...does not exceed 100 MW".

During the public meeting on July 27, project manager Charlie Johnson stated that Apex has not decided on the number or type of turbines to be constructed. While Apex will argue that the engineer's certification is adequate because the inter-connection agreement restricts the project to 78MW, the inter-connection agreement does not prevent Apex from constructing more than 100 MW. This engineer is in error by making a certification. Apex could build more than 100 MW by erecting 22 towers and using the GE Cypress 5.3 MW turbines on each. Licensed professional engineers have a duty to protect the public. The PBR statute has a specific requirement for an engineer to certify the project **as designed** (emphasis mine) does not exceed 100 MW. Without a true design, the engineer cannot accurately and honestly make the certification. Because Apex has not provided the specific make and model and number of the turbines, DEQ must find that this certification does not meet the regulation as required by 9VAC15-40-30 Part II A.5

Public Meeting:

"The applicant shall hold a public meeting not earlier than 15 days after the beginning of the 30-day public comment period and no later than seven days before the close of the 30-day comment period. The meeting shall be held in the locality or, if the project is located in more than one locality, in a place proximate to the location of the proposed project; however, for projects located in nearshore waters or on state-owned submerged lands, the meeting shall be held in the locality that is the closest distance from the approximate center of the project's disturbance zone.

A statement that the purpose of the public participation is to acquaint the public with the technical aspects of the proposed project and how the standards and the requirements of this chapter will be met, to identify issues of concern, to facilitate communication, and **to establish a dialogue between the owner or operator and persons** (emphasis mine) who may be affected by the project"- excerpt from 9VAC15-40-90. Public Participation

A public meeting was held from 5pm to 7pm on July 27. Because of special conditions the meeting was held by tele-conference. Apex gave their typical description of the project and then the public was allowed to call in with questions or comments. Each caller was restricted to three minutes. Apex would respond to the question or comment, and then take the next caller. Apex did not restrict their response to 3 minutes. Callers were restricted to only one three minute period. Callers that attempted to call in a second time were not allowed a second three minute period.

This format does not meet the intent of the regulation for a public meeting. There was not opportunity for a discussion. The format only allowed for a question then a response. There was not opportunity for a caller to call back to ask for clarification or rebut the assertions that were made.

Since the words and spirit of 9VAC15-40-90 were not met, DEQ must find that the application is incomplete.

Claims of emission saved by power produced from Rocky Forge

Apex claims that the Rocky Forge project is a benefit to the environment by preventing the following emission:

185,870 tons of carbon dioxide

223,390 lbs. of nitrogen oxides

290,800 lbs. of sulfur dioxide

They claim these "calculations are estimates generated based on projected annual production of the Project as modified with offsets calculated utilizing the EPA AVERT Tool at https://www.epa.gov/statelocalenergy/avert-web-edition."

I visited this website and attempted to reproduce the results they claim. Guessing at generation potential I could not come anywhere close to their claims. Regardless, if Apex cannot produce information that others could verify then the information is useless. Technical transparency is about giving adequate information such that others could arrive at the same conclusion.

As such this information cannot be verified by others and should be deleted from the application.

Additionally, this tool does not include calculations on life to grave impacts and emissions created in the construction, manufacture, and transportation required to construct the project. Not to include such

information in the claims of reduced impacts to the environment are misleading. Either show it all and be transparent or make no claims.

Respectfully submitted

Stephen L. Neas, P.E.

From: Bob Peckman
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 13, 2020 10:01:40 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. At last a step forward and a mighty nice step at that Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Bob Peckman
8131 Webster Dr
Hollins, VA 24019

Re: Public Comment on Apex's Rocky Forge Modified PBR Application

VIA ELECTRONIC MAIL

10 August 2020

To: Rocky Forge Wind, LLC
c/o Apex Clean Energy, Inc.
310 4th St. NE, Suite 200
Charlottesville, VA 22902
info@rockyforgewind.com

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

From: Molly Petty
207 Cove Lane
Rockbridge Baths, VA 24473
mpetty@marybaldwin.edu

In this letter, please find my public comments on Apex's Modified PBR application per Code of Virginia 10.1-1197.6 B 13.

It is common sense that turbines of any height along the ridgeline of North Mountain will kill birds and bats. The siting of Rocky Forge Wind installation in the migratory route of golden eagles is a fact that Apex and wind proponents have sought to downplay. In its original permitting, Apex in 2016 submitted to DEQ bird and bat studies that pronounced as "low" the risk to eagles and other state and federal protected species or species of concern. When DEQ, DGIF, and other state and federal agencies charged with protecting natural resources asked Apex to provide mitigation for some (bats) and to pay more attention to concerns about raptors, the wind developer did the bare minimum. Apex could have filed with the US Fish and Wildlife Service for an incidental take permit, but they were not required to, so they did not. The wind developer made some small tweaks to its plan, increased its PR, and, because the economics of the project were unfavorable, went dormant.

Now Apex is back and contends in its barely-altered PBR on environmental risks that the corporation was not required to consider the question of how much more risky taller turbines are to birds and bats. Apex offers no new data, no new studies, no update from studies conducted over 5 years ago, no discussion of mitigation through flight diverters, curtailment, or other proven new tech developments in the wind industry, and no inkling that they will abide by new USFWS guidelines under the two federal acts that protect species in danger of extinction or participate in the Service's Eagle Plan and Incidental Take program, in spite of the fact that since Apex's original permit, USFWS new guidelines clearly want all wind installations, regardless of size and low risk assessment, to apply for a take permit. What does the very real possibility of extinction of golden eagles mean to Apex?

Apex is basically saying in its PBR that they will do the barest minimum required, no more (and less if they can get away with it) to ensure their taller turbines are found compliant with state and federal

regulations—and approved in short order. They will check off boxes on a PBR list, even leave whole sections blank or with minimal specifics. They make no attempt to update or justify their inattention and inaction on some of the most controversial aspects of Rocky Forge. They certainly do not make it easy for the public to understand or find related information through links to their outdated avian surveys.

Apex's sketchy and, in too many cases, incomplete PBR suggests they expect an easy approval; they may believe Rocky Forge project paperwork will prove to all that Appalachian region ridgelines and mountains, the places thousands go to watch raptor soar, are suitable places for 680 foot tall turbine installations blasted and concreted into the rocky ridge, just as their PR campaign suggests. Apex's poorly written and referenced PBR modification sets a terrible precedent for future wind developers in Virginia who are motivated by profit and, like Apex, appear unconcerned about endangered species. It behooves our regulatory agencies to reject Apex's feeble and failed attempt to prove they can comply with basic environmental protections.

That Apex's latest PBR modification application may pass muster with those regulatory bodies charged with protecting our natural resources is both sad and instructive: corporations that present themselves as "green" and "concerned with conservation" can exploit weak regulatory protections and target rural, cash-poor localities (and with Covid-19, that would be all our communities) for profit, even those areas like North Mountain and surroundings that are renown unique and precious areas of diverse flora and fauna found nowhere else in the world. I fear that allowing Apex to ignore current regulatory guidance and industry best practices will lead to more projects that, ultimately, will cost us all in terms of loss of biological diversity, lost economic security (through lost tourism), and increased degradation of forests, wildlife habitat, and streams and wetlands.

The most egregious omission in Apex's modified PBR is the absence of any evidence that Apex, since 2016 when it applied for its original permit, has bothered to familiarize themselves with new US Fish and Wildlife guidelines on the Eastern Golden Eagle, or any wind industry professional literature on reducing and mitigating bird and bat kills at turbine installations; or conducted follow-up field studies that reflect changes in turbine height and siting; or acquainted itself with a plethora of industry-approved and tested tech solutions like curtailment that have been introduced and marketed since 2016.

In submitting such an ill-conceived, poorly researched, and un-documented PBR, Apex sets an extremely poor example for future PBR submissions. Approving Apex's report would also set a terrible precedent for Virginia's environmental protection agencies. These agencies are tasked with overseeing our state's natural resources and wildlife for the long-term, suggesting mitigation measures, rejecting risky elements of projects, and, after the fact, citing and fining transgressors. They are not tasked with rubber-stamping wind energy projects.

Antares, hired by Botetourt County to review the Apex's SEP modifications to the RF project, reported in its "Review of Updated Concept Plan" that the taller turbines Apex requested represent "an increase of 130 feet (40 meters) over the originally permitted height of 550 feet (168 meters), which is a significant change to the original application."

Why are the environmental and wildlife ramifications of that significant change not addressed in the new modified PBR? Turbine height in aspects other than bat and bird kills are given attention in the PBR. And, according to emails between Apex and Department of Game and Inland Fisheries (DGIF, since July 1 renamed Department of Wildlife Resources, DWR) collected via FOIA, there was discussion of the need for avian studies from DEQ.

In their pre-SEP and ordinance modification report, Antares also states: "If the heights of the proposed structures change, or if the structure's location changes in any direction, the application for that structure

would need to be resubmitted." The locations of some structures did change, as did the height of turbines. When those changed, so did the amount of blasting Apex will do, the depth of the concrete, the size of the hub, and all manner of both construction and materials, some toxic, that will be employed at each turbine site.

The Department of Game and Inland Fisheries on May 24, 2019 sent Jennie Geiger, Apex Energy staff, the following guidance about one possible change, access road location, giving specifics even though Apex had not secured access road construction permission or filed erosion, sedimentation, or stormwater run-off plans to Botetourt County.

"Your request for guidance emphasized potential avian surveys. If the decision is made to submit a permit modification to include review of the 'area of consideration for the access road' ('area of consideration'), we recommend that similar surveys as performed in 2015 and 2016 be conducted along the length and width of the 'area of consideration'. These should include point count surveys repeated >once per season, as well as specialized surveys for the following species….

Having prepared the original PBR application and supporting surveys for this project, you are familiar with the scope and level of detail required to evaluate the original footprint. Please note that the same scope and level of detailed information would be required for any new area added to the original footprint. Evaluation of any new area would need to address potential impacts to Threatened and Endangered (T&E) species, Tiered species listed under the Wildlife Action Plan, bats, and avian resources.

We recommend continued coordination with us as you evaluate the potential addition of this new access road on new location."

If I am reading the PBR correctly, there will not be a new area of consideration for the access road entry? Is a permit and new study not needed for 18.07 acres of "Additional corridors, areas of potential disturbance?"

The PBR JPA from 2016 told us that streams crossed by access roads will be widened and rerouted to accommodate larger equipment and turbine blades will be trench crossed. What update to access road construction and environmental risk is available to the public? Apex has not submitted to the county an Erosion and Sedimentation and Stormwater plan for the permanent crossings of streams, thousands of square feet of wetlands, or specifically addressed "the impact to USACE-regulated streams and wetlands," an impact the Timmons Group admits in their report for the PBR is "inevitable." The impacts are to streams and tributaries in the James River watershed, but not much more than that is delineated in Timmons' "preliminary" wetland study. Will the project comply with NWP 12? I would like to see more information in the PBR about 9 VAC 15.40-30. A.1, specifically iv: waterbodies, waterway, wetlands, and drainage channels.

On the topic of the access road change, DGIF staff wrote, "When plans changed in Spring 2019 to add a new access road on new location not included for review in the original PBR application, DEQ considered that plan change a modification to the original PBR. Additional (DGIF) review was required. That's understandable."

It is not so understandable why additional review was not required for bird and bat protections.

Apex did "additional desktop review to understand any species status change since 2017 in the DGIF" (Attachment 7A [1]). Is a desktop review sufficient? What did Apex come to understand about species status beyond whether a species was on a list or not? If I had not requested a FOIA about wildlife surveys,

I would not know anything in addition to outdated avian studies from 2014 and 5 years prior to the present. This is because Apex approaches this PBR requirement primarily by checking off lists and assuring us that "DGIF has indicated that no additional breeding bird surveys are required for Modifications." Why not let the public in on how DGIF came to this conclusion? The PBR states, "The Modifications represented in this application do not change the results of this analysis." Why not? Would a 6-year-old analysis be valid for all time, all modifications? Only a FOIA revealed in part the method DGIF used to reach their conclusions. Apex did not respond in a timely manner to discuss by phone the rationale for not updating studies.

In addressing raptor migration surveys, Apex's shoddy reasoning is exposed in stark terms. Apex states "Since the original data was collected for all raptors migrating through the area regardless of flight height, the information provided in the original report is sufficient to address the Modifications requested in this application and do not change the results of this analysis." First, the flight height, or whether or not one of the 8 golden eagles spotted within the project site on North Mountain was flying within the rotor swept area, was indeed noted (some of the golden eagles were flying within swept areas, some above; all but one were in the project area.) By not conducting flight and raptor migration studies based upon the 680 ft. tall turbines as was done for original PBR, how can Apex know that birds, or bats, for that matter, are still at the "low risk" for mortality?

Recent professional research would alert Apex to their faulty reasoning: "Radar studies indicate that 90% of avian nocturnal migrants fly above the height of the current rotor-swept zone of turbines (140 m; 460 feet) in most operating wind energy facilities. Land-based wind turbines have been developed that extend almost twice the height of existing turbines reaching higher into the space used by nocturnal migrants, and there are concerns that this will increase bird collisions." (Allison, *Issues in Ecology*, 2019, https://www.esa.org/wp-content/uploads/2019/.)

"Some of the highest bat fatality rates have been reported at projects in eastern forests and the forest-agricultural matrix of the upper Midwest, but there is also substantial variation in reported bat fatalities within those regions. For example, fatality rates of 40 to 50 bats per MW per year have been reported for projects along forested ridgelines of the central Appalachians, substantially higher than those reported at other projects in the northeastern U.S.**"** https://www.esa.org/wp-content/uploads/2019/09/Issues-in-Ecology_Fall-2019.pdf

In the 6 years since Apex conducted field and database wildlife surveys and made plans to install wind turbines on North Mountain, both wind industry and environmentalists have worked together to understand shared values when it comes to, especially, citing, and enhancing protections for birds and bats. There is a wealth of new information available to Apex. Unfortunately, there is little evidence that Apex has "modified" its thinking since before 2014 on the question of preserving natural resources.

Apex ignored and continues to ignore basic wind energy 101 advice: "As is the case for any development, once a wind plant is built it is economically impractical to decommission problem turbines even if wildlife mortality is high (Smallwood & Karas 2009). Thus, effective prediction of direct and indirect effects are critical. Furthermore, in the case of wind energy, there are few mandatory state-level guidelines for compensatory mitigation. It is, therefore, important to encourage industry compliance with voluntary wildlife Conservation Biology." https://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_miller-t_001.pdf

In 2019, DGIF staff appeared to disagree with Apex that taller turbines presented increased threat to eagles. On Nov 22, 2019, DGIF staff queried colleagues:

"When plans changed in Spring 2019 to add a new access road on new location not included for review in

the original PBR application, DEQ considered that plan change a modification to the original PBR. Additional (DGIF) review was required. That's understandable.
'just wondering if this plan to change turbine height would similarly impact the validity of the existing PBR or the project, require additional agency review, or suggest the applicant needs to provide further analysis of potential impact that could result from larger turbines? Thoughts?"

In a series of emails answering the question of whether taller turbines pose more risk to golden eagles, most staff were to the point and blunt:

----On November 22, 2019, one staff member wrote "Definitely Golden Eagles are potentially in the rotor sweep. More so in the winter months when their paths are very close to ridge lines."

--On December 9, 2019, a second staff member responded, "Just coming up to speed on these issues. In recent lit, ~55% of unadjusted bird fatalities at eastern wind facilities were small passerines, and there are peaks in fatalities in this group during spring and especially fall migration. Radar studies show that 90% of avian nocturnal migrants fly above the height of the current rotor-swept zone of turbines (460 feet),but birds adjust their flight altitude to make optimal use of tail winds along the predominant migratory direction, so whether they fly low or high can vary from night to night during migration. In addition to migration, small passerine collisions with turbines occur throughout the year (ex. on the breeding and wintering grounds). There is no consensus among the few published studies on increased turbine height on fatality rates of birds. So more data needed, but there is at least the potential for greater impacts due to taller turbines.

--On January 13, 2020, a fourth DGIF staff member wrote, "Yeah, it [turbine height] definitely increases the risk. At a minimum, it is important to remember that it isn't just the height that is changing, but also the rotor-swept zone is becoming bigger. Thus, a larger part of the airspace is taken up by blades."

DEQ, too, seemed to think DGIF could ask for mitigation measures: on May 23, 2019 in an email to Jennie Geiger, Apex Clean Energy, the DEQ Renewable Energy Permitting staff wrote:

"Jennie,
I have been in contact with Ernie at DGIF regarding the proposed changes to the Rocky Forge project. As I explained to Ernie, the applicant will need to supply additional information for a permit modification as well as the permit modification fee. This would include additional desktop studies and any additional evaluations/studies/reports deemed appropriate and required by DGIF."

Everyone seems to be concerned, yet there are two lines in Apex's PBR Modification application about consulting with DGIF, roughly saying, "we consulted; we don't need to update bird studies."

History repeats itself: Apex resisted the DGIF advice on the subject of Golden Eagles in their first go at permitting Rocky Forge. In an email to fellow DGIF staff and members of the respected Golden Eagles Work Group back on April 28, 2016, as well as to a DEQ staffer, a DGIF biologist wrote:
"Folks-
'am attending DEQ May 3, 2016 Permit By Rule (PBR) application meeting for the Apex Wind project. Anticipating the applicant will maintain their PBR application is "administratively" complete, I plan to mention concerns remain pertaining to potential impacts to golden eagles known from the area.
Any objections to (me) mentioning our upcoming Golden Eagle Work Group Meeting on May 11, 2016? This could be a "golden" opportunity (pun intended) to be on the record & perhaps convince Apex to attend the meeting & engage in discussion.
Please let me know if folks agree this would be appropriate for me to mention Golden Eagle Work Group Meeting in hopes of advancing our discussion re: golden eagles and wind energy development."

The bare-bones statements regarding environmental impact in Apex's PBR application are, unfortunately, typical of Apex's disregard of concerns about increased bird and bat mortality because of increased turbine height (680 feet) and greater rotor swept area. First, Western Ecosystems, Inc. (or WEST's) field studies of avian use, bird breeding habitat, and other studies are outdated and, because of changes to turbine height, inaccurate.

WEST used 2007 US Forest Service national Bald Eagle Management Guidelines for their assessments. One WEST avian survey report references a grand total of 2 sources, 12 year old guidelines and a 6 year old bald eagle nest data website that clearly states that the website data does not cover the mountains of Virginia. The data was from coastal and central Virginia, not our region at all. This is the level of research upon which Apex bases its environmental report: outdated, bare-bones, and produced by an outfit, WEST, that around the same time they were conducting field studies for Apex, were found to have falsified information about bald eagles in documents about another wind project, Galloo Island: http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B013A0493-7407-4D5A-A304-C473CCC2B36C%7D and http://www.oswegocountynewsnow.com/news/developer-pulls-application-for-galloo-island-wind-project/article_30b6a344-377d-11e9-93f6-d7b1aa534dce.html

It was a mystery to me why Apex did not take wind swept height of taller turbines into consideration. Why was there nothing at all in the modified PBR about this? Then I received my FOIA request.

On June 2, 2020, a DGIF staff member wrote to two DGIF colleagues and to Tricia Miller, Executive Director of the non-profit Conservation Science Global, Inc. about a threat assessment research project DGIF was interested in Apex funding (excerpts):

"Jennie Geiger with APEX would like to schedule a Zoom meeting or conference call with us (may or may not need video) to discuss our proposal for developing the landscape model and project-specific layer, and a GOEA threat assessment regarding the Rocky Forge wind project in Botetourt County. She would also want to include a project consultant from West in the conversation.

As a result of our discussion with APEX last week, they are looking favorably on funding the regional model and project layer for Rocky Forge, though we do not know yet whether they are willing to fully fund the regional model by themselves. I think they will take that plunge, especially if the Pinewoods project (their second project in the works) in Pulaski County would be within the same regional landscape model (this is the project I think I misplaced into Carroll and Floyd counties during our last discussion).

They would like to discuss what we envision for the project, including scope-of-work, schedule, and cost; and, I think they would be particularly interested in the geographic coverage of the "regional model," so they could plan for other projects within that region.

Based on our last conversation, I said we anticipated that the regional model would cost $20-25K, and each project specific proposal would cost about $5K.

Also based on our last discussion, I opined that we would not need additional studies to be performed by them to gather the data involved in this project, and that the project would not result in any delay of their project.

I also think DEQ would be very receptive to such an effort."

APEX submitted their NOI to DEQ for the project modification last night; so very soon we will be asked for comments on the PBR modification. It would be very helpful if we are able to get a commitment from APEX before we have to formally respond to DEQ [on the Modified PBR].

The DGIF staff in these FOIA-obtained emails wrote the following, posted on the DWR website. Some are long-term members of the Eastern Golden Eagle Working Group:

"Eastern golden eagle migration is strongly associated with the Appalachian ridgelines, and the majority of golden eagle records during this period are generated through fall hawk-watch stations. In Virginia the birds can be seen migrating southward between October and early December, and northward during April and May. Wintering eagles spend the months of December through March in the Commonwealth. Although Highland County is arguably the most popular Virginia destination for viewing golden eagles during the winter, the birds are likely distributed across suitable sites along the entire Ridge and Valley.

Within Virginia and the broader Appalachian range, wintering golden eagles are primarily associated with small forest openings along ridgelines, although they may also be seen soaring over the valleys between ridges. During the winter months they feed on medium-sized mammals such as rabbits and scavenge on carcasses." https://dwr.virginia.gov/wildlife/birds/golden-eagle/

I certainly hope that the intent on the part of regulatory bodies is not to try to make our region—or any ridge or mountain within Appalachia—appear an appropriate place for wind developers when it is not, not by DGIF or wind industry best practices.

What does the PBR say about federal law regarding the endangered golden eagles that fly around North Mountain? The US Fish and Wildlife Service (USFWS) is quite clear on its tenuous attempts to keep the eastern golden eagle population at levels that can avoid extinction of that species. These guidelines, updated and published in the Federal Register in January 2017—in other words, more recently than Apex's original permit application—illustrate again how poor Apex's rationale in the Modified PBR is:

--"The Service's goals would not be met by allowing local eagle populations to significantly decline or disappear. There is no reason to believe that Congress's intent in enacting the Eagle Act and including the preservation standard was to preserve bald eagles only in pockets of their range. Moreover, current data, as presented in the Status Report, indicate that golden eagle populations at the national and EMU levels are likely not currently stable or increasing. https://www.federalregister.gov/documents/2016/12/16/2016-29908/eagle-permits-revisions-to-regulations-for-eagle-incidental-take-and-take-of-eagle-nests

--"Eagles move over much larger areas than LAPs [local area population], and simply looking at the effects of a project at the local area scale would ignore impacts to migratory and dispersing eagles from outside the LAP area."

--"The Service believes that preservation of local eagle populations accomplishes both important biological and cultural objectives, and that the EMU-scale analysis alone is not sufficient to evaluate and account for local and cumulative effects of an incidental eagle take permit."

--"Even for permits with low fatality predictions [like Rocky Forge], we believe it would be remiss not to review whether eagle take is within the authorized level, and whether there are elements of the adaptive management strategy be implemented. That a long-term permit with substantive reviews every 5 years might in some cases be 'very difficult to finance and operate commercially' is a factor that project proponents will need to consider when siting projects in eagle habitat."

--“Monitoring is an essential and fundamental element of adaptive management; it is absolutely necessary to reduce uncertainty and improve confidence in the permitting process….We will continue to require monitoring as a condition of all incidental take permits for which uncertainty exists to fulfill the Service's adaptive management objectives and to ensure take of eagles is within the terms and conditions of the permit.”

--"We agree with the large number of entities that urged the Service to require third-party monitoring for some permits. The final regulations require that for all permits with durations longer than 5 years, monitoring must be conducted by qualified, independent entities that report directly to the Service. In the case of permits of 5-year durations or shorter, such third-party monitoring may be required on a case-by-case basis…we do not agree that there will be significant additional costs imposed by the requirement for third-party monitoring. Most companies already rely on and pay for consultants to conduct project monitoring, presumably because it is more cost-effective than supporting those activities ‘in-house.’”

The USFWS cannot force Apex to follow its guidelines. Applying for an incidental take permit is voluntary. That Apex apparently did not volunteer for UWFWS programs to protect golden eagles through years of permitting, SEP modifications, public hearings, etc. is telling, and, unfortunately, part of the pattern of doing “as little as possible” in practice and in filing its PBR. This pattern alone should give regulators great pause.

Rocky Forge Wind could have done better: it could have requested a formal Energy Project Review from the US Fish and Wildlife Service biologists that is more comprehensive and up to date than WEST’s outdated studies. Apex could have participated in the golden eagle plan and incidental take programs.

US Fish and Wildlife guidelines state “A developer should assess whether species of concern are likely to be present in the project area during the life of the project” to avoid a faulty one-time snapshot of a complex ecosystem. The snapshot upon which Apex has based its environmental studies is clearly a one-time shot, and a dated snapshot at that. A project of this scope deserves professional scrutiny from our regulatory agencies and voluntary commitments from Apex; instead, Apex has said, “no new study, no reconsideration, no compliance with new USFWS guidelines that clearly apply to Rocky Forge.”

There are proven sightings of golden eagles on North Mountain in the project area. Where in the Modified PBR does Apex commit to conforming to USFWS guidelines, to bumping up its wildlife protections, to even considering all the new tech solutions to preventing bird mortality at turbine sites? Apex surely knows of these wind industry-tested solutions for reducing bird mortality and injury, yet there is no mention in any of their application documents that they have considered adopting preventative or mitigation strategies.

This disinterest continues from the original permitting, when Apex ignored DGIF information on Golden Eagle regional migratory behavior and sited Rocky Forge in eagle migratory routes and mountaintop ridges: “Eastern golden eagle migration is strongly associated with the Appalachian ridgelines…In Virginia the birds can be seen migrating southward between October and early December, and northward during April and May.…” https://www.dgif.virginia.gov/wildlife/birds/golden-eagle

Apex’s conclusions contradict the above (and ABC bird migratory route maps): “Flight path data for the eagles documented in these surveys demonstrate no obvious flyways or concentration areas; therefore, siting turbines to avoid higher risk areas is not warranted.” Like so much else, Apex really offers no evidence to support its conclusions at this time, during this PBR, or under these changed circumstances.

In Rocky Forge we do not have a wind energy installation that is cited properly and developed by professionals within industry best practices, or a PBR based upon studies and field surveys conducted by

reputable and unbiased, unaffiliated with Apex, biologists. It is a project that in its PBR rejects rigorous regulatory or public scrutiny and voluntary compliance with well-established guidelines. In not opting for an USFWS incidental take permit that would require Apex to release public data about bird and bat corpse collection in the future should Rocky Forge begin operating, Apex is rejecting mitigation, public transparency, and the best chance the USFWS has to prevent extinction of the eastern golden eagle.

I encourage DEQ to reject Apex's incomplete and unconvincing PBR. Approving this PBR is an invitation for wind developers to view Virginia's mountains and natural resources as easy to exploit and our regulatory protections weak and ineffective.

Sincerely,
Molly Petty

From: Hsiu pinder
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 3, 2020 4:40:41 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Hsiu pinder
6342 S Sky Ct
Gilbert, AZ 85298

From: Thomas Powers
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, July 17, 2020 8:00:22 AM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Thomas Powers
1446 Valley Rd
Troutville, VA 24175

From: Carol Pruner
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Sunday, July 12, 2020 2:32:03 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Carol Pruner
1839 Maiden Ln SW
Roanoke, VA 24015

From: Dianne Roberson
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, July 31, 2020 4:00:27 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Dianne Roberson
76 Westridge Dr
Daleville, VA 24083 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f94015116&c=E,1,oCEakmgF2ejHnnpFqzoVtRAvxcRZFtju0tZL-TXODVeLajgtWVZwrSqWFpA_2dOVP3p7CJC-Z4tc5OIkLg0FjZVyLACY2LAW-UoFc8wdFn4w&typo=1>

From: Roy W Powell, Jr.
To: Charlie Johnson
Subject: Rocky Forge Wind Farm
Date: Monday, July 20, 2020 10:19:51 AM

Mr. Johnson: I am a resident of Natural bridge, Virginia in Rockbridge County and a enthusiastic supporter of the Rocky forge Wind development. I am responding in this fashion due a problem with mailing the other type response as originally provided.

Rocky Forge Wind will be the an onshore wind farm that is consistent with the governor's push away from fossil fuel electric generation. I am told that Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue and everyone knows in this post Covid World we need more jobs and more tax revenue and more electric power.
The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Roy W. Powell, Jr.
701 Golf Course Road
Natural Bridge, VA 24578

Home 540-291-2136
Cell 540-467-0482

NOTE : If we all were to concentrate on only the most critical items, there would be a international shortage of fishing poles ?

Please Remember I will return you message but I only check email about every 30 days !

From: Jon Scarborough
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, August 10, 2020 4:20:28 PM

Dear Mr. Johnson,

Interesting how the form auto-populates with APEX BS. Which property owners are receiving benefits? Fraley is the only one and maybe some easements that APEX paid peanuts on. The tax subsidies is what the investors are after. They certainly dont care about the citizens of the county, they only care about the subsidies and a return on their investment. Gov [redacted] is RAISING everyones utility taxes to pay for this. Electric bills will go UP for all, prove me wrong. [redacted]

Regards,
Jon Scarborough
532 Locust Bottom Rd
Eagle Rock, VA 24085 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f94362894&c=E,1,u8KYROqviStZDjs4rloQJWQ6Qz7Tj2ROAlGKNq6xmkj2HNFWFtelHUlVPRc_k63RZ-QDi30yIlZkz36iCohEiaPvGY8jKOV_XvYqdqmnHHIoN3XtSAK_hh0,&typo=1>

From: Jeffrey Scott
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, August 6, 2020 4:05:15 PM

Dear Mr. Johnson,

I am opposed to Rocky Forge. And it is extremely disappointing to see that the Roanoke chapter of the Sierra Club is participating in the endorsement of this ill-conceived and environmentally destructive project. In the Feb. 10 Roanoke Times there was a commentary by Dan Crawford, chair of the Sierra Club Roanoke Group titled "Rocky Forge site is close to perfect". Mr. Crawford appears to have drunk the Kool-Aid being served by Apex Clean Energy.

When Mr. Crawford writes that "The Rocky Forge site is as close to perfect as we can expect", he either has not read, or is choosing to ignore, the Wind Siting Advisory of the national Sierra Club (https://www.sierraclub.org/policy/energy/wind-siting-advisory). In part, that advisory states:

"The Sierra Club opposes development in protected areas such as national and state parks, national monuments, wilderness areas, wildlife refuges, designated roadless areas, critical habitat and designated habitat recovery areas for wildlife, and areas of cultural significance, sacred lands, and other areas that have special scenic, natural or environmental value. In these areas, it is inappropriate to build wind turbines, roads, transmission lines, or any other structure related to wind development."

Does Mr. Crawford know, or is he choosing to ignore, that North Mountain, the site for Rocky Forge is located in the Buffalo Creek - Purgatory Mountain Wildlife Corridor? Does Mr. Crawford know, or is he choosing to ignore, that the Botetourt Comprehensive Plan states:

"Preserving scenic views and vistas is particularly important for Botetourt County. The County's scenery is critical to the rural character and is one of its most distinguishing features. Does Mr. Crawford know, or is he choosing to ignore, that the proposed turbines will be visible from the Blue Ridge Parkway? Does Mr. Crawford know, or is he choosing to ignore, that the Upper James River (which flows at the base of North Mountain) is a designated Virginia Scenic River?

The list goes on of information that Mr. Crawford is either ignorant of, or is choosing to ignore, on why the Rocky Forge site is as close to the worst site as possible for such an industrial development project.

Regards,
Jeffrey Scott
1023 Smokey Row Rd
Lexington, VA 24450

WRITTEN COMMENT PURSUANT TO VIRGINIA CODE § 10.1-1197.6(B)(13)

August 10, 2020

VIA ELECTRONIC MAIL

Rocky Forge Wind, LLC
c/o Apex Clean Energy, Inc.
310 4th St. NE, Suite 200
Charlottesville, VA 22902
info@rockyforgewind.com

Ms. Mary E. Major
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218
mary.major@deq.virginia.gov

I am submitting the comments contained in this document in response to the public comment requirement of the Code of Virginia 10.1-1197.6 B 13. I am opposed to the Rocky Forge Wind project, and have been opposed to it since it was first proposed in 2016. The list of reasons for my opposition are many and I will not specifically iterate them here, but most are listed in attachment 6.

Attached to this comment document are several other documents that I believe provide significant information about the inadequacy of the Permit by Rule regulation and implementation:

1) A letter to the Botetourt County Planning Commission providing them with points to consider before any vote should have been taken to recommend that the Board of Supervisors consider the changes to the Botetourt Wind Ordinance and Special Exception Permit requested by Apex. Note that the attachments that are referenced in this letter are provided in the next document.
2) A letter to the Botetourt County Board of Supervisors providing them with facts about the Antares Group, Apex, JMU, and the Botetourt Planning Department that needed to have been considered before voting to approve the changes to the Botetourt Wind Ordinance and Special Exception Permit requested by Apex.
3) A list of suggested changes to the Botetourt Wind Ordinance that was submitted by Virginians for Responsible Energy which includes the rationales for the changes with extensive lists of references.
4) A markup of the Botetourt Wind Ordinance based on the suggested changes in the previous attachment. Note that none of these changes were adopted by Botetourt County.
5) The comments that were submitted to the DEQ as part of the Town Hall review of the Permit by Rule regulations in 2018, and DEQ responses published in 2019. Note that none of these changes were adopted by DEQ.
6) A flyer that provides a summary of why Rocky Forge should not be built that was sent to postal patrons in Fincastle, Buchanan, and Eagle Rock in December 2019.

You might wonder why I have included all of these documents as part of my public comments. The answer is simple. Apex Clean Energy has a demonstrated record in multiple states of misleading the

public and lying. Botetourt County officials have shown that they have been persuaded by the promises of Apex that negative impacts will be minimal and the county will get a lot of money, and have worked with Apex to insure that Rocky Forge Wind will be built. And the DEQ has shown that they are an advocate for industrial wind as opposed to an advocate for the environment and the citizens of Virginia. And, because of the PBR statute, protections to the environment and citizens that would normally exist through the standard State Corporation Commission regulatory process have been eliminated.

It is important that all of these documents be included as part of the public comments so that there is a record of how Apex Clean Energy, Botetourt County, and DEQ have ignored the warnings of citizens about the impacts that Rocky Forge Wind will cause to the environment and citizens of Virginia.

Jeff Scott
1023 Smokey Row Rd
Lexington, VA 24450

Public Comments specific to the documents submitted by Apex Clean Energy for the amended Permit by Rule application for Rocky Forge Wind.

#	Document	Document content	Comment
1	Attachment 5A - RFW Modification Non-Utility Certification	All	According to the Code of Virginia Title 56 (Public Service Companies) Chapter 23 (Virginia Electric Utility Regulation Act) in Definitions 56-576: *"Electric utility" means any person that generates, transmits, or distributes electric energy for use by retail customers in the Commonwealth, including any investor-owned electric utility, cooperative electric utility, or electric utility owned or operated by a municipality.* Since Rocky Forge will be generating electricity that will be sold to Dominion and Virginia, Apex, by definition, must be an electric utility. This certification is invalid and therefore this application is not complete.
2	Rocky Forge Wind PBR Modification Application – June 2020	Section 1, paragraph b, Operation Plan Incorporating Mitigation Plan	The following statement is made: *Ultimately, Rocky Forge Wind will use wind turbines that are suited for the area, provide long-term functionality, and are manufactured by companies that have a proven track record in wind turbine production.* But, without knowing the make and model of the turbines it is not possible to determine if the project complies with Executive Order 13920 issued May 1, 2020. In part, this order requires the Department of Energy (DOE) to create and implement new rules that will govern the procurement, importation, transfer and installation of bulk-power system (BPS) equipment in which a "foreign adversary" is determined to have an interest. Foreign adversaries have currently been defined to be China, Russia, Iran, North Korea, Cuba, and Venezuela. Since turbines incorporate many mechanical, electronic and computer components (many of which be manufactured in China), as well as computer software, without knowing the make and model of turbine is it impossible to determine if the turbines to be used at Rocky Forge comply with EO 13920. Without certification from the Department of Energy that the turbines are in compliance, this application is not complete.
3	Rocky Forge Wind PBR Modification	Section 7 (Analysis of Potential Beneficial/Adverse	In the original application in the document "Attachment 7A(4) General Avian Use and Raptor Migration Survey" on physical page 12 in the section "Bird Flight Height and Behavior" is the following statement:

#	Document	Document content	Comment
	Application – June 2020	Impacts on Natural Resources) in the Raptor Migration Surveys subsection	*Flight height information was used to calculate the percentage of birds observed flying within the rotor-swept height (RSH; estimated to be between 25 and 150 m [82 to 492 feet] above ground level [AGL]) for modern utility-scale turbines. The flight height recorded during the initial observation was used to calculate the percentage of birds flying within the RSH and mean flight height. The percentage of birds flying within the RSH at any time was calculated using the lowest and highest flight heights recorded.* Since the modified application is for turbine heights of 680' this study is obsolete and the application is not complete.
4	Rocky Forge Wind PBR Modification Application – June 2020	Section 6, Analysis of Potential Impact on Air Quality Standards	Using the EPA AVERT model, the claim is made that Rocky Forge will offset 185,870 tons of carbon dioxide. But does this model take into account the CO2 emitted during the manufacturing and construction of the turbines? For example, the making of concrete is one of the worst generators of CO2 that there is. The Green Ration Book chapter on the "Carbon Footprint of Concrete" (http://www.greenrationbook.org.uk/resources/footprints-concrete/) states that "The manufacture of cement produces about 0.9 pounds of CO2 for every pound of cement. Since cement is only a fraction of the constituents in concrete, manufacturing a cubic yard of concrete (about 3900 lbs) is responsible for emitting about 400 lbs of CO2.". Based on the size of the proposed turbines (680 ft), I will use an estimate of 1000 cu. Yd. of concrete for each foundation. Therefore each turbine foundation will result in 400,000 pounds of CO2 emissions, or 200 tons. Multiply that by 22 foundations and you get 4,400 tons of CO2. And that is just one component of the CO2 cost of manufacturing and construction. What are the other manufacturing and construction components contributing? Without this information the analysis is incomplete and therefore this application is incomplete.
5	Claims by Apex of Electricity Produced by Rocky Forge (on the Rocky Forge Wind website, and in many	"…Rocky Forge Wind, which is expected to generate enough energy to power up to 21,000 homes annually."	Electricity produced by Rocky Forge will be a negligible amount compared to the total that Virginia uses. According to statistics compiled by the Institute for Policy and Social Research at the University of Kansas, in 2017 Virginia used 111.5 TWH of electricity. The PBR Modification submitted by Apex states that Rocky Forge will not exceed 100 MW. So what impact will this have on Virginia's demand for fossil and nuclear fuels? Negligible. A terawatt is 1000 gigawatts. A gigawatt is 1000 megawatts. To make the calculation simple, let's say Virginia uses 100 TWH. This is equal to 100,000,000 MWH. This means

#	Document	Document content	Comment
	other documents and in many verbal statements by Apex representatives)		that if Rocky Forge is producing its maximum electricity 100% of the time it will provide 100 MW * 24hr/day * 365 days/yr = 876,000 MWH annually. Therefore, this would be: % Rocky Forge electricity of total Virginia = 876,000 MW/ 100,000,000 MWH * 100% = 0.876% But PJM, which is the company that will distribute the electricity generated by Rocky Forge uses a capacity factor of 14.7 percent for wind resources. This means that they expect a wind facility to only produce 14.7% of its rated capacity. Using that factor, 0.876% gets reduced to 0.129%. So that is slightly more than one tenth of one percent. Does this miniscule amount justify the irreparable harm that the project will cause to the environment of North Mountain, the destruction of view sheds, and the adverse impacts to the property values and health of local citizens? During the July heat wave here in Virginia, based on the wind data that Apex is collecting (which they refuse to provide to the public claiming it is "proprietary"), how much electricity would Rocky Forge have produced? Publicly available data shows that wind speeds are lowest in the summer, so what contribution would Rocky Forge have made to reducing emissions of CO2 and usage of fossil fuels during this period?

Members of the Planning Commission,

I am sending this letter to you to express my opposition to the changes that Botetourt County is considering to allow Apex Clean Energy to increase the height of the industrial wind turbines proposed for the Rocky Forge Wind project. While I am not a resident of Botetourt County, I am a resident of Rockbridge County, and the adverse effects of the Rocky Forge project will be as significant for Rockbridge County as they will be for Botetourt County.

As you know Rocky Forge has not been built because Apex could not find any buyers for the electricity that they claimed would be generated. That changed when the state and Dominion Energy signed a contract for Virginia to buy renewable energy. Since Governor Northam has made renewable energy a significant part of his political efforts, I am sure that you are probably getting a lot of pressure from his office as well as from Apex. And I am sure that they are emphasizing (promising?) all kinds of benefits for Botetourt County. And minimizing (ignoring?) all of the numerous adverse impacts.

This is a long letter, but it could be a lot longer because there are so many reasons why Rocky Forge is such a bad idea. The original request by Apex in 2016 should never have been approved, and now Apex wants you to approve a change that will make it even worse. Why will it be worse? Because all of the ill-effects that exist with 550' tall industrial turbines are magnified with 680' tall industrial turbines. Let me give one example of that.

I did a simple comparison of the previous plan for 25 550' turbines with the current proposal for 22 680' turbines. The sweep area (i.e., the size of the circle of the rotating blades) for each 550' turbine is 3.33 acres. The sweep area for the 680' turbines is 5.25 acres, a 58% increase. Multiplying 3.33 by 25 gives you 83 acres of spinning blades. Multiplying 5.25 by 22 equals 115 acres (equivalent to 88 football fields) of spinning blades. In addition to the increased area of mortality danger to birds and bats, there is also the increased speed of the blades. If the blades are turning at 10 RPM, then the tips are moving at 193 MPH (a 25% increase in speed from the original size). So while the shorter turbines are extremely deadly to birds (such as the protected Eastern Golden Eagle) and bats, the taller turbines are even more deadly.

I am all in favor of renewable energy, but it must actually be environmentally responsible and produce meaningful amounts of electricity. And based on what I have learned about large industrial wind turbines, the environmental significance of North Mountain, and the many questionable business practices of Apex, I believe that allowing Apex to increase the turbine height would have many negative consequences. As county planners you make decisions that will impact your county (and other counties in this case) for many years. That is a big responsibility, and I would hope that you will take every effort to thoroughly research the impacts of this project. Failure to do that could put the county into legal and financial jeopardy when property values are reduced, people have adverse health effects, roads are damaged, water quality is compromised, or the project is abandoned, during or after construction. There is no rush to make this decision, so please make sure you perform due diligence before you do.

Below are some additional comments.

Comments on Background Report from Nicole Pendleton

In the document named "Apex Rocky Forge Background Report May 2020" posted on the Planning Commission website on May 7 at 6PM, there are the following statements about the Comprehensive Plan on page 9:

1. "The 2010 Comprehensive Plan identifies future land uses in this area as Conservation. This category is meant to identify steep slopes, lands protected by conservation easements, 100-year floodplains, and properties within the Carvins Cove watershed***. Future development in these areas should be prohibited or extremely limited.*** [emphasis added] The applicant states that this category recognizes areas that may be difficult to develop in traditional ways, but can serve other purposes and benefits to the County."
2. "Lastly, the Comprehensive Plan makes mention of ***the importance of preserving viewsheds***. [emphasis added] Page 50 outlines the importance of preserving scenic views for the county, ***specifically stating that "visibility of wireless towers and other tall structures" should be minimized in accordance with this goal. In addition, there is a goal of limiting ridgeline development as well***. [emphasis added] The importance of conformance with the Comprehensive Plan, which is a necessary consideration for the granting of an SEP, is one that must be looked at collectively, rather than by examining each aspect of the plan or its pages separately. The purpose of the Comprehensive Plan is "to promote balanced growth and development ***while protecting the County's natural environment*** [emphasis added] and cultural resources. This shall be accomplished through the application of sound planning principals and the implementation of complementary development controls."

Please explain to me how allowing the construction of 22 680' turbines requiring clear cutting, blasting for road construction and foundations of the turbines that will require tons and tons of concrete, destroying the viewshed, altering runoff patterns, killing the protected Eastern Golden Eagle and who knows how many other birds and bats, lowering property values, increasing the chance for fire, meets the conditions of the Comprehensive Report.

What is also extremely disturbing in this justification for allowing these turbines is the complete omission of any discussion of what impact there will be on important features of the count such as the designation of the Upper James River as a Virginia Scenic River, the designation of VA 43 as a Virginia Scenic Byway, the inclusion of North Mountain as part of the Buffalo Creek/Purgatory Mountain Special project Area of the Virginia Outdoors Foundation, etc. How can these wonderful scenic and natural features not be considered? Please explain to me and everyone else how allowing the construction of 22 680' industrial turbines will benefit a county that advertises itself as "one of Virginia's most scenic and historically significant counties."

In that same "Background Report", on page 4 there is the following statement:

"After reviewing all of the feedback, other ordinances, survey results and written comments, staff provides the attached amendments. The attached amendments ***substantially reflect*** [emphasis added] the applicant's request and are not a recommendation of the specific height request."

In a document named "Cover Letter - 10-31-19 - Sec 25-446 Text Amendment Application" that was sent to Nicole Pendleton from Adena Patterson of McGuireWoods on behalf of Apex Clean Energy on October 21, 2019, is the following statement in the second paragraph of page 2:

“There are three recommended changes to the text. First, allowing for taller turbines. Second, provide a general section related to the height of structures for substations and points of interconnections. Third, allowing for a longer period of validity for the special exception permit.”

Now, here are the proposed changes (in red) that Pendleton has submitted to you for approval:

1. Turbine height. The individual turbines shall not exceed six hundred and eighty (680) feet in height
2. Equipment and structures for substations and facilities for points of interconnection. The height of equipment and structures related to substations and similar facilities shall not exceed 100 feet. This limit shall not apply to any state-regulated transmission poles.
3. (Deleted) ~~Expiration: A special exception permit issued pursuant to this section shall expire if the wind energy system is not installed and functioning within five (5) years from the date the permit is issued; or the wind energy system is abandoned as defined above~~.

When you compare what Apex asked for, and what the staff report is asking you to vote on, the statement “substantially reflect” is misleading. In fact the changes being proposed give Apex everything they asked for with respect to the height of the turbines and the equipment heights, and then gives them more than what they asked for with the Special Exception Permit. Apex only asked for “a longer period of validity” while the staff report is removing any expiration whatsoever. Of what benefit is an unlimited SEP to the county and its citizens?

Given the blatant disregard for the Comprehensive Plan and the unlimited lifetime of the SEP, I have to ask, who is the staff working for, the county or for Apex?

Claims of Energy Produced Cannot be Verified

One of the claims made by Apex to justify the destruction of the top of North Mountain is that Rocky Forge will produce enough energy to power up to 20,000 homes. In the “2019 Statement of Intent” in the “Wind Study” section on page 4 (See Attachment), the following statement is made:

“Evaluation of wind data collected to date has demonstrated that the average wind speed is between 13.2 and 18.5 mph at the 125m hub height. This average wind speed is considered a strong wind resource in Virginia.”

There are at least three problems with this statement:

1. An average is not a range of values, it is a single value. What is written is like saying a batting average is between .256 and .325. It is a meaningless statement.
2. The statement is misleading in that it implies that wind is blowing all the time. The reality is that those are the most common speeds of the wind when it is blowing.
3. The National Renewable Energy Laboratory (NREL) has a lot of research into the factors that determine the amount of electricity that a wind turbine can generate at different wind speeds, and have a chart (see attachment) that shows the “Resource Potential” at various wind speeds. The chart shows that a wind speed of 13.2 mph (the low number provided) has a low potential, and a speed of 18.5 mph (the high number provided) has an excellent potential. That is quite a wide range, so you really need to know the distribution of those speeds (that is, how often does

a particular speed occur) in order to determine the potential for generating electricity. And typically the distribution will show that lower speed winds are more frequent than higher speeds. So to claim that there is a "strong wind resource" seems to be a distortion of the facts.

Beyond these problems with that statement, Apex has neglected to mention a significant factor that determines the amount of energy a turbine can generate at a specific wind speed. That factor is 'turbulence intensity'. This is basically a measure of how turbulent the wind is at a site. The more turbulent the wind, the less efficient the turbine is. And it is well documented that winds on a mountain ridge are much more turbulent then winds on flatter land. To add to the problem, turbulence causes varying loads on wind turbines which in turn causes them to wear more quickly. This can lead to higher failure rates and catastrophic failure resulting in fire or collapse of the turbine.

Apex has not made the wind data they collected available to the public calling it "proprietary". Since when is the wind "proprietary"? Apex makes claims about the amount of electricity that will be generated, but they refuse to provide the wind speed data for independent analysis. What are they hiding? There needs to be proof of how much electricity will be generated, what percent of the time it is being generated, and the month by month amounts of electricity generated. Without that information you cannot make an informed decision and you must deny the requested changes to the SEP and the Wind Ordinance requested by Apex.

Apex Business Practices

I have attached three documents that I think you will find helpful in determining if Botetourt County wants to allow Apex Clean Energy to proceed with the Rocky Forge Wind project as it is currently permitted. Or even more importantly, whether the county should accept the changes that Apex needs to allow them to build even taller, and more harmful, turbines.

The first attachment is an article that appeared in a Texas newspaper on March 10 this year about a wind turbine fire that occurred at the Midway Wind project in San Patricio County operated by Apex Clean Energy. What I find particularly disturbing in this story are the comments by the local fire chief and sheriff:

"We have training sessions with (E.ON) quite often, but Apex hasn't gotten around to it yet," Gibson said. "I don't even know who Apex is. They don't have signs or anything."

SPC Sheriff Oscar Rivera added, "They haven't talked to us either. When E.ON first came onboard they came into the office and gave us a map of where all their turbines were going to be and gave us a contact number.

"But we haven't heard from any of the other companies, even the ones on the west end of the county."

Can you imagine what would happen if this kind of fire occurred at Rocky Forge? And the fire in Texas was in an easily accessible location. The potential for a major disaster in Botetourt County if Rocky Forge is built is very real. Turbine fires are not a rare occurrence, and several studies indicate that the frequency of turbine fires is significantly higher than reported by the wind industry. And the taller turbines being proposed by Apex are newer models that have not been built on mountaintops where

wind turbulence is common. And wind turbulence is a significant factor in putting additional stress on turbine mechanisms leading to turbine failures which lead to turbine fires.

The second attachment contains the comments I made at the December Board of Supervisors meeting concerning Apex's suspect business practices. And the third attachment is an email I recently received from a person in Isabella County, Michigan where Apex is building Isabella Wind. That email shows that Apex is continuing what appears to be their standard procedures of secrecy, misinformation, and poor operating practices.

With so much at stake for the environment and scenic views, and the health, safety, and financial well-being of Botetourt citizens, you need to carefully consider if Apex is a company with whom the county wants to do business and trusts that they will abide by the terms of any agreement.

Respectfully,

Jeff Scott
1023 Smokey Row
Lexington, VA 24450

26 May 2020

Mr. Jeff Scott
1023 Smokey Row Rd
Lexington, VA 24450
jeff@VirginiansForResponsibleEnergy.org

Botetourt Board of Supervisors
57 S. Center Drive, Suite 200
Daleville, VA 24083

Submitted by Email

Dear Steve Clinton, Billy Martin, Ray Sloan, Richard Bailey, and Mac Scothorn,

You have heard a lot of extremely good reasons through the years why the Rocky Forge facility should not be built, yet you have chosen to ignore them. Today I am going to take a slightly different approach. I am going to present facts about the Antares Group, Apex, JMU, and your Planning Department that as public servants you need to seriously consider and investigate before approving this project. I hope that these facts will cause all of you and the public to carefully examine what has happened and is happening in this county with regard to this project. This is not how decisions impacting an area for a generation are supposed to be made, and this is not the fair and open process that is required by the law. The question everyone should be asking is this: If the Rocky Forge facility is truly going to be beneficial and positive for this county, why were all the machinations and inappropriate relationships and actions listed below necessary?

Relationship between Apex Clean Energy and the James Madison University Center for the Advancement of Sustainable Energy

As an initial matter, there is nothing inappropriate about local governments and businesses using the resources and skills of universities to evaluate and provide input on projects such as Rocky Forge. This is true as long as there are no inappropriate underlying motivations, and any and all relationships or biases are disclosed to the public. Full disclosure of such relationships is absolutely necessary for the public and the local government to understand whether the academic work being used is valid and unbiased. It also goes to the heart of the reputation of the university or academic institution involved.

Here is some information about the relationship between the James Madison University Center for the Advancement of Sustainable Energy (CASE) and Apex. Professor Jonathon Miles, the executive director of CASE has written glowingly of the Rocky Forge project. In a recent letter (Attachment 1) to the Planning Commission, he extols the benefits that taller turbines at Rocky Forge will bring to Botetourt County. The letter make claims that, no matter what side of the argument you are on, are hard to take seriously or be believed: e.g., there will be “reduced impacts on the environment and the surroundings during installation and operations” and will have “visual impacts comparable to or even less intrusive.”

What the letter does not do is disclose the relationship between James Madison University (JMU) and Apex. Here is a list of several JMU graduates with significant positions at Apex:

1. Blaine Loos, Development Manager, holds a B.S. in integrated science and technology from JMU, but he also was a Project Management Intern at CASE, a teaching assistant in the Environmental Science Lab, a Project Facilitator, and an Energy Project Analyst at CASE.
2. Tyson Utt, Vice-President of Development East, holds a B.S. – ISAT with an Energy Concentration, and an MBA, both from JMU.
3. Don Giecek, Senior Development Manager, holds a B.S. in Political Science and Government from JMU.
4. Charlie Johnson, Project Manager, holds a B.S. in Integrated Science and Technology (ISAT) with an Energy Concentration from JMU.

The list of JMU graduates working at Apex does not end with the four listed above. Because JMU does not provide the names of individuals or companies that are on their advisory board or who are "partners and affiliates," there is not a way to readily determine if there are additional linkages between Apex and JMU. Apex is involved, however, with the Madison Vision Fund, a youth educational program that CASE provides (Attachment 2).

Again, there is nothing wrong with a university being involved with private industry, but for a university to actively advocate for a particular company's project, particularly under the guise of neutrality, is not only inappropriate it is unethical.

In the letter, Professor Miles writes "Our center provided guidance and assistance to your community several years ago as you were developing the original utility-scale wind ordinance for Botetourt County, and we are pleased to do so again". This is information that, to my knowledge, the public was not made aware of, and there is certainly no mention of it in the staff report or the report from Antares. This is troubling for at least two reasons:

1. Why is the assistance of JMU CASE not described in the staff report? I think that is a significant piece of information that needed to be divulged. Why wasn't it divulged? Was the Planning Commission and Board of Supervisors aware of this assistance? Were they aware of the relationship between Apex and JMU – and thus able to understand any information provided by JMU was designed to assist Apex in gaining regulatory approval?
2. If a pro-wind industry affiliated group was involved in helping to write the original Wind Ordinance, were non-wind industry groups given the same opportunity? What is the list of groups that provided assistance in developing the original ordinance?

Heidi Alsbrooks of Antares Group

Let me address the report produced by Antares Group, the "independent" third-party consultant who produced the reports on Rocky Forge in 2016 and now in 2020. Heidi Alsbrooks is the employee at Antares Group in charge of both of those reports.

If you remember, in 2016 David Moorman, then Acting-County Administrator, provided the criteria that Botetourt County used in hiring Antares for the independent review of the project. Mr. Moorman indicated that the County required that the company it hired for the review had to have:

1. Never worked with Apex;
2. Not be "entangled" in the wind energy business; and
3. Be objective.

Mr. Moorman asserted that Antares met all of those qualifications.

Prior to the Board of Supervisor meeting, a member of the public discovered that Ms. Alsbrooks had previously worked for Sandy Reisky and that one of Apex's senior leaders was the leader of another client of Antares, Horizon Wind. Again, this was discovered by a member of the public, so either Antares and Ms. Alsbrooks never disclosed her past relationship, or the County was aware of the conflict and failed to tell the public.

At the hearing, Ms. Alsbrooks refused to address the disclosure issue. She acknowledged her relationship with Apex and its management and simply indicated that the wind industry was too small to not have professional relationships with companies involved in these types of projects. To put this in perspective – the author of the "independent" report the County paid for and relied on, acknowledged she was not independent or unbiased, refused to provide information on whether she had disclosed this information to the County, and stated that no company existed that could meet the criteria the County used to select Antares.

Those issues have never been publicly addressed or resolved. Ms. Alsbrooks and Antares have now issued another report. While there is no question that Ms. Alsbrooks has experience in the wind industry, there are questions about that experience and her independence with regard to this project. Before her current employment at Antares she worked for BP Alternative Energy for 1.5 years as a Wind Resource Analyst (Attachment 3). That job started in 2006 when BP bought GreenLight Energy (Attachment 4) where Ms. Alsbrooks worked for 2.5 years as a "wind project development analyst". Greenlight Energy was a "privately-owned utility-scale wind developer" founded by Sandy Reisky, who is now Chairman and Chief Strategy Officer for Apex. It was BP Energy that targeted North Mountain for an industrial wind project in 2009 when they built the first MET tower (Attachment 5). So while the County wanted to have a third-party consulting company review the application by Apex, how independent is Antares, or more specifically, how unbiased is Ms. Alsbrooks?

In an email sent by Ms. Alsbrooks to Ms. Pendleton on March 16, 2020 (Attachment 6), Ms. Alsbrooks wrote: "Thank you for the clarification! I admit I am relieved, as some of these proposed changes are rather extreme." This was in reference to the suggested changes to the Wind Ordinance submitted by Virginians for Responsible Energy (VRE). The proposed changes submitted by VRE are backed up by references that fill a 4" 3-ring binder and were based on actual wind ordinances from around the country. The proposed changes were designed to protect Botetourt County citizens from financial impacts due to reduced property values and potential health impacts due to audible and infrasound. The fact that a supposed unbiased, independent consultant for the County would characterize provisions already in effect in other jurisdictions as "extreme" raises a host of questions about Ms. Alsbrooks and Antares and their independence.

Botetourt County's Interactions with Citizens Opposed to Rocky Forge

Has the County followed Virginia state law and its own rules and requirements with regard to interacting with citizens who are opposed to Rocky Forge? After attending the December 19, 2019 Supervisors meeting, as a representative of VRE, I sent an email to Nicole Pendleton, Director of Community Development for Botetourt County, asking for clarification on the process to submit a request to change a county zoning ordinance (Attachment 7). She promptly and graciously responded giving me the

necessary information, and offered to meet with VRE. On December 29, 2019, I sent an email to Ms. Pendleton to schedule a meeting and it was set for January 2, 2020.

On January 2, 2020, three members of VRE (Eric Claunch, Steve Neas, and I) met with Ms. Pendleton and Ms. Goad. When VRE asked Ms. Pendleton about submitting an official application to make changes to the Wind Ordinance, she told us to save our $200 application fee since she had been directed by the Board of Supervisors to review the entire Wind Ordinance and that VRE should just submit their suggestions. We told Ms. Pendleton that VRE would consolidate our recommended changes and provide clear rationales and supporting documentation. VRE believed we had a real opportunity for making an important contribution to the County.

Between January 2 and the February 10, 2020 Open House held at the Eagle Rock Elementary School, VRE worked diligently to determine what changes to the Wind Ordinance would help Botetourt to best protect its citizens and the environment from any potential harmful impacts of an industrial wind project. This effort involved searches of other wind ordinances from around the country, investigation of scientific studies on the impact of noise (audible and infrasound), reports on best practices to protect birds and bats, real estate studies of the impact on property values, etc. In other words, VRE took the actions that should have already been taken by the Planning Department.

At the February 10, 2020 Open House for Wind, VRE provided Ms. Pendleton with the electronic version of the suggested changes, clearly indicated on a marked up copy of the existing ordinance (Attachment 8) and supplemented with references that fill a 3-ring binder. After not hearing any response from Ms. Pendleton following the Open House, VRE scheduled a meeting with her on March 11, 2020. When we arrived at the Planning Department for our 10 o'clock meeting, we were informed that an urgent matter had arisen and that Ms. Pendleton would be late. After some time, it was decided to reschedule the meeting. Ms. Pendleton sent an apology (Attachment 9) and we rescheduled the meeting (to be done remotely) for March 16, 2020. VRE provided some updates to the documents, and Ms. Pendleton made some comments about the Dillon Rule with respect to limitations on what regulations local governments can enact.

Following the March 16 meeting, there were no communications from Ms. Pendleton regarding the status of the suggested changes to the Wind Ordinance. On April 22, 2020 the Fincastle Herald contained a public notice that the Planning Commission would meet on May 11, 2020 and the agenda included hearings for the changes that Apex wanted to the SEP and the Wind Ordinance. The description of the changes to be considered did not include any of the changes that had been submitted by VRE (Attachment 10).

On April 23, 2020 VRE sent an email (Attachment 11) to Ms. Pendleton asking why none of the changes suggested by VRE were on the list of changes to be discussed by the Planning Commission. VRE asked Ms. Pendleton to provide details about why the County did not accept any of the suggestions that were made. Her response consisted of generalities and did not provide specific instances. Further, she wrote, "Please refer to the background report provided by staff to the Planning Commission". The background report contained no information for why none of the suggested changes by VRE were included in the proposed Wind Ordinance update.

On May 4, 2020 VRE submitted a FOIA request (Attachment 12) to Cody Sexton for records of Ms. Pendleton referring to Apex and Rocky Forge that were generated, received, obtained, or created

between the dates of March 16 and May 4, 2020. At this time, we have received the email portion of that request, and there are several that raise questions about the fairness, integrity, and legitimacy of the process:

1. March 2, 2020– email from Ms. Pendleton to Charlie Johnson of Apex (Attachment 13) where she writes "As requested via phone today, here is the link to the comments provided at the community meeting." The subject line of the email is "Virginians for Responsible Energy amendment comments".
2. March 10, 2020 – email from Ms. Pendleton to Diana Godlevskaya and Katharine Kollins of the Southeastern Wind Coalition (SEWC), and Jonathan Miles (JMU CASE), providing them with updates on the status of the contract with Antares and soliciting their input on suggested changes (Attachment 14). SEWC and CASE are both pro-wind advocates. Apex is a corporate member of SEWC, and Don Giecek, Apex Senior Development Manager is on the SEWC board of directors. In an email on March 11 from Dr. Miles, he writes that SEWC and he need to discuss "our mutual coordination on comments/suggested updates to submit to Nicole, to make sure that our respective comments are complementary and consistent".
3. March 24, 2020 – email from Ms. Pendleton to Charlie Johnson of Apex in which she forwards questions from VRE (Attachment 15): "I wanted to forward these comments to you. As they may reach out to you or not, these questions may come up at public hearing. If you wish to respond to Mr. Claunch, or me, or both, or however you wish to handle will be up to you all obviously, but if I can assist, or if you'd like me to include anything in the record, I am happy to do so."
4. April 1, 2020 – email from Charlie Johnson to Ms. Pendleton (a continuation of the email chain from March 2, Attachment 13) where he writes "Hi Nicole- Following up on this to see if we can get a copy of the corresponding supporting information that was submitted for this if possible. Also, if possible to share any comments that have been submitted on the amendment application, that would be great too." Laura Goad sends a reply that includes a link to all of the comments and Mr. Johnson replies "Thank you very much for sharing these with us".
5. April 3, 2020 – email from Ms. Pendleton to SEWC and Dr. Miles (a continuation of the email chain from March 10, Attachment 14) where again she solicits their input: "If you all had any written comments on any recommended changes to the zoning ordinance, could you let me know when you might expect to send those?"
6. April 16, 2020 – email from Ms. Pendleton to SEWC and Dr. Miles (a continuation of the email chain from March 10, Attachment 14) that she is sending the legal notice to the paper for the May 11, 2020 Planning Commission meeting. This notice appeared in the April 22, 2020 Fincastle Herald.

As you can see, Ms. Pendleton is providing information about the suggested changes that VRE submitted and is soliciting comments from Apex, JMU CASE, and SEWC, all of whom have a vested interest in having Rocky Forge built. Ms. Pendleton never asks VRE or any other parties opposed to the project any questions about their suggested changes. And in fact, she does not even provide any information about why none of the changes from VRE were included. Nor does she contact any groups such as the National Wind Watch (https://www.wind-watch.org/) or Healthcare Professionals Against Commercial Wind (https://healthcareprofessionalsagainstwind.wordpress.com/). This is not the behavior of a public servant attempting to make sure that Botetourt County will have a Wind Ordinance that protects the environment or the citizens. It is the behavior of a person catering to the interests of groups and businesses which have a vested interest in the construction of the Rocky Forge Wind facility.

Planning Commission Unprepared for Critical Decision

The Planning Commission meeting on May 11, 2020 was held under the guidelines in force for conducting government business during the COVID-19 pandemic. None of the commissioners were physically present at the Greenfield Education and Training Center, but all attended remotely.

The meeting took place before many of the public comments that had been submitted were posted on the County website, and so it was not possible for the commissioners to know how many comments were in favor and how many were opposed to the proposed changes. Further, the commissioners themselves had not been able to read all of the comments. And yet, the commissioners decided that it was appropriate to vote on the proposed changes without the information submitted as part of the public comment process. It is important to note that this meeting took place under rules that mandated that the public participation in the process be respected and protected.

To make the situation even worse, it was obvious that the commissioners really did not understand what they were voting on. This is documented in the video that was recorded by William Stowell and posted on YouTube at https://www.youtube.com/watch?v=QPbgSdZ7234&feature=youtu.be . If you look at the video between the 1:31:30 mark and 1:43:00 the confusion is painfully obvious. And yet they still proceeded to vote to approve resolutions that they didn't really understand and for which they had not had a chance to read all the public comments.

The Business Practices of Apex Clean Energy

I have previously provided significant information about the questionable business practices of Apex. That information is attached (Attachment 16). I recently was made aware of an additional instance that is also quite serious. Apex wanted to build a project on Galloo Island in New York. As part of the permit process a survey was conducted for bald eagles by the environmental contractor WEST (NOTE: This is the same company that Apex used here for the wildlife surveys). The matter was taken to court. Quoting from the filing to the court (Attachment 17):

"Apex Clean Energy, and its consultant WEST, Inc., deliberately engaged in a deception which went to the heart of their claim that their proposed project would pose no risk to New York's threatened bald eagle on Galloo Island. This deception included omitting important information about the presence of a bald eagle nest on Galloo, which was compounded by numerous assertions, in several submitted documents, that no bald eagles were found or observed on Galloo Island."

The judge ruled against Apex saying "When an applicant withholds information regarding the environmental conditions in a siting application and those conditions are relevant and material to the agencies' review of the application and negotiation of stipulations and studies to be performed, it raises serious questions about the applicant's character and fitness."

The list of unethical behavior by Apex just continues to grow. Do you want to trust that Apex will be an honest and responsible partner for a project that will have a significant impact to the environment and citizens of Botetourt County? Apex refuses to provide the wind data so that an independent analysis can be performed to determine whether their claim of the amount of energy that will be produced is true. This is such a simple request, yet Apex refuses to provide it. What are they hiding?

Conclusion

I hope you will carefully read this letter and the attached documents. I would ask that you then explain to the residents of Botetourt County and the surrounding areas how this process has been legal, ethical, and in the best interests of the public. Given the background in this case, and Apex's national record, how can Botetourt County give Apex permission to destroy North Mountain? When Botetourt County is being sued because a resident has developed heart problems from infrasound or because a resident cannot sell their house, or the process itself is being challenged are these the facts that Botetourt County wants on display, are these the actions the County can afford to defend?

Thank you,

Jeff Scott
Virginians for Responsible Energy

Attachments:

1. Combined attachments 1 through 17

Cc:
Gary Larrowe
David Moorman
Cody Sexton
Susan Fain

Attachments for Comments to Supervisors, May 26, 2020

Attachment 1 – Letter from Jonathon Miles, JMU CASE

Attachment 2 – Apex and Madison Vision Fund, Youth Educational Program

Attachment 3 – Heidi Alsbrooks Resume (from Linkedin.com)

Attachment 4 – GreenLight Energy bought by British Petroleum

Attachment 5 – BP builds MET tower on North Mountain

Attachment 6 – March 16 email from Heidi Alsbrook to Nicole Pendleton

Attachment 7 – December 20, 2019 email from Jeff Scott (VRE) to Nicole Pendleton

Attachment 8 – VRE marked up Wind Ordinance

Attachment 9 – March 11 email from Nicole Pendleton to VRE (Claunch, Neas, Scott)

Attachment 10 – April Legal Notice in Fincastle Herald

Attachment 11 – April 23 email from VRE to Nicole Pendleton

Attachment 12 – May 4 FOIA request to Cody Sexton

Attachment 13 – March 2 email from Nicole Pendleton to Charlie Johnson (Apex)

Attachment 14 – March 10 email from Nicole Pendleton to Southeastern Wind Coalition (SEWC) and Jonathan Miles, JMU CASE

Attachment 15 – March 24 email from Nicole Pendleton to Charlie Johnson

Attachment 16 – Letter from Jeff Scott to Botetourt County on Apex business practices

Attachment 17 – Court filing against Apex and WEST re: Gallo Island

Attachment 1

Ms. Nicole Pendleton
Director of Community Development
Botetourt County, Virginia

21 April 2020

Dear Ms. Pendleton:

I am pleased to offer the following comments on behalf of the Center for the Advancement of Sustainable Energy (CASE) at James Madison University. As you are well aware, CASE engages in efforts that support education, involve outreach, and advance research in fields pertaining to sustainable energy, and one of our centerpiece activities is to assist localities in evaluating the opportunities and challenges associated with renewable energy projects proposed by industry. Our center provided guidance and assistance to your community several years ago as you were developing the original utility-scale wind ordinance for Botetourt County, and we are pleased to do so again. It is our mission to serve communities such as yours as an honest broker of information relevant to sustainable energy development, and to provide access to resources that will aid in your decision-making process.

I have reviewed the original utility-scale wind ordinance approved in 2015 as well as suggested modifications to the ordinance that would provide accommodations for wind turbines taller than originally proposed. Since 2015 wind power technologies and practices have advanced significantly, with projects especially in the Mid-Atlantic and Southeast now favoring taller towers and larger-diameter rotors. Such turbines provide important benefits to the developer and operator of a project as well as to the community in which a project is constructed. A Rocky Forge wind power plant as redefined with taller turbines will result in (i) a more robust economic outlook; (ii) reduced operating and maintenance costs; (iii) reduced impacts on the environment and the surroundings during installation and operations; and (iv) visual impacts comparable to or even less intrusive by some measures than those presented by the project as originally approved.

By my own estimation, Apex has operated in good faith and in the best interests of the community throughout their engagement with Botetourt County and continues to do so. As the Rocky Forge wind project was already permitted by the county and the state, Apex was positioned to proceed with construction once agreements were struck in late 2019 with Dominion Energy and the Commonwealth of Virginia. Apex opted instead to pursue the installation of taller turbines than were originally planned. Had Apex taken the more expedient route of developing the project as originally approved, I would have been critical of them for neglecting to pursue the opportunity to install the very best technology available today. I am therefore impressed by their willingness to assume significant risk and cost to ensure that the first utility-scale wind power plant in Virginia offers the best performance possible. This reflects well on their commitment to the citizens of Botetourt County.

CENTER for the ADVANCEMENT of SUSTAINABLE ENERGY
JAMES MADISON UNIVERSITY

Jonathan Miles, Ph.D.
Executive Director,
Research Manager

Remy Pangle
Director,
Education Manager

Dustyn Vallies
Outreach & Deployment Manager

Grace Mauro
Events & Communications Manager

540.568.8770 (office)
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http://www.jmu.edu/CASE
CASEJMU@gmail.com

1401 Technology Drive
Suite 120, MSC 4905
Harrisonburg, VA 22807

I applaud Apex and your community for the outstanding example you present to the citizens of Virginia by virtue of your cooperative and thoughtful approach. This effort is particularly timely, given that Governor Northam has within the past week signed legislation that establishes, for the first time in Virginia history, a mandatory renewable portfolio standard, and sets the goal for Virginia to produce 100% of its power carbon-free by 2050.

The Rocky Forge wind project is a crucial first step toward establishing land-based, utility-scale wind power in Virginia, a clean energy sector that will be of utmost importance if we are to meet the 2050 goal. Botetourt County will earn a debt of gratitude for its contribution toward advancing Virginia toward a cleaner energy future.

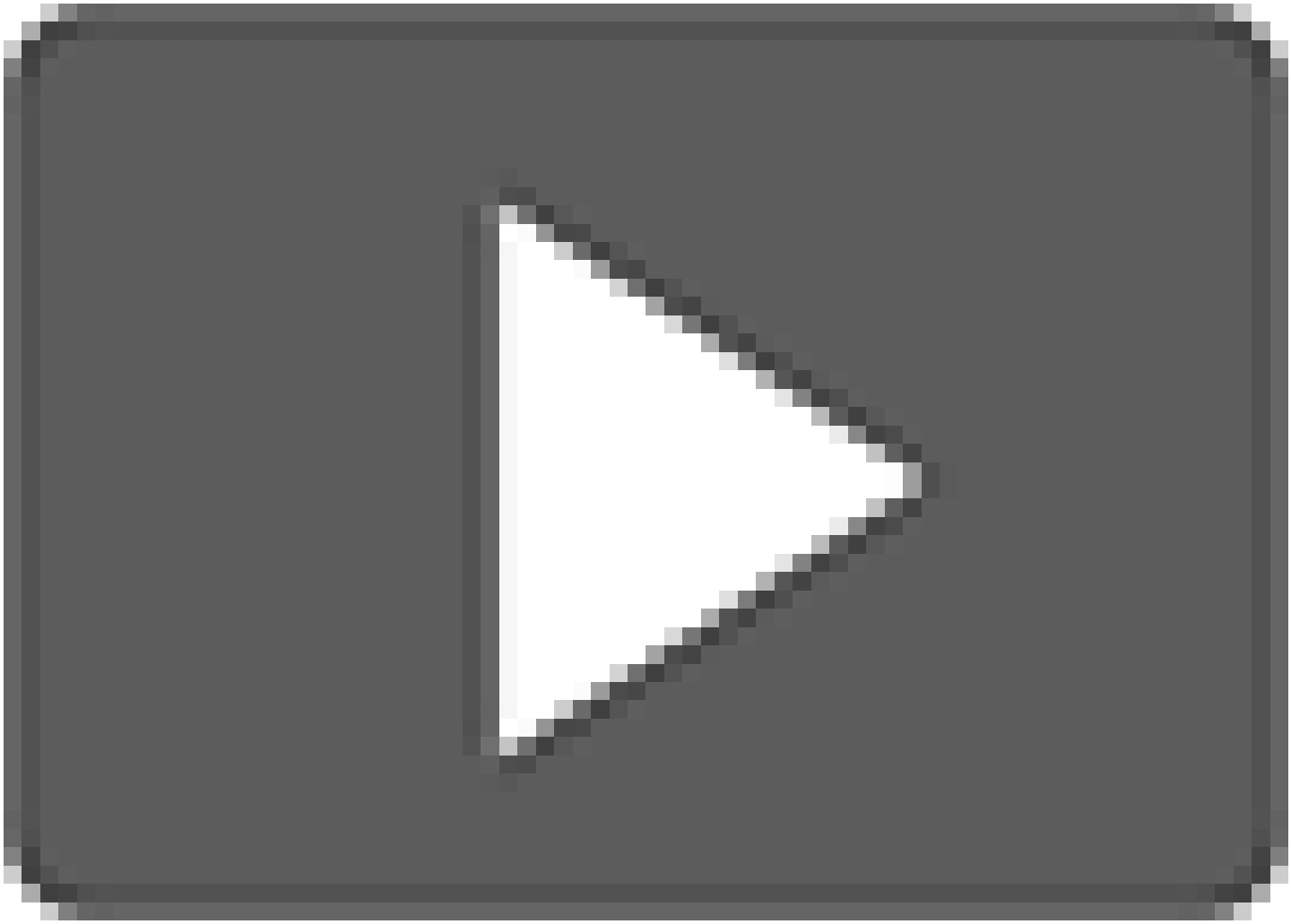
Sincerely,

Jonathan Miles
Professor, School of Integrated Sciences, JMU
Executive Director, Center for the Advancement of Sustainable Energy, JMU

Attachment 2

Madison Vision Fund: K-12 Wind Education

March 17, 2020



Energizing the Future

"As director and education manager for the
Center for the Advancement of Sustainable Energy
(CASE), I am responsible for delivering
education
materials to students and teachers around the state of Virginia.
I recieved a $5000
Faculty Senate Mini-grant
in 2018 to grow our renewable energy classroom kit library
network to include one additional satellite kit location in the
Abingdon area (potentially the Southwest Virginia 4-H
Educational Center) and providing each current kit location
with additional kits to include solar energy education
ɔurces."

"After an extensive

inquiry
I ended up talking with the Virginia Cooperative Extension (VCE) about housing the kits at the 4H centers across the state. The VCE was very excited about the prospects and I presented at the VCE conference at Natural Bridge in 2018 to the STEM subgroup and worked on an Action Plan that agents could buy into. In February 2019, I co-presented a webinar at the Winter Conference for VCE about the Action Plan and the kits. We surveyed the 4H directors about which kits they would like and then we scheduled a training workshop for agents in Charlottesville at the offices of Apex Clean Energy in March. Trainers got hands-on experience with the kits and got a tour of the Apex Remote Operations Control Center where they are actively monitoring their wind and solar projects all over the US. Some agents even took some kits back to their region."

"The CASE is now in the midst of distributing the remaining kits to the 4H centers, scheduling training for their staff, local agents, and local teachers, and scheduling a wind or solar Challenge at each Center in the Spring. We had an intern over the summer that helped to get all the kits completed and also out
together the lesson plans and SOL correlations for each kit. The Madison Vision Fund dollars that support the Faculty Senate Mini-Grant program supported my project and led to an amazing partnership with VCE that we hope will extend for years to come."

Remy Pangle ('99)

"

Recieving
this mini-grant initiated
discussions with the current
satellite kit locations that
resulted in
an new
understanding that better
locations to promote the kit
loans were needed. My
work resulted in increased
collaboration with our wind
and solar energy partners
to support the staff and
teachers using the wind kits
across Virginia."

Advancement Gifts & Records

220 University Blvd.

MSC 3603

Harrisonburg, Virginia 22807

giving@jmu.edu

·568-4483

SECONDARY

JAMES MADISON UNIVERSITY
800 SOUTH MAIN STREET
HARRISONBURG, VA 22807
CONTACT US

Attachment 3

Heidi Alsbrooks

Renewable Energy Analyst at The Antares Group

Charlottesville, Virginia Area · 125 connections

ANTARES Group Incorporated

University of Virginia

About

Evaluation of technical and economic potential of specific applications of various renewable energy technologies.

GIS modeling and analysis of environmental conditions, c
siting optimization.

Assessment of potential impact of renewable energy poli

Experience

Renewable Energy Analyst

ANTARES Group Incorporated

Heidi Alsbrooks

Wind Resource Analyst

BP

Aug 2006 – Dec 2007 · 1 year 5 months

Wind resource analyst with BP Alternative Energy's Global Wind Resource Assessment Team.

Development Analyst

Greenlight Energy Inc

Feb 2004 – Aug 2006 · 2 years 7 months

Wind project development analyst for privately-owned utility-scale wind developer.

Education

University of Virginia

BS · Architecture

James Madison University

MS · Integrated Science & Technology

Licenses & Certifications

Certified Energy Manager

Association of Energy Engineers

Issued Nov 2016

Groups

Association of Energy Analysts

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Heidi Alsbrooks
Renewable Energy Analyst at The Antares Group

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Hilary Grimes-Casey
Energy Efficiency Program Specialist

Stephanie Van Kempen
Wind Resource Assessment Technical Leader

Kevin Petty
Former Energy Analyst at Ameresco

Kaitlin Marin
Energy Analyst at REC Solar

Ross Oakley
Senior Program Manager at CLEAResult

Attachment 4

BP TO BUY GREENLIGHT ENERGY INC.

Charlottesville, VA – August 15, 2006 – BP has reached agreement to buy Greenlight Energy Inc., a U.S. based developer of wind power generation projects. The purchase will allow BP to accelerate its plans to develop a leading wind power business in North America.

BP will acquire all the shares of Greenlight Energy for consideration of over $100 million. The companies expect to complete the transaction in the third quarter of this year.

Greenlight is a developer of large-scale wind energy projects across the United States. Founded in 2000 and based in Charlottesville, Va., the company has a portfolio of some 39 mature and early stage development projects across the U.S., with a potential total power generating capacity of 6.5GW. This portfolio contains a number of projects that BP expects to be able to build over the next five years.

The purchase will further accelerate the rapid growth of BP's U.S. wind power business, a key part of BP Alternative Energy, the company's low-carbon power generation business. Last month, BP Alternative Energy announced it had reached agreement with the wind project developer and turbine manufacturer Clipper Windpower to acquire a 50 per cent stake in a 2GW wind development portfolio in the U.S. as well as an agreement for the supply of turbines with a generating capacity of up to 2.25GW over the next five years.

"This purchase gives BP Alternative Energy immediate access to a large number of high quality wind development projects across the country, including a number of projects we expect to be able to build over the next few

including a number of projects we expect to be able to build over the next few years," said Steve Westwell, chief executive of BP Alternative Energy. "We look forward to working closely with the Greenlight team, who have built the company over the past six years." "Greenlight went through a rigorous process to find a strategic partner that would enable the company to accelerate the development of projects in our pipeline," said Matthew Hantzmon, managing director of Greenlight Energy. "The strategic mandate of BP Alternative Energy is a perfect fit to scale up our business and enable the build-out of Greenlight's portfolio."

Background Information

Greenlight Energy is a developer of large wind energy projects in the United States. The company's portfolio is comprised of large scale projects, spread widely across the U.S. The company's strategy has been to invest in new projects at the earliest stage and to advance them to successful construction and operation.

BP Alternative Energy, launched in November 2005, combines all of BP's interests in zero- and low-carbon power generation: wind, solar, hydrogen power projects and gas-fired power generation. BP expects to rapidly grow BP Alternative Energy to become a material contributor to the company's performance and anticipates investing up to $8 billion in the businesses during the next 10 years.

Contact

Matt Hantzmon, 434.220.1418

Attachment 5

The Fincastle Herald & Botetourt County News

Breaking News, The Fincastle Herald, Uncategorized

BP needs SEP to collect wind data on North Mountain near Eagle Rock

July 28, 2010

BOTETOURT – BP (British Petroleum), the beleaguered operator of the Deep Water Horizon oil rig in the Gulf of Mexico, has an interest in seeing what the wind is like on North Mountain in the northern part of Botetourt County.

The company has been collecting meteorological data—primarily wind speed and direction—through its BP Wind Energy division since April 2009 to determine if the mountain might be suitable for electricity-generating wind turbines.

The company realized late this spring it needed a special exceptions permit (SEP) for the 198-foot pole it erected on the crest of the mountain that runs in a northeasterly direction and straddles the Botetourt/Rockbridge County line.

The meteorological pole or tower is on 4,350 acres owned by the Jerry Fraley family as part of the Fraley Family Restated Irrevocable Dynasty Trust.

When BP Wind Energy realized it needed an SEP, the company notified the county

Planning and Zoning Office, Zoning Administrator Chuck Supan said. That started the procedure for the company to apply for the SEP.

The tower is more of a pole, Supan said. It has just a 4-inch base, but its height is what is out of compliance with the county code that allows structures not taller than 40 feet without an SEP on property zoned Forest Conservation Districts.

The tower is held up by guide wires, and, essentially, isn't visible because of how remote the mountain is.

Jerry Fraley has expressed an interest in wind energy in the past. He is a coal operator in Big Stone Gap and has owned much of North Mountain for several years. He manages the land for wildlife habitat and hunting, although he has had at least two proposed commercial ventures involving part of the property fall through in recent years.

In 2005, Nestle tested a spring on the property that's off Dagger Springs Road and the Bluegrass Trail north of Eagle Rock. Nestle was searching for a source of spring water to bottle and sell.

The spring showed signs of surface water infiltration and would not work for the beverage bottling giant.

Two years later, General Shale was interested in establishing a shale quarry on another part of the property farther north off US 220. Neighbors opposed that proposal and it died.

BP Wind Energy is a part of BP Alternative Energy. The wind energy component of the multi-national company has wind farms in seven states in the U.S. where it produces electricity for sale to electric utilities.

The company also has interests and supports research into other alternative energy sources. It has a solar power division, biofuels division, hydrogen power division and is interested in carbon capture and storage (CCS), a process of reducing carbon in the atmosphere by capturing it and storing it in underground geological spaces that would hold it.

Earlier this year, Botetourt officials dealt with the county's first wind generating turbine or windmill that was higher than 40 feet.

The planners and Board of Supervisors approved the 60-foot windmill for a single-family home, but not without some concern from neighbors and with stipulations.

As the planners were going through that process, Planning Commission Chairman Chris Whitely suggested the county become "proactive" so the county is ready to deal with wind energy, or wind farms in the future.

At the time, Roanoke County was learning more about a proposed windmill farm on Poor Mountain in south Roanoke County.

At the time, Whitley said the issues that arise from wind farm development don't come from the utility companies that buy the power, but from developers who may not have a lot of experience with wind farms.

He said the wind turbines themselves can be massive—400 feet or more, with 40-foot foundations in the ground—but there are roads and other infrastructure such as the interconnect substations that go along with developing ridgeline wind farms.

He said both sides of the wind turbine issue have valid arguments.

Associate Planner Jeff Busby has been designated the "wind farm expert" in the planning office and he had already started looking at ordinances in other communities that might work in Botetourt and some of the issues that may arise with wind farms.

Supan said his office hoped to be ready for a workshop for the planners on the matter this year.

Busby and Associate Planner Tim Ward said Botetourt only has two mountainous areas that have enough wind to be considered for wind farms. That's according to James Madison University's wind energy survey of Virginia.

One area is the Fraley property on North Mountain and the other is along the Blue Ridge on federally owned land.

The planners have scheduled a public hearing on BP's SEP request and a text amendment request on Monday, Aug. 9 at 6 p.m. in the Old General District Courthouse in Fincastle. The supervisors are scheduled to hear the requests at their regular meeting on August 24.

More Recommended Stories

Masked Man Is Missing Sports

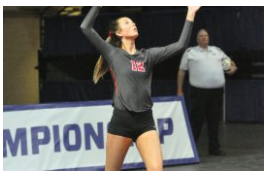
Who Is That Masked Man Pictured.

Girls Soccer Teams Had High Hopes

The Lord Botetourt And James River.

Lord Botetourt Players Were On College Teams When Pandemic Cancelled The Baseball Season

Four Lord Botetourt High Graduates Were.



Clark Will Play At Roanoke College

Lord Botetourt Senior Ryanna Clark Has.

Bass Fishing Hall Of Fame Encourages “Social Distancing” While Fishing

SPRINGFIELD, Mo.- The Bass Fishing Hall.

Pandemic Potpourri

By Brian Hoffman – Sports Editor.

Boys’ Soccer Teams Missing Out On Spring Season

Botetourt County High School Athletic Teams.

MARSHALL, Gerald A.

Gerald Alexander Marshall, 81, Of Buchanan,.

Half A Foot Is Enough

I Was Sad To See Former.

Salem Red Sox Raise Over $1,700 For Non-Profits

The Salem Red Sox Have Raised.

Fincastle Herald

Attachment 6

From: Alsbrooks, Heidi
To: Pendleton, Nicole
Subject: RE: Proposed wind ordinance changes
Date: Monday, March 16, 2020 3:46:48 PM
Attachments: image002.png
image003.png

Thank you for the clarification! I admit I am relieved, as some of these proposed changes are rather extreme. Yes, why don't we plan to chat on Wednesday? That will give me time to review what you post and consolidate my thoughts. Let me know if there is a time that works for you.

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Monday, March 16, 2020 2:43 PM
To: Alsbrooks, Heidi <halsbrooks@antaresgroupinc.com>
Subject: Re: Proposed wind ordinance changes

Heidi,

Those changes were part of the public comment received, and that text comes ONLY from the Virginians for Responsible Wind Energy. They do not represent staff's changes at all. At this time, we've not made ANY changes to the existing text. The Folder entitle Apex Public Comments /E Claunch CD, is what we received as marked up text.

I'm working on a new folder that should better organize the text amendment app and the SEP application. I shared it with you but I messed a few things up in attempting to better organize it so give me about 30 minutes or so to fix it....

Let me know if you want to set aside a time to chat in the next day or so.

Thanks!
Nicole

BOTETOURT COUNTY VIRGINIA
C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Alsbrooks, Heidi <halsbrooks@antaresgroupinc.com>
Sent: Monday, March 16, 2020 2:49 PM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: Proposed wind ordinance changes

Nicole-

I have some questions about the proposed ordinance changes. Am I right to assume the yellow text in the "Wind Ordinance Tabs" document is the text of the proposed changes? Can you tell me more about how these changes were developed, and the source for the text? I am unclear whether they are changes that were proposed by someone within the community, or whether this is the specific text that is being considered by the county.

Best,
Heidi

ANTARES Group Incorporated

Heidi Alsbrooks, CEM
Senior Project Manager
Office: (301) 731-1900 ext. 701
Cell: (434) 825-9758
Bio | LinkedIn |
antaresgroupinc.com

Attachment 7

From: planning
Sent: Tue, 31 Dec 2019 22:10:42 +0000
To: Jeff Scott
Subject: Re: Question on WInd Ordinance

Hi Mr. Scott,
I can meet on Thursday afternoon-say 2 or 3 pm? Please let me know if that works. I hope you have a Happy New Year.
Take care,
Nicole Pendleton

From: Jeff Scott <jeff@virginiansforresponsibleenergy.org>
Sent: Sunday, December 29, 2019 12:05 PM
To: planning <planning@BOTETOURTVA.GOV>
Subject: RE: Question on WInd Ordinance

Ms. Pendleton,
Thank you for this information, and yes, I would be interested in having a meeting with you to talk about the process. If possible, would we be able to schedule a meeting this week? I know the New Year's Holiday on Wednesday and other end of year commitments might make that difficult. Thursday or Friday would be best for me, and afternoons are better than mornings, but just let me know what your availability is, and we'll go from there.

Thanks again,
Jeff

From: planning [mailto:planning@BOTETOURTVA.GOV]
Sent: Friday, December 27, 2019 3:28 PM
To: Jeff Scott <jeff@virginiansforresponsibleenergy.org>
Subject: Re: Question on WInd Ordinance

Good afternoon Mr. Scott,

The application fee for a text amendment is a flat $200. Multiple changes can be submitted and the form that you mentioned is correct.

Would you be interested in chatting over the phone or meeting about the process? If so, please let me know and I'd be happy to set something up.

I hope you have a nice weekend,

Nicole Pendleton

From: Jeff Scott <jeff@virginiansforresponsibleenergy.org>
Sent: Monday, December 23, 2019 10:02 AM
To: planning <planning@BOTETOURTVA.GOV>
Subject: RE: Question on WInd Ordinance

Ms. Pendleton,
Sorry for this extra email, but I forgot to ask how much the application fee is for text changes. Is it a fixed fee, or does it depend on the number of changes?

Thanks,
Jeff Scott

From: Jeff Scott [mailto:jeff@virginiansforresponsibleenergy.org]
Sent: Friday, December 20, 2019 4:53 PM
To: 'planning' <planning@BOTETOURTVA.GOV>
Subject: RE: Question on WInd Ordinance

Ms. Pendleton, thank you for your prompt response. I looked on the County website for the application, and I see the one titled “Planning Commission Application”. Item 3 is titled as “Text Amendment” so I think it is the right form. Can multiple changes be submitted with a single application?

Thanks again,
Jeff Scott

From: planning [mailto:planning@BOTETOURTVA.GOV]
Sent: Friday, December 20, 2019 3:36 PM
To: Jeff Scott <jeff@virginiansforresponsibleenergy.org>
Subject: Re: Question on WInd Ordinance

Hello Mr. Scott,

The procedure for the citizen-initiated text amendment can be found on the website for the county code:
https://library.municode.com/va/botetourt_county/codes/code_of_ordinances?nodeId=COCO_CH25ZO_ARTVPRAD_DIV6SPDEAP_S25-581.2ZOORTEAMWNIT

The application is filed in my office and then it is transmitted by my staff to the Board. The Board decides, whether to refer the item to the Planning Commission and when they would want the Planning Commission to bring back a recommendation.

I hope that helps to explain the process in more detail. Please let me know if I can answer any other questions,

Nicole Pendleton

From: Jeff Scott <jeff@virginiansforresponsibleenergy.org>
Sent: Friday, December 20, 2019 10:50 AM
To: planning <planning@BOTETOURTVA.GOV>
Subject: Question on WInd Ordinance

Dear Ms. Pendleton,

I attended yesterday's Board of Supervisors meeting where Apex Clean Energy requested that changes be made to the county's Wind Ordinance. I tried to write down the process that is followed to do this, but I'm not sure I got it all written down correctly. Could you provide me with the steps involved in having changes made to the zoning ordinance? Also, can a citizen request that a change be made? And if so, does the request need to be made to the BOS first, or can it go directly to you?

Thank you,
Jeff Scott

Attachment 8

Sec. 25-446. - Wind energy systems.

(a) *Purpose.* The purpose of this section is to establish requirements for construction and operation of wind energy systems and to provide standards for the placement, design, construction, monitoring, modification, and removal of wind facilities; address public safety, minimize impacts on scenic, natural, and historic resources; and provide adequate financial assurance for decommissioning.

(b) *Applicability.* This division shall apply to all wind energy systems constructed after the effective date of this division, including any physical modifications to any existing wind facilities that materially alter the type, configuration, or size of such facilities or other equipment.

(c) *General requirements.*

(1) All wind energy systems, temporary meteorological towers (MET), and wind turbines, including but not limited to their associated electrical and mechanical components, shall conform to relevant and applicable local, state and federal codes, including, but not limited to, safety and performance codes.

(2) A building and zoning permit is required prior to the initiation of construction of any and each component of a wind energy system or a temporary meteorological tower (MET).

(d) *Temporary meteorological tower (MET) or wind monitoring tower requirements; by right.* A temporary meteorological tower is permitted as a use by right in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Height.* A temporary meteorological tower shall not exceed one hundred and ninety-nine (199) feet in height.

(2) *Lot or parcel size.* No temporary meteorological tower shall be permitted by right on a lot or parcel smaller than five thousand (5,000) acres in size.

(3) *Setbacks.* A temporary meteorological tower shall be setback a distance at least equal to four hundred percent (400%) of the total structure height from any property line.

(4) *Lighting.* A temporary meteorological tower shall not be artificially lighted unless required by the FAA or appropriate authority.

(5) *Maximum period of special exception permit.* A temporary meteorological tower is intended to be a temporary structure and any approved permit shall be valid for a period that does not exceed twenty-four (24) months.

(e) *Temporary meteorological tower (MET) or wind monitoring tower requirements; special exception.* A temporary meteorological tower must obtain special exception permit approval in accordance with section 25-583 of this chapter in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Height.* A temporary meteorological tower shall not exceed one hundred and ninety-nine (199) feet in height.

(2) *Lot or parcel size.* No temporary meteorological tower shall be located on a lot or parcel smaller than two (2) acres in size.

(3) *Setbacks.* A temporary meteorological tower shall be setback a distance at least equal to one hundred and ten percent (110%) of the total structure height from any property line or a distance at least equal to one hundred and fifty percent (150%) of its total height from the nearest occupied building on a non-participating landowner's property.

(4) *Lighting.* A temporary meteorological tower shall not be artificially lighted unless required by the FAA or appropriate authority.

(5) *Maximum period of special exception permit.* A temporary meteorological tower is intended to be a temporary structure and any approved permit shall be valid for a period that does not exceed twenty-four (24) months.

(f) Reserved.

(g) Reserved.

(h) Reserved.

(i) Reserved.

(j) Reserved.

(k) Reserved.

(l) *Utility scale wind energy system requirements.* A utility scale wind energy system must obtain special exception permit approval in accordance with section 25-583 of this chapter in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Energy capacity.* Utility scale wind energy system shall include all such systems that have a rated capacity of one megawatt (1 MW) or greater.

(2) *Lot or parcel size.* The minimum lot size for a utility scale wind energy system shall be five (5) acres per turbine.

(3) *Turbine height.* The individual turbines shall not exceed five hundred and fifty (550) feet in height, as measured from the ground to the highest vertical portion of the blade when fully extended. The system height established through a special exception permit shall supersede any other height requirement in the zoning ordinance.

(4) *Setbacks.* Wind turbines, post construction meteorological towers and other associated towers shall be set back a distance at least equal to one hundred and ten (110) percent of its total height from all adjacent non-participating landowner's property lines and a distance equal at least to one hundred and fifty (150) percent of its total height from the nearest occupied building on a non-participating landowner's property. Wind energy systems shall meet all setback requirements for primary structures for the zoning district in which the wind energy system is located in addition to the requirements set forth above.

(5) *Separation.* The minimum distance required between turbines shall be no less than one hundred and fifty percent (150%) of the total structure height.

(6) *Commission permit.* A commission permit in accord with Section 15.2-2232 of the Code of Virginia shall be required prior to or in conjunction with any special exception approvals that may be required by the district regulations of this chapter.

(7) *Verification of equipment.* The utility scale wind energy developer shall submit the type of turbine proposed to be installed. Evidence shall be provided in the application that the specified turbine has been in constructed and operated successfully in similar field conditions as proposed in the Special Exception Permit for a period of five years prior to their installation. (See Tab A)

(m) Reserved.

(n) Reserved.

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(1) *Siting requirements.* The requirements for siting and construction of all wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more shall include the following.

(2) Wind energy system towers shall be of monopole design and shall be painted a non-reflective unobtrusive color such as white, off-white or gray that blends with the surrounding environment and prevents glint, unless Federal Aviation Administration (FAA) standards require otherwise. The planning commission and board of supervisors may approve any other color that is deemed to be less visually obtrusive.

(3) Wind energy system towers shall not be artificially lighted unless required by the FAA or appropriate authority. If lighting is required, the owner or operator shall provide a copy of the FAA determination to establish the required markings and/or lights for the wind turbines. Lighting of other parts of the wind energy project, such as appurtenant structures, shall conform to the requirement for outdoor lighting in article IV, division 5.

(4) No tower should have any sign, writing, or picture that may be construed as advertising. Appropriate warning signage shall be placed on wind turbines, electrical equipment, and wind energy systems project entrances. All signs, flags, streamers or similar items, both temporary and permanent, are prohibited on turbines except as follows:

(a) Manufacturer's or installer's identification on the wind turbine.

(b) Appropriate warning signs and placards.

(c) Signs that may be required by a federal or state agency.

(d) Signs that provide a 24-hour emergency contact phone number and warn of any danger.

(e) ~~Audible sound from a wind energy system shall not exceed sixty (60) decibels, as measured from any adjacent non-participating landowners' property line. This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation.~~ *Audible sound.* During the daytime, audible sound from a wind energy system shall not exceed 60 L_{max} dB or 45 L_{Acq} dB(A), or A-weighted decibels, outside the nearest non-participating landowners' occupied building. At nighttime, or at all times inside the nearest non-participating landowners' occupied building, audible sound from a wind energy system shall not exceed 45 L_{max} dB or 30 L_{Acq} dB(A). This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation. The Planning Commission retains the authority to require that all noise surveys, measurements, studies, and reports, both pre-construction and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind energy system developer.

(f) *Inaudible Sound and/or Vibration.* Inaudible sound or noise from wind-energy systems consists of both low-frequency noise (LFN or infrasound) and amplitude modulation noise (AMN). Wind-energy systems shall not create vibrations that are detectable by humans within non-participating landowner's homes. The applicant shall provide acoustic modeling at the time of application estimating low-frequency vibrations for both participating and non-participating landowners. Near-field and far-field inaudible sound levels shall be estimated from the closest non-participating landowner's occupied building using the dB(G) weighting scale and IEEE 2400-2016, *IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques.* The modeling study of low-frequency sound and vibration shall demonstrate meeting: (1) ANSI S12.9/Part 4-2005 Annex D threshold for minimal annoyance and beginning of rattles from outdoor low-frequency noise and (2) the ANSI S12.2-2019 sound level limits for moderately perceptible vibration and rattles within homes as modified to equivalent outdoor sound limits in Table 2, page 139 of the March-April, 2011 Noise Control Engineering Journal article by O'Neal, et al. Source (2) shall be used to determine if outdoor sound levels will create perceptible vibration or low-frequency problems indoors. If the post-construction sound survey outdoor octave-band sound-level measurements reveal that low-frequency sound from wind turbines at the exterior of an occupied or non-occupied building of a non-participating landowner may create a vibration or low-frequency noise problem, then further studies shall be conducted to assess the

problem. The further studies shall use the above referenced ANSI and IEEE standards. If the further study indicates that the low-frequency sound/vibration exceeds acceptable levels, mitigation shall be required by the Planning Commission. Mitigation may include operational changes to the turbine(s), modifications to the subject building or buildings, or other measures as determined by the Planning Commission and paid for by the wind-energy facility owner. No wind-energy system shall generate or permit to be generated any inaudible sound or vibration in the low-frequency range of 0.1 to 20 Hz, including the 1, 2, 4, 8, and 16 Hertz octave bands that is perceivable by human sensation or exceeds a level of 50 dB(G) at any time and for any duration either due to impulsive or periodic excitation of structure or any other mechanism at a non-participating landowner's property line or at any point within a landowner's property.

(g) *Sound and Noise Characteristic Education.* The characteristics of any and all wind turbine sounds and noises, both audible and inaudible, shall be described in terms of frequency of occurrence, when it will occur, duration, tonal quality, and range of loudness. In addition to a written description, the applicant shall provide a recording or video of the various operational sounds or some other form of demonstration. A copy of all educational materials shall be provided to the Planning Commission at the time of application. Failure to provide information on all known or predictable sounds and noise, both audible and inaudible, occurring from the operational wind-energy system facility (including but not limited to blade yawing, cooling systems, hydraulics, amplitude modulation noise, wind buffeting, electrical transformers) may result in a violation of the special land use. Along with all educational materials, the applicant shall provide the measures, if any, that are proposed for implementation to mitigate these sounds and noises. The Planning Commission may require the applicant to implement measures to mitigate and/or eliminate an operational sound (other than the spinning blades). (See Tab B)

(h) The minimum distance between the ground and any protruding blades utilized on a wind energy system shall be fifteen (15) feet, as measured at the lowest point of the arc of the blades. The lowest point of the arc of the blade shall be ten (10) feet higher than the tallest peak of any structure within one hundred and fifty (150) feet of the base of the tower.

(i) Wind energy systems shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the wind energy system.

(j) The base of the tower shall not be climbable for a distance of fifteen (15) feet above ground surface.

(k) All access doors to wind turbines and electrical equipment shall be locked or fenced, as appropriate, to prevent entry by unauthorized persons.

(l) A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

(m) Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the wind energy system. Adherence to erosion and sediment control regulations is required. The restoration of natural vegetation in areas denuded for construction activities shall be required so long as the restored vegetation does not interfere with the operation of the wind energy system or the maintenance thereof.

(n) Any on site transmission or power lines shall be placed underground, unless written evidence is provided, satisfactory to the board of supervisors during the special exception permit process, demonstrating the need for transmission or power lines to be placed above ground.

(o) Utility scale wind energy systems shall be prohibited from being constructed in the designated Special Project Area Wildlife Corridor. (See Tab C)

(5) Local, federal and state requirements:

(a) Wind energy systems must comply with applicable FAA regulations.

(b) Wind energy systems shall be designed, constructed and operated without significant adverse impact ~~to fish, wildlife~~ on wildlife (defined as non-domesticated mammal, bird, reptile, amphibian, fish, and invertebrate species) or native plant resources, including ~~fish and wildlife habitat~~ local, regional, and state wildlife habitat and ecosystems, special protection areas, migratory routes, and state or federally-listed threatened or endangered fish, wildlife or plant species, and to meet all applicable state and federal environmental requirements.

1. If such standards and regulations are changed, then the owners and operators of the wind energy systems shall bring such systems into compliance as required by such applicable state or federal agency, following stated deadlines or within 180 days of enactment of the change, whichever is sooner. Failure to comply with federal or state standards and regulations shall constitute grounds for condemnation and removal of the noncompliant systems by the county at the owner's or operator's expense.

2. Before beginning construction, wind energy system developers shall formally participate in the US Fish and Wildlife Service (USFWS) Energy Project Review, including completion of a Habitat Conservation Plan and Eagle Conservation Plan. All projects shall be in receipt of an Eagle Take Permit before construction starts.

3. Technological requirements: wind energy system developers shall retrofit existing wind energy system projects with detection and shutdown systems that provide protection to wildlife listed in Virginia's Wildlife Action Plan, Species of Greatest Conservation Need, and other State and Federal Guidelines regarding migratory bird and bat species. New wind energy systems shall perform up-to-date radar and other detection surveys prior to construction. Technological studies to determine which of the many detection systems available will be selected shall be performed by independent consultants selected, approved by the Planning Commission, and paid for by the wind energy system developer.

4. Compensatory mitigation: in light of evolving federal and state migratory bird statutes, the Planning Commission shall establish a standing $500,000 Wildlife Compensation Fund, funded by the wind energy system developer, to be used to compensate for any loss of wildlife species. Fair compensation and equivalence will be jointly determined by the county and the wind energy project operator, and all payouts from this Fund shall be calculated semi-annually and shall go to bona fide wildlife conservation projects in Botetourt County. (See Tab D)

5. Post construction wildlife mitigation: Bird and bat collision counts and mortality data shall be performed and/or supervised post-construction by independent biologists, using the most current carcass count and collection methods, and conforming to best practices as required in USFWS and Virginia conservation regulations. The county shall hire an independent contractor to perform the regular searching and counting of bird and bat carcasses at the wind-energy operator's expense. Results of the counting shall be made available to the public.

i. Wind-energy project operators, employees, USFWS, lease holders, etc. shall be prohibited from handling, moving, or touching carcasses. Only employees of the independent contractor assigned to perform the searching and counting shall be allowed to handle carcasses.

ii. All scanning for carcasses will require the contractor to use a reasonable and ethical attempt to find carcasses. Formal searches 1 ½ times out from maximum turbine heights shall be scanned for carcasses morning and evening. At least once per week scanning shall include all areas within the required set-back distance from turbine towers.

iii. During searches, every carcass or wounded species found shall be photographed and this information disclosed to the public. In addition, this disclosure will apply for all special status species for the operational life of the wind project.

iv. Any unauthorized removal of carcasses shall be subject to civil penalties. A repeated instance of unauthorized removal of carcasses shall result in the operator of the wind energy project losing the license to operate the wind energy project, and the turbines will be shut down until another operator becomes licensed and takes control of the project. (See Tab E)

(c) Utility scale wind energy systems that generate over five (5) megawatts of electricity shall comply with the Virginia Department of Environmental Quality (DEQ) and Virginia State Corporation Commission (SCC) application regulations and receive all necessary approvals as required, prior to issuance of a zoning and building permit, as required by section 25-571 of this chapter.

(6) ~~Reserved.~~ Property Values. A property value analysis shall be prepared by a licensed appraiser in accordance with the standards of the real estate appraisal industry. The appraiser shall be selected without prejudice by the county, and paid for by the applicant.

(a) The appraisal analysis shall include all properties within a three-mile radius of the boundaries of the project or with visibility of one or more turbines as determined by the visual impact study.

(b) A fund shall be established with the county to cover properties identified in item (a). Based on said appraisal, the fund shall be used to compensate property owners whose selling price is less than the appraised price due to the presence of the utility-scale wind-energy project. The fund shall be in the form of a surety bond in the amount equal to 10% of the total appraised value of all properties in item (a) and paid by the applicant to be held by the county for the life of the wind-energy project.

(c) The applicant shall sign a RESIDENTIAL PROPERTY VALUE GUARANTEE AGREEMENT provided to all property owners as determined in item (a), allowing a property owner to agree or decline to participate in the property value guarantee program. The applicant shall notify all identified property owners via registered mail that such a program exists and include in the mailing the guarantee agreement form and a 90-day time period from the date of notice for an owner to respond. (See Tab F)

(7) ~~Reserved.~~ Economic Impact Analysis Report. The county shall select, paid by the wind-energy applicant, an independent financial organization experienced in performing economic impact analyses. The economic impact analysis report shall cover the entire life-cycle of the proposed wind-energy project, from construction through decommissioning. The report shall be completed prior to construction and be publicly available. (See Tab G)

(8) *Special exception permit required.* Any landowner, in cooperation with the owner and/or proposed operator of any proposed wind energy system with a rated capacity of greater than one hundred kilowatts (100 kW), constructed after the effective date of this ordinance, including any physical modifications to any existing wind energy systems that materially alter the type, configuration, or size of such systems or other equipment, must obtain special exception permit approval in accordance with section 25-583 of this chapter. In addition to the requirements set forth in section 25-583, wind energy systems with a rated capacity of greater than one hundred kilowatts (100 kW) are subject to the following application requirements:

(a) *Project description.* A narrative identifying the applicant and the proposed owner or operator of the wind energy system and a description of the proposed wind project, including an overview of the project and its location; approximate generating capacity of the wind energy

project; the approximate number, types and height or range of heights of wind turbines to be constructed; and a description of ancillary facilities, if applicable. This should include all specifications of the proposed wind energy system, including the manufacturer and model, materials, color and finish, rotor diameters, rated capacity and tower types.

(b) *Concept plan.* Each applicant requesting a special exception permit for a wind energy system shall submit a scaled concept plan, prepared by an engineer with a professional engineering license in the Commonwealth of Virginia, to include the following:

1. The proposed location of all wind energy system structures and components, including all turbines, permanent meteorological towers, ground equipment, transmission lines, utility lines, electrical storage and cabling, collection and supply equipment, transformers, ancillary equipment and other proposed structures. The concept plan should indicate if proposed transmission or utility lines are to be above ground or underground;
2. Property lines, setback lines, access roads and turnout locations, parking, proposed lighting, service areas, any existing or proposed easements and/or rights-of-way, and excavation and fill areas;
3. Proposed heights of all wind energy systems structures. The applicant shall provide evidence that the proposed height of the wind turbines does not exceed the height recommended by the manufacturer or distributor of the system;
4. The location of any public or private road rights-of-way being utilized for or adjacent to the proposed project;
5. The location of existing vegetation and the limits of proposed clearing and grading;
6. Existing tree cover, including average height of trees, on the subject property and on adjacent parcels within the setback distance of any component of the wind energy system;
7. Outline of all existing buildings and their uses on all adjacent parcels within the setback distance of any component of the wind energy system. Include distances from the wind energy system to each building shown;
8. Location of visualization viewpoints as required in this section.

(c) *Wind study.* The applicant shall provide a summary of the wind data gathered for the proposed system with the application, including Wind Rose Diagrams. ~~The dates and periods of the collection of the wind data shall also be submitted.~~ The Wind Rose Diagram will demonstrate the dates, periods of collection, direction, duration, and intensity of the wind. A Wind Rose Diagram shall be provided for each MET tower, for each full year and portion thereof in which a MET tower has collected wind data, for each height of wind sensor mounted on the meteorological tower, from every MET tower within the proposed project area. In addition, the applicant shall provide the Maximum Power Coefficient(s) for the wind turbine model(s) to be used in the project, as well as a Weibull distribution graphic of wind speed for each full year and portion thereof in which a MET tower has collected wind data (to verify the applicant's claim regarding the amount of electricity generated). (See Tab H)

(d) *Visual impact analysis.* The applicant shall demonstrate through project siting and proposed mitigation, if necessary, that the wind energy system minimizes impact on the visual character of Botetourt County.

1. The applicant shall provide accurate, to scale, photographic simulations showing the relationship of the wind energy system and its associated facilities and development to its surroundings. The photographic simulations shall show such views of wind energy structures from locations such as property lines and roadways, as deemed necessary by the county in order to assess the visual impact of the wind energy system.

a. The total number of simulations and the perspectives from which they are prepared shall be established by the zoning administrator after the pre-application meeting.

b. Visual representations shall be in color and shall include actual pre-construction photographs and accurate post-construction simulations of the height and breadth of the wind system.

c. All visual representations will include existing, as well as proposed buildings and tree coverage.

d. The visualizations must be accompanied by a complete description of the technical procedures used to produce the visualization (distances, angles, lens, etc.).

2. The applicant shall also provide scaled elevation views.

(e) *Operation and maintenance plan.* A plan for the operation and maintenance of the wind energy system. The plan should identify and list methods to mitigate any signal interference resulting in the disruption or loss of radio, telephone, television or similar signals or service.

(f) *Environmental inventory and impact statement.* The applicant shall present information regarding any site and viewshed impacts, including direct and indirect impacts to national and state forests, national or state parks, wildlife management areas, conservation easements, or any known historic or cultural resources within five (5) miles of the proposed project. The applicant shall provide evidence of written notification to the office of a national or state forest, national or state park unit, wildlife management area, or known historic or cultural resource sites, if a proposed wind energy system is within five (5) miles of the boundary of said entity.

(g) *Sound study.* A sound study, prepared by an independent acoustical engineer approved by the Planning Commission, ~~to~~ shall provide an assessment of pre-construction and post-construction sound conditions. Additionally, the applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring

1. *Pre-Construction Sound Survey.* A predictive, pre-construction sound modeling study of turbine noise shall accompany an application to verify that ordinance requirements can be met. The sound modeling study must follow the most current version of International Standard, ISO 9613-2 “Acoustics-Attenuation of sound during propagation outdoors – Part 2: General method of calculation.” The sound model used in the study shall incorporate actual wind turbine sound power levels, both audible and inaudible, provided by the wind turbine manufacturer, measured from the identical make and model of wind turbine generator proposed by the applicant. The model of wind turbine generator proposed shall have been operational at a manufacturer’s test site for at least six months, and audible and inaudible sound measurements collected for the entire duration of the manufacturer’s operational test shall be provided concurrently with the pre-construction sound modeling study.

2. *Post-Construction Sound Survey*. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission, and at the expense of the wind energy system owner, within 6 months of the commencement of the operation of the project. The post-construction study shall be performed at the same locations as the pre-construction study unless additional or alternative locations are required by the Planning Commission. The study should generally follow the procedures in the most recent versions of ANSI S12.9 Part 3 (with an observer present) and ANSI S12.18. All sound pressure levels shall be measured with instruments that meet ANSI or IEC Type 1 Precision integrating sound level meter performance specifications. In addition to measuring A-weighted sound levels, at least one monitoring location shall collect one-third octave band data down to 1 Hertz, measured using G-weighted sound levels and following IEEE 2400-2016, IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques. Additionally, the

applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring. The Planning Commission retains the authority to require that all noise surveys, measurements, studies and reports, both pre- and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind developer. (See Tab B)

(h) *Construction plan.* A phasing schedule for the construction of the large wind energy system or utility wind energy system, including the estimated commencement and completion date. Such plan shall identify staging areas, off-site storage facilities, and transportation routes to be used by construction and delivery vehicles, and the gross weight and height of the maximum delivery vehicle.

(i) *Shadow flicker model.* A shadow flicker model, prepared by an independent engineer, that certifies that any wind turbine that is sited within one-half mile of any occupied building on a non-participating landowner's property either avoids shadow flicker on any occupied building or that reasonable efforts to minimize shadow flicker to any occupied building on a non-participating landowner's property shall be made. The model shall include a description of the zones where shadow flicker will likely be present within the project boundary and a one-half mile radius beyond the project boundary, the expected durations of the flicker at these locations and the calculation of the total number of hours per year of flicker at all locations.

(j) *Transportation Impacts:* An analysis of impacts on local transportation shall be prepared, regarding impacts anticipated during construction, reconstruction, modification, or operation of the wind project. Transportation impacts to be considered shall include, at a minimum, potential damage to local road surfaces, road beds and associated structures; potential traffic tie-ups by haulers of wind project materials; impacts on school bus routes; impacts of visitors to the wind project facilities. Local roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(k) *Transportation Plan:* A transportation plan describing routes to be used in delivery of project components, equipment and building materials, and those to be used to provide access to the project site during and after construction. Such plan shall also describe any anticipated improvements to existing roads, bridges or other infrastructure, and measures to restore damaged/disturbed access routes following construction. Roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(l) *Traffic Routes:* Construction of utility scale wind energy projects pose potential risks because of the large size construction vehicles and their impact on traffic safety and their physical impact on local roads.

1**.** Construction and delivery vehicles for large wind projects and/or associated facilities shall use traffic routes established as part of the application review process. Factors in establishing such corridors shall include:

a. minimizing traffic impacts from construction and delivery vehicles;

b. minimizing large wind project related traffic during times of school bus activity;

c. minimizing wear and tear on local roads; and

d. minimizing impacts on local business operations. Permit conditions may limit large wind project related traffic to specified routes, and include a plan for disseminating traffic route information to the public.

2. The applicant is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be

posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads.

3. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing. No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road Prior to placing the large wind energy project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant. (See Tab I)

~~(j)~~(m) *Decommissioning plan.* As part of the project application, the applicant shall submit a Idecommissioning plan, certified by an engineer with a professional engineering license in the Commonwealth of Virginia, which shall include the following:

1. The anticipated life of the project;
2. The estimated decommissioning cost in current dollars;
3. How said estimate was determined;
4. The method of ensuring that funds will be available for decommissioning and restoration;
5. The method that the decommissioning cost will be kept current; and
6. The manner in which the project will be decommissioned and the site restored.

~~(k)~~(n) *Independent review.* Upon submission for a special exception permit for a wind energy system, the county will be authorized to hire an independent consultant to review the application and all associated documents for compliance with this section and any other state and federal codes. Any costs associated with the review shall be paid by the applicant. Any payment of such fees would in no way be a substitute of payment for any other application review fees otherwise required by this chapter.

(o) *Expired/Outdated Wildlife Surveys.* All Permit by Rule pre-construction wildlife surveys conducted by the applicant that are expired, according to Permit by Rule Regulation 9 VAC 15-40-40.A, must be renewed in full at the developer's expense and resubmitted to US Fish and Wildlife Service (USFWS), Virginia Department of Game and Inland Fisheries (VDGIF) and Virginia Department of Environmental Quality (DEQ) for analysis of adverse impacts, for project mitigation or for project abandonment. Additionally, all required pre-construction analyses of Permit by Rule - Section 7, Analysis of Potential Beneficial/Adverse Impacts on Natural Resources, expire three years from the date of study and must be performed again at the developer's expense and resubmitted for evaluation, project mitigation or project abandonment. (See Tab J)

(9) *Monitoring and maintenance.* The owner or operator shall maintain large wind energy systems and utility wind energy systems in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the foundation and support structure and security barrier if applicable, and maintenance of the buffer areas and landscaping if present. Site access shall be maintained to a level acceptable to the chief of fire and emergency medical service. The project owner shall be responsible for the cost of maintaining the large wind energy system and utility scale wind energy system and access roads, unless accepted as a public way, and the cost of repairing damage to private roads occurring as a result of construction and operation.

(10) *Liability insurance.* The owner or operator shall provide written evidence of liability insurance in an amount acceptable to the purchasing utility provider for utility-scale wind energy systems prior to the issuance of a zoning/building permit.

(11) ~~*Emergency response plan .*~~*Public Safety*

(a) *Emergency response plan.* The owner or operator shall coordinate with county emergency services to develop, implement and periodically update, including exercising of, an emergency response plan for the wind energy system.

(b) *Safety Manual.* The Applicant shall provide with the Permit application unredacted copies of the manufacturer's safety manual for each model of turbine constructed in the wind-energy facility, without distribution constraints, to be kept at the (*primary county location*) and other locations deemed necessary by Planning Commission or local first responders. The Manual shall include standard hazard issue and response information for an industrial site such as materials, chemicals, fires, emergency access, safe distances during turbine failure, processes in emergencies, etc. In addition, manufacturer's safety manuals will be made available for review upon request by any resident living within three miles of any Industrial Wind Turbine.

(c) *Reducing Emergency Response Time*. Due to the potential for large wind-energy project locations in areas remote from Fire and EMS services, Fire & EMS first responders require zero communications delay to effectively address emergencies. To minimize risk toward this end, at the operator's sole expense, HDTV cameras shall be permanently mounted and aimed at each turbine, and real-time data feeds for all cameras shall be provided continuously in the County Emergency Communications Center. All HDTV cameras shall be day/night, all-weather, always on, variable zoom and pan-motion capable, with active microphones. County Emergency Communications Center staff shall be capable of listening to, zooming and panning each camera independently and at will, and the County Fire & EMS Chief shall have sole discretion as to mounting and placement of each camera system. Any HDTV camera malfunction noted in the County Emergency Communications Center shall be reported to the operator of the large wind energy project within 24 hours and shall be returned to operational function within 72 hours by the operator at the operator's expense.

(d) *Public Service Costs*. For any public services (police, fire, rescue) required due to operation, maintenance or failure of any item within a wind-energy facility, any costs incurred shall be the sole responsibility of the wind-energy facility owner / operator. (See Tab K)

(12) *Signal interference.* Large wind energy systems and utility wind energy systems shall be sited in a manner that causes no disruption or loss of radio, telephone, television or similar signals or service. If loss or disruption occurs due to the operation of the large wind energy system or utility wind energy system, the owner or operator shall be required to provide appropriate mitigation measures to ensure that the signal or service is restored within twenty-four (24) hours. The owner or operator of a wind energy system may be required to discontinue use until the specified interference has been corrected.

(13) *Remediation of Damaged Roads.* The utility scale wind energy operator is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing. No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road. Prior to placing a large wind project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant. (See Tab I)

~~(13)~~(14) *Abandonment, decommissioning and expiration.* Any wind energy system which has reached the end of its useful life or has been abandoned shall be removed. At such time that a large wind energy system or utility wind energy system is known to be abandoned or discontinued, the owner shall notify the zoning administrator within ten (10) days of such knowledge by certified mail of the proposed date of discontinued operations and plans for removal. The owner or

operator shall physically remove the wind system and restore the site no more than one hundred and fifty (150) days after the date of discontinued operations. This may be extended by up to one hundred and fifty (150) days if a written request is submitted by the landowner and approved by the zoning administrator. Decommissioning of discontinued or abandoned wind energy system shall include the following:

(a) Physical removal of all wind turbine(s) and above-ground appurtenant structures from the subject property including, but not limited to, buildings, machinery, equipment, cabling and connections to transmission lines, equipment shelters, security barriers, electrical components, roads, unless such roads need to remain to access buildings retrofitted for another purpose, or if a written request is submitted by the landowner and approved by the zoning administrator that such roads remain).

(b) Below-grade structures, such as foundations and underground collection cabling, shall be removed to a depth of four (4) feet below ground level or covered to an equivalent depth with fill material; however, these structures may be allowed to remain if a written request is submitted by the landowner and approved by the zoning administrator. Compacted soils shall be decompacted to a depth of four (4) feet.

(c) Restoration of the topography of the project site to its pre-existing condition, except that any landscaping or grading may remain in the after-condition if a written request is submitted by the landowner and approved by the zoning administrator.

(d) Proper disposal of all solid and hazardous waste in accordance with local and state waste disposal regulations.

(e) *Abandonment:* Absent notice of a proposed date of decommissioning, the system shall be considered abandoned when the system fails to operate for more than one year without the written consent of the zoning administrator. The county shall determine at its discretion what proportion of the system is inoperable for the system to be considered abandoned. If the applicant fails to remove the wind energy system in accordance with the requirements of this section within one hundred and fifty (150) days of abandonment or the proposed date of decommissioning, the county or its agents shall have the authority to enter the property and physically remove the system and the costs of such removal shall be at the owner's expense.

(f) Prior to obtaining a building and zoning permit, and on every fifth anniversary of the commencement of the commercial operation of the project, the owner or operator shall provide to the county an estimate of the projected cost of decommissioning as stated in the required decommissioning plan, and as stated in section 25-446(o)(13) above, prepared by an independent engineer with a professional engineering license in the Commonwealth of Virginia.

(g) Based on this determination, the owner or operator shall post a surety bond, cash bond, or an irrevocable letter of credit, in a form approved by the county administrator or the county attorney, in order to ensure removal and decommissioning of the utility-scale wind energy project when it is no longer used for the generation of electricity. Such surety shall be an amount approved by the Zoning Administrator, that is no less than the total estimated cost for decommissioning, removing and restoring the site for the wind energy system as stated above plus ten percent (10%) of said estimated costs as a reasonable allowance for administrative costs, inflation, and potential damage to existing roads and utilities.

(h) The applicant will ensure the surety shall remain in full force and effect until the County has inspected the site and verified the wind energy system has been decommissioned as stated above, at which time the County shall release the surety. The surety shall be binding on subsequent owners of the property or wind energy system. If the property owner or responsible party fails to decommission the wind project or to decommission a discontinued or derelict wind turbine in accordance with this section, Botetourt County may access such surety for the completion of decommissioning and site restoration. Any excess funds that accrue after consideration of salvage value may be returned to the responsible party.

(i) *Expiration:* A special exception permit issued pursuant to this section shall expire if the wind energy system is not installed and functioning within five (5) years from the date the permit is issued; or the wind energy system is abandoned as defined above.

~~(14)~~(15) *Annual report.* Commencing after initial operational capability, the facility owner and operator of each wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more shall submit a report to the zoning administrator once a year, no later than July 1. The report shall state the current ~~user~~ status of the wind energy system, to include total energy generated each month, all failures and turbine down times, all on-site accidents, and a comprehensive list of all local resident complaints and actions taken to mitigate them. (See Tab L.) The yearly report shall include a phone number and identify a responsible person for the public to contact with inquiries and complaints available twenty-four (24) hours a day, seven (7) days a week throughout the life of the facility or turbine.

~~(15)~~(16) *Notice of change in ownership.* Notice shall be provided to the county within ten (10) working days of any change in ownership of the facility.

(Res. No. 15-06-18, 6-23-15)

Attachment 9

Subject: Apologies and rescheduling
From: "Pendleton, Nicole" <npendleton@botetourtva.gov>
Sent: 3/14/2020 8:05:12 PM
To: "jeff@virginiansforresponsibleenergy.org" <jeff@virginiansforresponsibleenergy.org>; "'eclaunch@verizon.net'" <eclaunch@verizon.net>; "SNeas" <SNeas@ecslimited.com>;

Mr. Claunch, Mr. Scott, and Mr. Neas,

I want to first sincerely apologize for wasting your time on Wednesday and not being able to make our meeting. I had to attend to a personnel issue and I apologize again for your travels to Fincastle in my absence.

I also want to take time to apologize for not being able to reach out sooner- as you can imagine, we are working in uncertain times and I've spent the latter part of my week ensuring that my department is able to assist our citizens and business community as best they can in a safe and healthy way for us and for our community the coming weeks.

That being said, I hope that we are able to hold our meeting on Monday, but, I hope that you will concur to meeting via phone or web-conference rather than coming in person to our office. I've set up a conference call (at least, I've tried) and will be working to fine-tune that process Monday.

Please email in the event that you have any issues or see any obstacles in meeting remotely.

I really appreciate your patience and understanding, and again, I do apologize.

Thank you all,
Nicole

BOTETOURT COUNTY VIRGINIA

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

Attachment 10

NOTICE OF PUBLIC HEARINGS OF THE BOTETOURT COUNTY PLANNING COMMISSION

Pursuant to the provisions of Section 15.2-2204 of the Code of Virginia of 1950, as amended, the Botetourt County Planning Commission hereby gives notice of public hearings to be held on Monday, May 11, 2020 at 6:00 P.M. at the Greenfield Education & Training Center, at 57 S. Center Drive, Daleville, Virginia to consider the requests listed below. The Planning Commission will make a recommendation to the Board of Supervisors, which will make a final decision on the requests. Information may be reviewed at the Community Development Office at 5 West Main Street, Suite 112 from 8:30 A.M. to 5:00 P.M., Monday through Friday, and is available online at https://web.botetourtva.gov/bacs/planning-commission/. Please call ahead at 540-928-2080 to make arrangements as our office is currently closed to the public.

In order to meet legal requirements associated with these meetings, the Planning Commission will hold these meetings remotely with the Planning Commission and staff not present together in the meeting room.

For those wishing to view the meeting or comment in person, social distancing measures will be in place at the Greenfield Education and Training Center. These measures will include spaced seating, limited person-to-person contact, and reduced County staff in attendance. Comments will be limited to three minutes.

Anyone wishing to offer comments to the Planning Commission, but who does not wish to attend in person to speak during the meeting will have a number of ways to provide comments to the Planning Commission.

First, those who wish to listen to and/or speak during one of the hearings may call 1.540.300.9110 and enter the code 875778#. An automated operator will answer the call and provide directions for commenting during the hearing. Comments will be limited to three minutes. The line will open beginning at 5.55 PM, on May 11, 2020. This option is only available during the course of the hearing.

Second, written comments are accepted at any time through an online form available at https://web.botetourtva.gov/bacs/planning-commission/

Comments may be accepted for any of the scheduled public hearings. Comments submitted through this on-line form will be provided to the Planning Commission, Board of Supervisors and County Administration. We encourage you to provide comments as soon as possible and in advance of the hearing. This will help ensure that the comments can be incorporated into the meeting's record.

Lastly, comments may be submitted at any time by phone (540.928.2080) or by U.S. Mail to Community Development, 5 W. Main Street, Suite 100, Fincastle, VA 24090.

The Botetourt County Planning Commission will hold a public hearing in accordance with *Chapter 25, Article V, Division 6, Section 25-581.2 - Zoning ordinance text amendment—Owner-initiated*. of the Botetourt County Code for a request to revise *Chapter 25. Article IV. Division I, Section 25-446.-Wind energy systems*. as follows: Amend *(l) Utility scale wind energy system requirements. (3) Turbine height*. to change the maximum turbine height from 550 feet to 680 feet; Amend *Section 25-446. -Wind energy systems (m) Reserved* to add a section to provide a maximum height of 100 feet for equipment and structures for substations and facilities for points of interconnection; and amend *Section 25-446. -Wind energy systems (o)(13)(i) Expiration-* to delete the five-year time limit that a special exception permit for wind energy systems would expire if the system did not become operational.

Fincastle District: Fraley Family Restated Irrevocable Dynasty Trust and Jerry L. Fraley, with Rocky Forge Wind, LLC (a subsidiary of Apex Clean Energy, Inc.), requests a change of conditions to a previously approved Special Exception Permit (SEP) to construct a utility-scale wind energy system in the Forest Conservation (FC) Use District. The project is sited on a portion of three tracts, Tax Parcel #13-2 containing 5,092.14 acres, Tax Parcel #20-3, containing 1,512.526 acres, and Tax Parcel # 20-3A, containing 7.96 acres. Approximately 200 acres located within these boundaries will be utilized for a maximum of 22 wind turbines, and ancillary equipment and the related construction, operation and maintenance of a utility scale wind energy system. The applicants request, as per *Chapter 25, Article IV. Supplemental Regulations, Division 1. Use regulations, Section 25-446. -Wind energy systems* of the Botetourt County Code, to reduce the number of permitted turbines from a maximum of 25 to a maximum of 22, and to modify the existing conditions related to constructing turbines at a taller height to be no greater than 680 feet in height. This project is proposed to be located along approximately 3.5 miles of the southernmost portion of North Mountain, with an entrance generally located on the north side of secondary Route 622 (Dagger Spring Road), approximately 5.2 miles east of the intersection of Route 622 and secondary Route 694 (Gala Loop), to be accessed by a proposed gravel road, identified on the Real Property Identification Maps of Botetourt County as Section 13, Parcel 2, and Section 20, Parcels 3 and 3A.

C. Nicole Pendleton, AICP, CZA, CFM
Director of Community Development

Attachment 11

Subject: Re[2]: Planning Commission Meeting May 11
From: "Pendleton, Nicole" <npendleton@botetourtva.gov>
Sent: 5/10/2020 6:12:24 PM
To: "Jeffrey" <jeff@virginiansforresponsibleenergy.org>;
CC: "SNeas" <SNeas@ecslimited.com>; "Eric Claunch" <eclaunch@verizon.net>; "Goad, Laura" <lgoad@botetourtva.gov>;

Good morning Mr. Scott,

Please see the following response to your email. Thank you!

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Monday, April 27, 2020 11:21 AM
To: Jeffrey <jeff@virginiansforresponsibleenergy.org>
Cc: Stephen L. Neas, P.E. <SNeas@ecslimited.com>; Eric Claunch <eclaunch@verizon.net>
Subject: Re: Re[2]: Planning Commission Meeting May 11

Mr. Scott,

I wanted to let you know that I've received your email, and I hope to be able to respond by the end of the week.

Thank you!

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Jeffrey <jeff@virginiansforresponsibleenergy.org>
Sent: Sunday, April 26, 2020 10:14 PM

To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Cc: Stephen L. Neas, P.E. <SNeas@ecslimited.com>; Eric Claunch <eclaunch@verizon.net>
Subject: Re[2]: Planning Commission Meeting May 11

Dear Ms. Pendleton,

Thank you for your prompt response to my questions. We do have some questions and concerns:

1) In your email you state: "Staff will be presenting recommendations for amendments to the ordinance to the Planning Commission in May as they are advertised and shown on our website. After doing a review of the entire ordinance, staff made recommendations for the changes as advertised." What we see on your website (https://web.botetourtva.gov/bacs/planning-commission/ in the Agendas, Minutes, and Documents section) and advertised are the changes that Apex has requested. We do not see any other changes. So if we correctly understand your statement, ***none*** of the suggested changes made by Virginians for Responsible Energy were deemed suitable for updating the Wind Ordinance, and you and your staff are recommending that only the changes wanted by Apex should be made. This is stunning that the Planning Department appears to be willing to accept everything that Apex wants, without limit. As I have mentioned in previous meetings, the role of our office in land use applications is to ensure that the Planning Commission have the information that they need to make recommendations to the Board, and subsequently the same responsibility to the Board. Please refer to the staff report for information on staff's draft for consideration by the Planning Commission, with one note that those amendments are not identical to the proposed amendments by Apex and Mr. Fraley.
2) To expound on the previous item, why would the Planning Department think it is to the benefit of the county citizens and administration to grant an unlimited lifetime for a special exception permit for industrial wind projects? Changes in technology, research into the impacts of large wind facilities, etc. would be rational reasons why such a permit should have a limited lifetime. The current Wind Ordinance has a 5 year time limit which is appropriate. What are the reasons to make it perpetual? As we discussed in previous meetings, our recommendation was based on other components of the zoning ordinance, which are specific to enabling authority granted to local governments by the Code of Virginia.
3) You also state "These recommendations are based on the fact that the ordinance is structured to give significant oversight to the Board to impose conditions to address potential impacts that it felt should be addressed on a project-specific basis." We understand that to mean that those conditions are part of the Special Exception Permit. When we compare the original January 11, 2016 SEP conditions with the draft 2020 SEP conditions, ignoring the differences for dates and number of turbines, we only see two minor additions. One is adding a condition that requires an SEP amendment (vi. relocating or adding a MET tower). The other is in section 15 (Mitigation), adding item "e. If, after receiving the Project contact's response to such complaint, the zoning administrator determines the complaint is founded and as such, constitutes a violation of the conditions of this Special Exception Permit, or the zoning ordinance, the Developer shall remedy any such nonconformity within a reasonable period of time as determined by the zoning administrator." These are important additions, but given what was submitted as suggested changes to the ordinance, these two additions do not appear to take advantage of the ability to "give significant oversight to the Board to impose conditions to address potential impacts that it felt should be addressed on a project-specific basis". The conditions that you have been referencing were those recommended by the applicant and not those proposed by staff. Those are included as attached to the background report prepared by staff, but can be modified at any time up to the close of public hearing.
4) You state "Many of the topics that we discussed in our series of meetings were forwarded on to Apex and to Antares for further discussion." Please explain to us why you would need to get input from Apex as to whether a particular requirement of the ordinance is acceptable to them. You are supposed to be working to protect the citizens of Botetourt County and not to make it easier or more acceptable for an applicant. It is and has always been our practice to share public comment with applicants so that they may be prepared to answer questions that may come up in public hearing. Two aspects of that statement are:
    a. This situation is analogous to one where a large commercial dog breeder wants to set up shop in Botetourt County with the promise of jobs and revenue. The county then chooses this time to examine and make changes to its ordinances regarding animal breeding operations. If consultation were needed the county would consult with USDA or American Veterinary Medical

Associations for recommendations on best practices. How would discussions with the dog breeder for advice, input, or review of proposed ordinance changes inform ordinance changes in this case? What if the breeder's best practices were inconsistent with USDA and AVMA guidelines? These questions are not a function of land use, nor would animal breeding operations be included in a zoning ordinance for that very reason.

b. When we had our meeting to discuss what we had submitted, you said that you were interested in trying to "generalize" wind ordinance requirements to apply to land use. What input did Apex provide that helped you in that endeavor? I would not have made that statement, but rather, was attempting to explain the different components of the ordinance (general regulations, definitions, required documents as part of the SEP process, and the definition of conditional approval).

5) You state that "While some of your suggestions mirrored ordinances in other states, there were several components that, as we discussed the Planning Commission does not have authority granted to them by the state of Virginia to regulate, and several outside of the realm of zoning itself." In our research of the Dillon Rule, it is obvious that what laws a local government is and is not allowed to enact is not straightforward. And while perhaps part of a suggested change may appear to violate the Dillon Rule, it does not mean that the entire change would be invalidated if that part were removed. Also, it appears that there is a rather broad statement in the Code of Virginia 67-103 "Role of local governments in achieving objectives of the Commonwealth Energy Policy" regarding what requirements a locality can place on the siting of a wind project. And in addition, Code of Virginia Title 15.2 Chapter 22 in 15.2.2295.1 gives additional permission for local regulation of "protected mountain ridges", and the site for Rocky Forge is, in fact, a protected mountain ridge. Did you solicit legal opinions from the county attorney regarding the changes that we suggested? Please detail what suggested changes were determined to violate the Dillon Rule or fall outside of what a Wind Ordinance should contain. Please refer to the background report provided by staff to the Planning Commission.

6) Are all of the documents that you have provided to the Planning Commission included on your website (https://web.botetourtva.gov/bacs/planning-commission/)? Will other documents be provided to the commission between now and the May 11 meeting, and if so will they also be posted on the website? We are utilizing the website and email to communicate with the Planning Commission. As we approach the public hearing date, it is likely that all information can be posted online, however, we are doing the best that we can to make sure that we are providing as much info as we can to the public in advance of the meeting.

We apologize for the length of this email, but your response raised some significant concerns. This is a critically important decision that the county will have to make, and everyone needs to be clear about the process and the information collected and/or provided to make informed decisions.
Respectfully,

Jeff Scott
Steve Neas
Eric Claunch

------ Original Message ------
From: "Pendleton, Nicole" <npendleton@botetourtva.gov>
To: "Jeffrey" <jeff@virginiansforresponsibleenergy.org>
Sent: 4/23/2020 3:57:16 PM
Subject: Re: Planning Commission Meeting May 11

> Hi Mr. Scott,
>
> Thank you for your kind words. I hope you and those around you are staying safe and healthy as well.
>
> Staff will be presenting recommendations for amendments to the ordinance to the Planning Commission in May as they are advertised and shown on our website. After doing a review of the entire ordinance, staff made recommendations for the changes as advertised. These recommendations are based on the

fact that the ordinance is structured to give significant oversight to the Board to impose conditions to address potential impacts that it felt should be addressed on a project-specific basis.

As we discussed in March, the packet of proposed amendments and related information that you and Mr. Claunch and Mr. Neas provided was helpful and informative. Many of the topics that we discussed in our series of meetings were forwarded on to Apex and to Antares for further discussion. While some of your suggestions mirrored ordinances in other states, there were several components that, as we discussed the Planning Commission does not have authority granted to them by the state of Virginia to regulate, and several outside of the realm of zoning itself. We are now turning our focus to fine-tune the recommended conditions and background information for our staff report to the Planning Commission, with the assistance of the consultant.

Once the report is finalized, we will share that online so that you and others are able to respond and provide any desired public comment. Detail on turbine and blade disposal, sound and shadow flicker, and further review of decommissioning studies were three components of the code, and specifically the Rocky Forge application, that our discussions and your information, provided insight and suggestions toward, and we thank you for that.

The Planning Commission may make recommendations on the amendments or the conditions associated with the revised application for Rocky Forge at their May meeting.

Once again, thank you for your input. If you have any further questions, please don't hesitate to reach back out. Likewise if you have any questions about the public input as advertised.

Take care,

BOTETOURT COUNTY VIRGINIA

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Jeffrey <jeff@virginiansforresponsibleenergy.org>
Sent: Thursday, April 23, 2020 9:58 AM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: Planning Commission Meeting May 11

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Nicole,
I just read in the Fincastle Herald about the Planning Commission meeting on May 11, and that the Apex requests for the SEP and Wind Ordinance changes are on the agenda. I am a little surprised by this as I would have thought those discussions (and decisions?) would be part of the larger discussion of changes to the Wind Ordinance. Isn't this the reverse of what the order should be? Could you please explain why these requests by Apex are being considered before the entire Wind Ordinance is being updated?

> Thank you,
> Jeff
> P.S. Hope you and yours are staying COVID-19 free and taking the necessary precautions.

Attachment 12

May 4, 2020

Cody Sexton
Assistant to the County Administrator & Information Specialist
County of Botetourt
5 West Main Street, Suite 200,
Fincastle, VA 24090

Re: Freedom of Information Act Request
Regarding Apex Clean Energy's Rocky Forge Wind Energy
Project in Botetourt County, Virginia

Dear Mr.Sexton:

This letter shall serve as a formal request for certain documents in the possession, custody, and/or control of Botetourt County and the Botetourt County Planning and Zoning Division. This letter is being sent to you in your capacity as Botetourt County's Information Specialist and in accordance with the Virginia Freedom of Information Act (FOIA), Code of Virginia section 2.2-3700 *et seq*.

NOTE: For the purposes of this request, the term "Project" is used to refer to the proposed Rocky Forge Wind project in Botetourt County, Virginia, and the term "Company" is used to refer to Apex Clean Energy and any other parties which at one time had, or presently have, ownership of or control over the Project. This request includes, but is not limited to:

(1) All records that were generated, received, obtained, or created by or for Nicole Pendleton, Director of Community Development, that pertain in any manner to the Project or to the Company.
(2) All records specified above that were generated, received, obtained, or created between the dates of March 16, 2020 and May 4, 2020, inclusive, relating to the Project or to the Company.

For purposes of this request, the term "records" includes, but is not limited to, correspondence of any kind with, or concerning, the Project or the Company, any reports, letters, analyses, notes, memoranda, maps, plans or draft plans, photographs, video recordings, audio recordings, computer files, electronic mail (email), telephone logs, message notes, minutes of meetings, work papers, public comments, and all other forms of records or documents.

Since FOIA provides that if portions of a document are exempt from release, the remainder must nevertheless be segregated and disclosed, Virginians for Responsible Energy requests that you provide the organization with all non-exempt portions of the requested records. Please explain any deletions by reference to specific exclusions or other provisions of FOIA. In addition, if some of the requested information was at one time, but is no longer, in the custody of Botetourt County, please provide an explanation as to why such information is no longer available.

To minimize paper usage and reduce costs, Virginians for Responsible Energy would prefer that the records be provided as computer readable files, except where this is not possible. Paper records can be scanned and image files or Portable Document Format (PDF) files created. The preferred method of delivery of the records would be as an attachment, or attachments, to the e-mail address jeff@VirginiansForResponsibleEnergy.org. If not all records can be delivered electronically, then the mailing address is given at the bottom of this request.

If there are any fees for searching or copying these records, please inform me if the cost will exceed $200. However, Virginians for Responsible Energy requests a waiver of fees otherwise applicable to the county's processing of this FOIA request on the basis that the organization intends to use the records obtained to educate the public about the Project and Company via the organization's website and outreach efforts.

I look forward to your response within 5 business days, as required by FOIA. If you have any questions concerning this request, please contact me by phone at (540) 348-2052, or by email at jeff@VirginiansForResponsibleEnergy.org

Thanks for your time and attention.

Sincerely,

Jeffrey B. Scott for
Virginians for Responsible Energy

1023 Smokey Row
Lexington, VA 24450 (540) 348-2052
jeff@VirginiansForResponsibleEnergy.org

Attachment 13

From: Charlie Johnson
To: Goad, Laura
Cc: Pendleton, Nicole
Subject: RE: Virginians for Responsible Energy amendment comments
Date: Thursday, April 2, 2020 8:40:45 AM
Attachments: image001.png
image002.png
image004.png
image005.png
image006.png

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Laura-

Thank you very much for sharing these with us.

Regards,
Charlie

CHARLIE JOHNSON
Senior Development Manager

Apex Clean Energy, Inc. | 310 4th St. NE, Suite 300 | Charlottesville, VA 22902
office: 434-282-2109 | cell: 434-987-8437 | fax: 434-220-3712
charlie.johnson@apexcleanenergy.com | www.apexcleanenergy.com

---

From: Goad, Laura <lgoad@BOTETOURTVA.GOV>
Sent: Wednesday, April 1, 2020 5:08 PM
To: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Cc: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: RE: Virginians for Responsible Energy amendment comments

Good afternoon Charlie.

Here is a DB link to Apex public comments. As we receive more comments, they will be placed in the public comment folder.

Take care and stay safe!

Laura

Laura Goad | Administrative Assistant
Community Development
5 West Main Street | Suite 100 | Fincastle, VA 24090
P: 540.928.2080
E: lgoad@botetourtva.gov

From: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Sent: Wednesday, April 1, 2020 3:54 PM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: RE: Virginians for Responsible Energy amendment comments

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Hi Nicole- Following up on this to see if we can get a copy of the corresponding supporting information that was submitted for this if possible. Also, if possible to share any comments that have been submitted on the amendment application, that would be great too.

Thanks for your help!
Charlie

CHARLIE JOHNSON
Senior Development Manager

Apex Clean Energy, Inc. | 310 4th St. NE, Suite 300 | Charlottesville, VA 22902
office: 434-282-2109 | cell: 434-987-8437 | fax: 434-220-3712
charlie.johnson@apexcleanenergy.com | www.apexcleanenergy.com

---

From: Charlie Johnson
Sent: Tuesday, March 3, 2020 3:42 PM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: RE: Virginians for Responsible Energy amendment comments

Nicole-

Thanks for sending this over. If possible to share the supporting information, that would be helpful for us.

Thanks,
Charlie

CHARLIE JOHNSON
Senior Development Manager

Apex Clean Energy, Inc. | 310 4th St. NE, Suite **300** | Charlottesville, VA 22902
Please note our address change, as of April 1
office: 434-282-2109 | cell: 434-987-8437 | fax: 434-220-3712
charlie.johnson@apexcleanenergy.com | www.apexcleanenergy.com

---

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Monday, March 2, 2020 4:38 PM
To: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Subject: Re: Virginians for Responsible Energy amendment comments

Charlie,

I'm still learning the system-sorry. The text is attached. There is a lot of supplemental info, so please let me know if you need it.

Thanks!

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
COMMUNITY DEVELOPMENT
5 West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Sent: Monday, March 2, 2020 4:36 PM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Subject: RE: Virginians for Responsible Energy amendment comments

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Thanks, Nicole. For some reason, it isn't letting me view the comments. Below is the screen I'm getting:

That didn't work

We're sorry, but charlie.johnson@apexcleanenergy.com can't be found in the botetourtva.sharepoint.com directory. Please try again later, while we try to automatically fix this for you.

Here are a few ideas:

- Click here to sign in with a different account to this site.
  This will sign you out of all other Office 365 services that you're signed into at this time.
- If you're using this account on another site and don't want to sign out, start your browser in Private Browsing mode for this site (show me how).

If that doesn't help, contact your support team and include these technical details:

Correlation ID: 9753a9f-b00b-a000-854f-7f1f2251d40e
Date and Time: 3/2/2020 1:35:11 PM
URL: https://botetourtva.sharepoint.com/sites/PZ/Shared Documents/Planning Commission/April 2020/Fraley Apex Chg Conditions/Community Meeting/Public comments received at public meeting/Information received from E Claunch/E Claunch CD?csf=1&e=3WFrnt&cid=9d09b91e-571c-4916-b5ed-02f266d3ef0e
User: charlie.johnson@apexcleanenergy.com
Issue Type: User not in directory.

CHARLIE JOHNSON
Senior Development Manager

Apex Clean Energy, Inc. | 310 4th St. NE, Suite **300** | Charlottesville, VA 22902
Please note our address change, as of April 1
office: 434-282-2109 | cell: 434-987-8437 | fax: 434-220-3712
charlie.johnson@apexcleanenergy.com | www.apexcleanenergy.com

APEX CLEAN ENERGY

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Monday, March 2, 2020 3:18 PM
To: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Subject: Virginians for Responsible Energy amendment comments

Charlie,

As requested via phone today, here is the link to the comments provided at the community meeting.

https://botetourtva.sharepoint.com/:f:/r/sites/PZ/Shared%20Documents/Planning%20Commission/April%202020/Fraley%20Apex%20Chg%20Conditions/Community%20Meeting/Public%20comments%20received%20at%20public%20meeting/Information%20received%20from%20E%20Claunch/E%20Claunch%20CD?csf=1&e=3WFrnt

We are transitioning away from dropbox, so please let me know if you have any issues accessing the file.

Thanks!

BOTETOURT COUNTY VIRGINIA

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

Attachment 14

From:	Goad, Laura
To:	Pendleton, Nicole
Subject:	RE: Utility Scale Wind Trip
Date:	Friday, April 17, 2020 12:42:28 PM
Attachments:	image004.png image007.png image008.png image003.png image005.png

Done!

Laura

Laura Goad | Administrative Assistant
Community Development
5 West Main Street | Suite 100 | Fincastle, VA 24090
P: 540.928.2080
E: lgoad@botetourtva.gov
BOTETOURT COUNTY VIRGINIA

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Friday, April 17, 2020 11:40 AM
To: Goad, Laura <lgoad@BOTETOURTVA.GOV>
Subject: Fw: Utility Scale Wind Trip

Laura,
One more attachment for the public file. Thanks!

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov
BOTETOURT COUNTY VIRGINIA

From: Miles, Jonathan J - milesjj <Milesjj@jmu.edu>
Sent: Friday, April 17, 2020 10:56 AM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>; Diana Godlevskaya <dianag@sewind.org>
Cc: Katharine Kollins <katharinek@sewind.org>
Subject: RE: Utility Scale Wind Trip

Nicole –

Please find attached my comments. I spoke yesterday afternoon with a gentleman who represents wind industries throughout the Mid-Atlantic region, he is exploring with his contacts how we might be able to arrange a visit to Big Level. Of course we are always able and willing (once conditions return to normal) to arrange a visit to Beech Ridge.

Best regards.

– Jon

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Thursday, April 16, 2020 12:25 PM
To: Miles, Jonathan J - milesjj <Milesjj@jmu.edu>; Diana Godlevskaya <dianag@sewind.org>
Cc: Katharine Kollins <katharinek@sewind.org>
Subject: Re: Utility Scale Wind Trip

Good afternoon Dr. Miles, Diana and Katherine,

I wanted to touch in again to let you know that our legal advertisements for May public hearings will be due tomorrow, 4/17 to our local paper. I am currently in the process of wrapping up my review.

If you all had comments on the ordinance itself, I would welcome those by the end of today. Otherwise, public comment on the code or the project can be incorporated into the record at any time.

As you all are undoubtedly also experiencing, given the constantly changing situation, I am shifting a bit to provide field trip info for Beech Ridge and Big Level to our Board/PC members should they wish to take individual trips to the sites on their own. Any info you might be able to share on this path would be greatly appreciated. In addition, I am exploring the possibility of some virtual information (videos, etc.) from legitimate sources that I might be able to share.

Thank you all for your input. I can be reached on my cell at 540-958-3185 if you would like to discuss via phone.

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

Take care,

From: Miles, Jonathan J - milesjj <Milesjj@jmu.edu>
Sent: Tuesday, April 7, 2020 3:52 PM
To: Diana Godlevskaya <dianag@sewind.org>; Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Cc: Katharine Kollins <katharinek@sewind.org>
Subject: RE: Utility Scale Wind Trip

Nicole –

Just wanted to let you know that Diana and I spoke this morning, we are respectively reaching out to contacts to determine how best to approach a visit to visit the Big Level wind farm in Hector Township, PA. From what we can see online, this looks like a particularly appropriate project to visit given the parameters of Rocky Forge.

Also, we should have our respective comments off to you by week's end, Monday at the latest.

Best regards.

– Jon

From: Diana Godlevskaya <dianag@sewind.org>
Sent: Monday, April 6, 2020 6:10 PM
To: Pendleton, Nicole <npendleton@botetourtva.gov>
Cc: Katharine Kollins <katharinek@sewind.org>; Miles, Jonathan J - milesjj <Milesjj@jmu.edu>
Subject: Re: Utility Scale Wind Trip

Hi Nicole,

Hope that you are doing well— sounds like your hands are full! I am coordinating with Jon and we will get back to you ASAP.

Best,
Diana

On Fri, Apr 3, 2020 at 3:04 PM Pendleton, Nicole <npendleton@botetourtva.gov> wrote:

> Good afternoon everyone,
>
> I apologize for being so long in responding, but am still very grateful for all of your assistance. I am juggling, just as I am sure, everyone is,

this new normal of being at home working with kiddos, while my husband is still working outside the home. I hope that you all are safe and healthy and that your loved ones are as well...

At the request of our county administrator and board, I spent some time doing some research on the best location for a visit. I've communicated to administration about the new turbines at Beech Ridge (which I understand to be 499 feet?) and also sent a list of any turbines that I could find that were larger than those, and I did see that Hector, PA has a new facility online that has turbines at 670. I relayed this info, and Mr. Larrowe would think that the Hector PA site might be the best first option. Obviously, now is not the time to travel.

I spoke with Apex this week and they are still hoping the public hearing will be in May. As of now, that's the timeline I am working with, but, as you know, things are changing daily or sooner. There has been no legislative action at the state that suggests that we can operate any differently than we have before in terms of due diligence, timelines, and the public input/hearing process. However, that may change next week, when the Governor is due to take action on bills.

So, in summary, I wanted to seek feedback about a potential field trip, but not necessarily with settling on dates, just if the Hector site would be open and if we would have the opportunity to tour it, and if we don't know that, is Beech Ridge II in a separate location from Beech Ridge I, and if, so would we be able to tour it?

Secondly, If you all had any written comments on any recommended changes to the zoning ordinance, could you let me know when you might expect to send those?

Also, I'm happy to hop on a call next week if time permits. Thursdays and Fridays are the easiest for me, but I can make other times work as well.

Looking forward to hearing from you,

BOTETOURT COUNTY VIRGINIA

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Miles, Jonathan J - milesjj <Milesjj@jmu.edu>
Sent: Wednesday, March 11, 2020 2:09 PM
To: Katharine Kollins <katharinek@sewind.org>; Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Cc: Diana Godlevskaya <dianag@sewind.org>
Subject: RE: Utility Scale Wind Trip

Nicole/Katharine, apologies but I was out of pocket yesterday.

Katharine, are you and Diana available for a call tomorrow (Th) morning? I'd like to discuss two items our mutual coordination on comments/suggested updates to submit to Nicole, to make sure that our respective comments are complementary and consistent. I'd also like to discuss options for a tour, I have some thoughts on this since I've done a bit more research on options.

Nicole, we'll aim for an early April time frame for a tour, are there particulars week (or weekend) days that work best for those who would participate? It might be easiest if you could send me some suggested dates that I could work with.

Best regards.

– Jon

From: Katharine Kollins <katharinek@sewind.org>
Sent: Tuesday, March 10, 2020 5:46 PM
To: Pendleton, Nicole <npendleton@botetourtva.gov>
Cc: Miles, Jonathan J - milesjj <Milesjj@jmu.edu>; Diana Godlevskaya <dianag@sewind.org>
Subject: Re: Utility Scale Wind Trip

Hi Nicole,

Thanks so much for the updates.

Jon - it probably makes sense for us to touch base again to evaluate the best site visit options. We're tied up tomorrow morning, but if we could touch base after noon, that would be great.

Best,
Katharine

On Tue, Mar 10, 2020 at 9:09 AM Pendleton, Nicole <npendleton@botetourtva.gov> wrote:

> Good morning everyone,
>
> I hope you are all doing well, and enjoying the warming weather. I wanted to give everyone an update on where the county is in regards to processing the Apex application as well as the text amendments.
>
> The Board authorized the county administrator to execute the contract with Antares, and so that has been completed and we have now forwarded the application to them for review. We continue to work on processing staff changes, so I would welcome any feedback that you may have on any suggested updates to ensure that we continue to effectively manage land use in the county, in a way that is representative of changes in technology where it makes sense to do so. At this time, I don't feel that we have the information that we will need to move the application forward in April, however, possibly the applications could be heard in May.
>
> Also, Gary (our county administrator) has asked me to follow up to see if you all might have any updates on a potential field trip site/sites that is "as close as possible" to the Apex project. If that site doesn't exist, or we cannot get access, or there are other limitations, which I am hopeful is not the case, I am relying on the experts to assist me with providing an explanation or menu of options, for visiting a site. What might be the feasibility of heading somewhere the first week of April?
>
> I very much appreciate your time and efforts and recognize that you are very busy. Thank you so much for your willingness to assist us, and I look forward to hearing back from you soon!
>
> BOTETOURT COUNTY VIRGINIA
> C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR
> COMMUNITY DEVELOPMENT
> 5. West Main Street | Fincastle, VA 24090
> P: 540.928.2080
> E: npendleton@botetourtva.gov

--
Katharine Kollins
President, Southeastern Wind Coalition
www.sewind.org
303-564-9687

Attachment 15

From: Charlie Johnson
To: Pendleton, Nicole
Subject: RE: Follow-up to our wind ordinance teleconference
Date: Wednesday, March 25, 2020 4:14:27 PM
Attachments: image001.png
image002.png

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Nicole-

Thank you for sending these over. We're prepared to address these questions and are happy to discuss as needed.

Regards,
Charlie

CHARLIE JOHNSON
Senior Development Manager

Apex Clean Energy, Inc. | 310 4th St. NE, Suite **300** | Charlottesville, VA 22902
Please note our address change, as of April 1
office: 434-282-2109 | cell: 434-987-8437 | fax: 434-220-3712
charlie.johnson@apexcleanenergy.com | www.apexcleanenergy.com

From: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Sent: Tuesday, March 24, 2020 3:00 PM
To: Charlie Johnson <charlie.johnson@apexcleanenergy.com>
Subject: Fw: Follow-up to our wind ordinance teleconference

Hi Charlie,

I wanted to forward these comments to you. As they may reach out to you or not, these questions may come up at public hearing. If you wish to respond to Mr. Claunch, or me, or both, or however you wish to handle will be up to you all obviously, but if I can assist, or if you'd like me to include anything in the record, I am happy to do so.

Thanks,

C. Nicole Pendleton, AICP, CZA, CFM | DIRECTOR

COMMUNITY DEVELOPMENT
5. West Main Street | Fincastle, VA 24090
P: 540.928.2080
E: npendleton@botetourtva.gov

From: Eric Claunch <eclaunch@verizon.net>
Sent: Monday, March 16, 2020 8:27 PM
To: Pendleton, Nicole <npendleton@BOTETOURTVA.GOV>
Cc: Jeff Scott <jeff@virginiansforresponsibleenergy.org>; SNeas <SNeas@ecslimited.com>
Subject: Follow-up to our wind ordinance teleconference

Hi Nicole,

I appreciate the time you provided us today to voice our comments and rationale for potential changes to the county wind energy ordinance and/or SEP.

As I mentioned at the end of our discussion today, here is one of the two items I wanted to send you--my questions regarding the flyer Apex sent to Botetourt locals called "Rocky Forge Wind". As an interested county citizen, I don't yet have enough supporting evidence to convince me that Rocky Forge is a viable endeavor that will benefit Botetourt County.

Questions for Apex to answer regarding the Apex flyer received 7 Feb 2020

75MW...is that peak, average, nameplate capacity, or other?

How does Apex calculate "power up to 21,000 homes annually"? What is estimated average power generating capability, in standard power units rather than "homes"?

How does Apex explain wind energy as being "safe" when it is settled science that wind turbines kills birds and bats and generates low-frequency sound harmful to humans and animals?

How exactly does Apex reconcile "working closely with state and federal regulators to avoid or minimize impacts to wildlife and waters during construction and operations" with the fact that some of the environmental studies related to the project have now expired?

How does Apex substantiate "over $16 million in local economic impact over the life of the project"? Detailed calculations should be publicly provided to substantiate that the cost (environmental, viewshed, property values, noise, pavement wear and tear, etc.) is worth the economic benefit to the county. Last time I checked, Apex to date has yet to provide any of the incentives they indicated they would (e.g., funds to the Botetourt Historical Society). This gives me pause as to whether they are sincerely interested in being a corporate "good citizen".

Thank you,
Eric Claunch

Attachment 16

Subject: Rocky Forge Wind - information
From: "Larrowe, Gary" <glarrowe@botetourtva.gov>
Sent: 3/13/2020 9:10:53 AM
To: "jeff@virginiansforresponsibleenergy.org" <jeff@virginiansforresponsibleenergy.org>; "Moorman, David" <dmoorman@botetourtva.gov>; "Clinton, Steve" <sclinton@botetourtva.gov>; "Martin, Billy" <bmartin@botetourtva.gov>; "Sloan, Ray" <rsloan@botetourtva.gov>; "Bailey, Richard" <rbailey@botetourtva.gov>; "Scothorn, Mac" <mscothorn@botetourtva.gov>;

Mr. Scott,

Thank you for your information that you pulled together and supplied to the group.

I did read the documents and was interested in the source of the last document (maybe I missed it). The document was "Apex has been a nightmare in my County". Can you supply the additional information?

Thanks,
Gary

BOTETOURT COUNTY VIRGINIA

Gary Larrowe | County Administrator
County Administration
57 South Center Drive | Suite 200 | Daleville, VA 24083
P: 540.928.2006
E: Glarrowe@botetourtva.gov

"The world belongs to those who show up"

From: jeff@virginiansforresponsibleenergy.org <jeff@virginiansforresponsibleenergy.org>
Sent: Thursday, March 12, 2020 10:28 PM
To: Larrowe, Gary <glarrowe@BOTETOURTVA.GOV>; Moorman, David <dmoorman@BOTETOURTVA.GOV>; Clinton, Steve <sclinton@BOTETOURTVA.GOV>; Martin, Billy <bmartin@BOTETOURTVA.GOV>; Sloan, Ray <rsloan@BOTETOURTVA.GOV>; Bailey, Richard <rbailey@BOTETOURTVA.GOV>; Scothorn, Mac <mscothorn@BOTETOURTVA.GOV>
Subject: Rocky Forge Wind

Dear Sirs,

I have attached three documents that I think you will find helpful in determining if Botetourt County wants to allow Apex Clean Energy to proceed with the Rocky Forge Wind project as it is currently permitted. Or even more importantly, whether the county should accept the changes that Apex needs to allow them to build even taller, and more harmful, turbines.

The first attachment is an article that appeared in a Texas newspaper this week about a wind turbine fire that occurred at the Midway Wind project in San Patricio County operated by Apex Clean Energy. What I find particularly disturbing in this story are the comments by the local fire chief and sheriff:

"We have training sessions with (E.ON) quite often, but Apex hasn't gotten around to it yet," Gibson said. "I don't even know who Apex is. They don't have signs or anything."

SPC Sheriff Oscar Rivera added, "They haven't talked to us either. When E.ON first came onboard they came into the office and gave us a map of where all their turbines were going to be and gave us a contact number.

"But we haven't heard from any of the other companies, even the ones on the west end of the county."

Can you imagine what would happen if this kind of fire occurred at Rocky Forge? And the fire in Texas was in an easily accessible location. The potential for a major disaster in Botetourt County if Rocky Forge is built is very real. Turbine fires are not a rare occurrence, and several studies indicate that the frequency of turbine fires is significantly higher than reported by the wind industry. And the taller turbines being proposed by Apex are newer models that have not been built on mountaintops where wind turbulence is common. And wind turbulence is a significant factor in putting additional stress on turbine mechanisms leading to turbine failures which lead to turbine fires.

The second attachment contains the comments I made at the December meeting concerning Apex's suspect business practices. And the third attachment is an email I recently received from a person in Isabella County, Michigan where Apex is building Isabella Wind. That email shows that Apex is continuing what appears to be their standard procedures of secrecy, misinformation, and poor operating practices.

With so much at stake for the environment and scenic views, and the health, safety, and financial well-being of Botetourt citizens, I hope that you carefully consider if Apex is a company with whom the county wants to do business.

Respectfully,

Jeff Scott

https://www.mysoutex.com/san_patricio_county/news/weekend-wind-turbine-fire-leaves-more-questions-than-answers-on-public-s-safety/article_b59da8ac-62e0-11ea-afe9-b72681dd68f3.html

FEATURED

GONE WITH THE WIND

Weekend wind turbine fire leaves more questions than answers on public's safety

Paul Gonzales
Mar 10, 2020

Sunday evening, area fire crews were called out to Taft where a wind turbine, owned by the company Apex Clean Energy, had caught fire. There wasn't much the crews could do since the turbines are more than 200 feet in the air and luckily none of the blades fell off.

TAFT – It was a normal lazy Sunday before area fire crews got a call that a wind turbine was on fire on County Road 3683, in between Taft and Portland. Needless to say, this was the first call of this kind that any of the county fire stations had received since the wind turbines started sprouting like weeds a few years ago.

"I could smell an electrical type smell for a good while, and my mom smelled it too," Gregory resident Dolores Moreno said. "I was looking at our own house going room to room thinking it was coming from our home since the smell was pretty strong. A while later I heard the sirens so I knew it wasn't us."

She also said that she heard someone saying that just before the blaze, they could hear a noise coming from the turbine.

When Portland and Taft fire crews arrived, there wasn't much to do but get out of the way and watch from a distance. Their hoses couldn't reach the blaze, and even if they could, it would be very dangerous if those blades fall off while the turbine was in motion.

"It shouldn't happen; they have safety features built into them that locks the blades down," Taft Volunteer Fire Department Chief Dan Gibson said. "They were locked down until the fire burnt all the hydraulic oil out of it.

“And I don’t know what they’re going to do. They had their people down there after a while, and they looked at it, but they didn’t want to get around it either.”

Gibson said it was also dangerous because there was still an electric current running through it because all the turbines have a linked distribution system.

According to the San Patricio Economic Development Corporation’s website, the turbines stand at 262 feet tall, have 3 blades and rotate at a maximum speed of 22 rotations per minute.

Apex Director of Corporate Communications Cat Strumlauf said, “The turbine was carefully monitored throughout the evening. Fire crews left the scene Sunday night.

“No injuries were reported, and no people or structures were or are in danger.

“The cause of the fire is currently under investigation. The safety of both the community and our personnel is our top priority.”

With numerous videos of turbine fires online, Taft residents were undoubtably aware of the dangers of such fires and the risk of the enormous blades flying off and cartwheeling into residential areas. According to fire officials, that’s exactly why they are built away from houses and businesses.

Drive through Taft, and it’s obvious that some are still dangerously close to Highway 181.

Apex Clean Energy owns the section of turbines known as Midway Wind which contained the one that caught fire. E.ON Climate and Renewables North America is the company that owns the first ones placed in Taft and closest to the highway.

And while the wind turbines are the same height and turn at the same speeds, it is the two companies that provide the biggest difference – especially when it comes to safety.

“We have training sessions with (E.ON) quite often, but Apex hasn’t gotten around to it yet,” Gibson said. “I don’t even know who Apex is. They don’t have signs or anything.”

SPC Sheriff Oscar Rivera added, “They haven’t talked to us either. When E.ON first came onboard they came into the office and gave us a map of where all their turbines were going to be and gave us a contact number.

“But we haven’t heard from any of the other companies, even the ones on the west end of the county.”

Paul Gonzales

There is so much that I could talk about with respect to why Rocky Forge should not be built. But being limited to three minutes, I will focus on only one topic. That topic is how Apex has a record of "questionable" business practices. They have been sued or investigated in at least three states (Oklahoma, Illinois, and New York). I will concentrate on New York.

Apex has a project called Lighthouse Wind that as of now is "on hold". In the Lockport (NY) Union-Sun & Journal Sep. 26, 2018, there is a commentary entitled "Apex Specializes in Public Deception" written by a member of the Somerset town council. It is fairly lengthy, but here is a summary of key points from this commentary:

1. Quote: "Apex employs slick and deceptive practices"
2. A paid Apex lobbyist presented false information about a local group and local residents opposed to the Lighthouse Wind project
3. Apex brought in outside supporters that occupied limited seats for residents
4. An Apex representative did not show up to present inspection data to the planning board as required by the permit
5. An Apex biologist lied about receiving a letter from the U.S. Fish and Wildlife service
6. Apex CEO Mark Goodwin ignored letters from supervisors to have a meeting
7. Apex used questionable methods to get reluctant landowners to sign leases

In addition, in 2016, the New York State Attorney General was asked to investigate Apex's conduct by the town of Somerset with respect to attempts to influence state and local government decisions by the use of "astroturfing". "Astroturfing" is the practice of masking the sponsors of a message or organization to make it appear as though the message originates from and is supported by neutral third parties. In other words, astroturfing creates the false impression of a legitimate grassroots movement. Apex may have engaged in astroturfing by (1) concealing the true author of letters in support of the project; and (2) failing to disclose whether the signers of those letters have a personal financial interest in the Project.

And this year, Dahvi Wilson, the Vice President of Public Affairs at Apex, stated in an interview that Apex "Has to proactively go find our supporters, motivate them to engage, and help them engage. And it's not enough to invite them to our events and get educated, it's not enough to expect that the people who care will show up, it really is up to us to identify folks who may not realize that this issue relates to them and **motivate** them to come out and support."

This information got me to thinking what Apex might be doing here in Botetourt County. I know that the Virginia Freedom of Information Act (FOIA) does not require the public to be informed of a meeting if there are less than three members of a governing body in attendance. This also means that the content of the meeting is not required to be provided via a FOIA request. So I wonder if any such meetings have occurred with Apex. And if so, what did Apex promise, or did they pressure anybody?

So, do you want to rely on information provided to you by Apex or claims made by Apex? And do you want to entrust that Apex will abide by any of the requirements of its Special Exception Permit, Wind Ordinance, or Permit from the state?

https://www.lockportjournal.com/opinion/apex-specializes-in-public-deceptions/article_d15ab7d4-de32-50f0-b482-66cf2df3b296.html

https://www.youtube.com/watch?v=GP9PhNmMGAs&feature=share&fbclid=IwAR1jLBeuQsjJIxqf5vOGf108sAguE05HhU60au2LCBz7KSY3kB6ZfTj97TI

Apex has been a nightmare here in my county. Isabella County Michigan. They literally sneak in, as they did here way back in about 2015. By early 2016 they already had the project registered with the state then they contacted our county people, they worked with our county extension agent who helped them form a steering committee comprised of farmers and township official. That committee's job was to persuade others to sign leases. All the steering committee members except one had signed leases. While the committee was holding private meetings by invitation only to people they felt sure would sign leases, Apex was preparing a wind ordinance for the county to pass. In June 2017, the ordinance was passed by both planning commission and board of commissioners unanimously. Funny part was that I went back and checked several years of meeting minutes and there was never any talk of writing an ordinance. A completed ordinance just miraculously appeared and was passed. It was at that point that word got out about the wind farm. Virtually no one knew except those invited to the secret meetings. Anyway, we have fought them since then but to no avail. Apex is dirty, as dirty as it gets and all of our county and township officials are in bed with them. They were originally after 7 townships here, but one township did a moratorium and so they are not in the footprint. Another township is not included because a private airport was turned public and a third township was self-zoned and wrote an ordinance which was petitioned and put on ballot and voters rejected it. One year later they wrote another ordinance and voters again rejected. We petitioned the 5 county zoned townships to take back zoning to try and prevent turbines however, Apex spent a fortune on campaigning against us. They lied and told voters that if township planning is approved their taxes would sky rocket. They ran a really dirty campaign. I'm sorry this is so long but I could go on for days. The apex project manager here is Albert Jongewaard. He is a dirty, sneaky weasel. He pretends to be nice, the lease signers loved him. Such a nice man. Or so they think. At township meetings he would make verbal personal attacks against those opposed to project. He and the other salesmen outright lied to people to get them to lease. The typical lies. Everyone around you signed and you are the only holdout...we won't be building on your property we just need it for buffer. Jump ahead to now They broke ground a couple months ago. The promise that the project would be built by local companies was a lie. They were supposed to hire union people to build the foundations and turbines but instead they hired the low bidder which is a company from Minnesota who in turn has hired non-union workers from all over the country. This prompted union workers to picket the apex office and they are doing things behind the scenes as well to deal with Apex. As a result of hiring the low bidder with less experience, we currently have 2-3 foundations that are no good Got this info from the union reps. The concrete in those several foundations is crumbling and either repairs or a complete do over will be necessary. Meanwhile, the first annual "big" payment to lease signers was supposed to be sent out as soon as Apex broke ground but I just recently heard that no one has gotten that first payment yet. The contractor also ran into significant drain issues. Which should not have happened because numerous surveys were done. One county drain has had to be re-routed. Apex will foot the bill. They have a mess here. Everything about it shows shoddy management. They did their own wildlife studies with companies they hired. They claim we have only 2 eagles nests in the footprint however, the population of eagles would indicate otherwise. I'm sorry. Ask me anything you want. I will stop talking now.

Mid-Michigan union protests for local workforce for Isabella County wind farm construction

By Colton Cichoracki | Posted: Mon 7:23 PM, Feb 10, 2020

ROSEBUSH (WJRT) (2/10/2020) - The Laborers' International Union of North America (LiUNA), Local 1098 took to the picket line in Rosebush Monday to protest who is working on construction of a wind farm in Isabella County.

The wind farm, called Isabella Wind, is the largest renewable energy project ever created in Michigan, according to its developer, Apex Clean Energy, Inc.

Chris Taylor, the marketing representative for the union chapter, said that Apex Clean Energy is not living up to their end of a deal.

"When we talked to Apex, they made more-or-less the statement that we'd be building these farms with them and now they reneged on that promise," he said.

Taylor said that before construction began, union members helped support the creation of the wind farm and that they were told that local union members would help construct the farm.

"We came out and we spoke on behalf of the wind farm," Taylor said. "Told them it was going to be a good thing, employ local people and they agreed with us. And said they were going to hire local union guys to this project."

Taylor said Apex Clean Energy hired an out-of-state contractor to do the work and that local workers are not being used to help construct the farm.

ABC12 reached out to Apex Clean Energy for comment about this story. They said that Fagen Inc., based out of Minnesota, was chosen to be the main contractor for this project but that they have been hiring local companies to help with the work.

According to a statement Apex Clean Energy sent to ABC12, five Michigan companies are working on the construction of the wind farm.

Albert Jongewaard, the development manager for the Isabella County project, said that more than 60 percent of the people working on the project are from Michigan. He said these include members of LiUNA and several other labor unions.

As for the protesters, Taylor said they are out of work because they are not working on this project and that these local workers should be the ones working on the project.

"Better half of this picket line is from within 15 minutes of this town," he said. "These are the guys that support this local community every day of their life so it would be nice if they were working so they can help support the community even better."

Apex Clean Energy estimates that the wind farm will generate more than $600 million in direct investment and more than $30 million in local tax revenues over the next 30 years.

The number of people working to build the wind farm will increase to more than 200 workers by mid-Summer.

Taylor said he hopes these protests will bring Apex Clean Energy to the table to help find a solution to this problem.

Attachment 17

RE: **GALLOO ISLAND WIND, LLC. Case No. 15-F-0327**

Date: September 13, 2018

Document title: **Motion for Dismissal for Fraud Upon the Siting Board**

Submitted by:

Clifford P. Schneider, pro se
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September 13, 2018

Hon. Kathleen H. Burgess
Secretary to the Commission
Three Empire State Plaza
Albany, New York 12223-1350

Co-Presiding Examiner Ashley Moreno
NY Department of Public Service
Three Empire State Plaza
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Co-Presiding Examiner James A. Costello
NY Department of Public Service
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and

Associate Examiner Michael Caruso
New York State Department of Environmental Conservation
Three Empire State Plaza
Albany, New York 12223-1350

RE: GALLOO ISLAND WIND, LLC. 15-F-0327: Motion to Dismissal for Fraud Upon the Siting Board

Dear Secretary Burgess, Judge Moreno, Judge Costello and Judge Caruso:

Apex Clean Energy, and its consultant WEST, Inc., deliberately engaged in a deception which went to the heart of their claim that their proposed project would pose no risk to New York's threatened bald eagle on Galloo Island. This deception included omitting important information about the presence of a bald eagle nest on Galloo, which was compounded by numerous assertions, in several submitted documents, that no bald eagles were found or observed on Galloo Island.

Apex essentially set in motion a fraudulent scheme, backed by WEST, calculated to avoid the honest assessment of the risk of their project to the threatened bald eagle. By stating unequivocally that bald eagles did not nest on Galloo, Apex evaded any discussion and vetting of best practices and options to avoid, minimize and mitigate impacts on bald eagle. Specifically, it circumvented any discussion that might have occurred relative to NYSDEC's 2016 Conservation Plan for Bald Eagle in New York State.

Fraud of Omission

On August 24, 2018 Maurer-Schneider submitted an interrogatory request asking if Apex's consultant observed "*any bald eagle nesting activity or other evidence that would substantiate claims that bald eagles nested on Galloo in the recent past?*" Apex's Neil Habig and David Phillips responded in an email sent by Attorney Jessica Klami to all parties on September 5, 2018:

> "*In the spring of 2017 a potential eagle nest was brought to the Applicant's attention by the island caretaker. During the 2017 Point Count Survey, conducted in support of the Applicant's permit under the federal Bald and Golden Eagle Protection Act (BGEPA), Stantec consultants observed the nest. The nest was then evaluated by Western Ecosystem's Technology on April 25, 2017 via aerial survey, at which time a stick nest was confirmed with no eagles, eggs or chicks observed in the nest.*"

In this response Apex is acknowledging a "potential eagle's nest" on Galloo Island that was observed by both Stantec Ltd and WEST, Inc personnel. In Applicant's Exhibit 22, Appendix DD and Appendix EE submitted six or more months after the nest discovery, there is not a single mention of a "potential eagle's nest" on Galloo. Furthermore,

in Apex's September 5, 2018 response there is no indication Apex pursued further study to determine the nest's species origin or that Apex notified regulatory agencies, i.e., USFWS and NYSDEC.

In Appendix DD the Article 11 Endangered and Threatened Species Incidental Take Permit Apex describes an August 30, 2017 meeting with USFWS staff where they discuss options connected with "potential responses to future nesting", but Apex fails to inform the USFWS that Apex found a "potential eagle's nest" on Galloo four months prior to their meeting:

> "*Because it is possible that nesting could occur during development, construction or operations, the Applicant coordinated with the USFWS on potential responses to future nesting in a meeting on August 30, 2017. USFWS agreed that at this late stage in development it would be inappropriate to move turbines, curtail turbines, or implement other measures with large impact on generation in response to future nesting on the island if it occurs, but that one of the following options were available to the Project to ensure compliance with federal regulations, depending on when nesting occurs: 1) Development: obtain a permit to remove the nest to deter nesting where construction or operations risk would be anticipated, 2) Development or Construction: obtain a permit to harass eagles to deter them from nesting in areas of potential risk, or 3) Construction or Operations: monitor the nest to determine how they respond to the project This potential loss of nesting productivity is unlikely, but considered in the take requested under Article 11 in this conservation plan. The Applicant has proposed to mitigate impact to bald eagles through lead mitigation and conservation as described in Section 5.0.*" (Appendix DD, p.21)

Clearly, Apex's omission was dishonest and diverted the discussion, away from dealing with the truth, that there was potential eagle nesting on Galloo, well before Apex submitted their application with enough time to consider other design elements that could have avoided or minimized risks to nesting bald eagles.

Fraud from False Statements

What follows are a listing of fraudulent statements occurring in documents submitted by Apex in their Galloo Island Wind application:

Exhibit 22 Terrestrial Ecology (filed September 25, 2017)

1. "*Bald eagles were observed as non-breeding during 2015 breeding bird surveys in addition to other on-site surveys.*" (p.44)
2. "*Even though there are currently no known nesting bald eagles on or within 10 miles from the island, the species has been observed on the island at levels that may subject it to risk (WEST, 2017).*" (p.48)
3. "*While there are no records of bald eagle nests on or near Galloo Island, the 493 acres of forest habitat on the island can be considered potentially suitable habitat for bald eagle roosting.*" (p.49)
4. "*Although no current or historical bald eagle nests have been documented on the island, the eagle population is expanding and the species may begin nesting on the island at some point in the future if it is not deterred or displaced by the operation of the Facility. The Facility is thus not expected to impact nesting eagles.*" (p.49)

Appendix EE – Avian Risk Assessment (WEST, Inc. filed October 5, 2017)

1. "*… however, NYSDEC reported no known bald eagle nests occurring within 10 miles of the Project (B. Denoncour, NYSDEC, pers. comm., April 13, 2017).*" (p.6)

Appendix DD – Article 11 Take Permit Applicaton (WEST, Inc., filed November 29, 2017)

1. "*Bald eagle is also included in this Plan, because while there are currently no known nesting bald eagles on or within 16 km of Galloo Island (B. Denoncour, NYSDEC, pers. comm., April 13, 2017).*" (p.5)
2. "*Although such treed habitat could be considered potentially suitable for nesting, no known records of bald eagle nests on or near the island have been documented (B. Denoncour, NYSDEC, pers. comm., April 13, 2017).*" (p.8)
3. "*Bald eagles are not currently breeding on Galloo Island, and the closest known nests are located 14-18*

miles away to the east around Black River Bay and north on Carleton Island (B. Denoncour, NYSDEC, pers. comm., April 13, 2017). (p.8)

4. "*No known or historic bald eagle nests have been documented on the island, and the nearest known nest is over 16 km (10 mi) away (NYSDEC, pers. comm., September 30, 2015 and April 13, 2017). Given the expanding bald eagle population, if nesting habitat was optimal, it would be reasonable to expect nesting to have occurred in recent years. Therefore, although nesting could occur during development, construction or operations of the facility, it would likely only occur after other more suitable nest sites in the region become occupied.*" (p.18)
5. "*Therefore, construction and operation of the proposed Project may impact a few non-breeding and/or wintering bald eagles on the island (Old Bird, Inc. 2008a; 2008d), but are not likely to disturb bald eagles nesting in the region.*" (p.18)

These omissions and false statements paint a very clear picture of a conspiracy between Apex and its consultant WEST, Inc., who prepared the appendices and did the aerial survey, to deceive the examiners, the parties, the siting board and the public. The purpose for the deceit may have been to postpone finding the nest until construction began and then claiming the project was too far along to do anything other then destroy the nest and harass adult bald eagles from ever trying to nest on Galloo again.

Apex may claim they had no evidence that the nest was built by a bald eagle. This argument is absurd, since Apex did not do what it should have done and what I did when I first learned of the report – I contacted NYSDEC. NYSDEC and USFWS have expert staff that could have inspected the nest, rather than base an examination on aerial flight data, and provided their expert opinion on what species built the nest. Moreover, both agencies would have undoubtedly planned a survey

effort in 2018 that could have confirmed use and reproduction by bald eagle to better inform the siting board regarding bald eagle reproduction on Galloo. Apex was, therefore, negligent and irresponsible not reporting the nest to authorities.

The fact this fraud is so unambiguous and well documented makes moving forward impossible. To allow Apex to simply edit-out the lies and cleanse their documents sends a terrible message to the public – you can lie, cheat, and get caught in the Article 10 process with little inconvenience or penalty. But, there must be consequences other than opposition parties complaining again during the hearing phase.

One example of the possible consequence of submitting a fraudulent permit is to consider what will happen when Apex submits their Article 11 Take Permit Application to NYSDEC. The final requirement for submission of the Take Permit to NYSDEC (Section C – 182.11) includes an executed certification statement:

> "*I certify that the information submitted in this application is complete and accurate to the best of my knowledge and belief.* ***I understand that any false statement herein may subject me to denial, suspension or revocation of this permit, and to civil and criminal penalties under the laws of the State of New York.***" (our emphasis added)

If Apex submits their fraudulent Take Permit, then NYSDEC has ample cause to deny the permit and prosecute Apex.

Likewise for the siting board, examiners have ample cause to recommend dismissal of Apex's Galloo application. The expectation for all the parties to the Article 10 process is an honest application. This is particularly true for local citizenry, because what you decide we must live with here in Jefferson County. This is our home. We do not want our local resources sacrificed for a lie. We deserve better.

The remedy for Apex's fraudulent actions and documentation must be a lesson to others. We should not reward those who would cheat New York. What we have exposed is perhaps unprecedented, and for all these reasons Apex's application should be dismissed. It is an unfortunate conclusion for Apex, but it is a self-created circumstance brought about by the choices of an ambitious energy company that thought they could deceive us and get away with it.

Respectfully yours,

Clifford P. Schneider, Individual Party

Endorsed and supported by:

Claudia Maurer, Individual Party

John Culkin, Town of Henderson Supervisor

Ann and Martin Maurer, Individual Parties

Documentation for Suggested Changes to the Botetourt County Wind Ordinance

Contents

TAB A

Vetting New Technology

Vetting New Technology

Suggested change to ordinance

(l) *Utility scale wind energy system requirements.*

(7) *Verification of equipment.* The utility scale wind energy developer shall submit the type of turbine proposed to be installed. Evidence shall be provided in the application that the specified turbine has been in constructed and operated successfully in similar field conditions as proposed in the Special Exception Permit for a period of five years prior to their installation.

Rationale for change

The reason for this change is that utility scale wind turbine technology is rapidly evolving. New turbine designs are being deployed every year that have not been tested in the field. Secondly, the siting of turbines has an effect on their performance. Wind turbulence is vastly different in the mid-west plains or off-shore than on eastern mountaintops. Turbulence places extreme stresses on turbines resulting in breakdowns, and more importantly for Botetourt County, turbine fires. The turbines installed must have a track record of satisfactorily operating in a mountaintop environment. The turbine offered in Apex's new application began field testing in November 2018 and was deployed for field use in March 2019. Does Botetourt County really want untested equipment of this size constructed without adequate field experience?

References

1. "The Hidden Dangers of Mountains Wave Turbulence", James Reynolds, Meteorologist in Charge, The Front, Nov. 2011, https://www.weather.gov/media/publications/front/11nov-front.pdf
2. "Mountain Wave Turbulence", https://www.atsb.gov.au/publications/2005/mountain_wave_turbulence/
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4. "Wind turbines operate under great turbulence, with consequences for grid stability", Lisa Zyga, Phys.org, https://phys.org/news/2013-04-turbines-great-turbulence-consequences-grid.html
5. "Wind Power News: Accidents", National Wind Watch, https://www.wind-watch.org/news/tag/accidents/?titles=on

TAB B

Sound Study

Sound Study

Suggested change to ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(4) No tower should have any sign, writing…

(e) ~~Audible sound from a wind energy system shall not exceed sixty (60) decibels, as measured from any adjacent non-participating landowners' property line. This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation.~~ *Audible sound.* During the daytime, audible sound from a wind energy system shall not exceed 60 L_{max} dB or 45 L_{Acq} dB(A), or A-weighted decibels, outside the nearest non-participating landowners' occupied building. At nighttime, or at all times inside the nearest non-participating landowners' occupied building, audible sound from a wind energy system shall not exceed 45 L_{max} dB or 30 L_{Acq} dB(A). This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation. The Planning Commission retains the authority to require that all noise surveys, measurements, studies, and reports, both pre-construction and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind energy system developer.

(f) *Inaudible Sound and/or Vibration.* Inaudible sound or noise from wind-energy systems consists of both low-frequency noise (LFN or infrasound) and amplitude modulation noise (AMN). Wind-energy systems shall not create vibrations that are detectable by humans within non-participating landowner's homes. The applicant shall provide acoustic modeling at the time of application estimating low-frequency vibrations for both participating and non-participating landowners. Near-field and far-field inaudible sound levels shall be estimated from the closest non-participating landowner's occupied building using the dB(G) weighting scale and IEEE 2400-2016, *IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques.* The modeling study of low-frequency sound and vibration shall demonstrate meeting: (1) ANSI S12.9/Part 4-2005 Annex D threshold for minimal annoyance and beginning of rattles from outdoor low-frequency noise and (2) the ANSI S12.2-2019 sound level limits for moderately perceptible vibration and rattles within homes as modified to equivalent outdoor sound limits in Table 2, page 139 of the March-April, 2011 Noise Control Engineering Journal article by O'Neal, et al. Source (2) shall be used to determine if outdoor sound levels will create perceptible vibration or low-frequency problems indoors. If the post-construction sound survey outdoor octave-band sound-level measurements reveal that low-frequency

sound from wind turbines at the exterior of an occupied or non-occupied building of a non-participating landowner may create a vibration or low-frequency noise problem, then further studies shall be conducted to assess the problem. The further studies shall use the above referenced ANSI and IEEE standards. If the further study indicates that the low-frequency sound/vibration exceeds acceptable levels, mitigation shall be required by the Planning Commission. Mitigation may include operational changes to the turbine(s), modifications to the subject building or buildings, or other measures as determined by the Planning Commission and paid for by the wind-energy facility owner. No wind-energy system shall generate or permit to be generated any inaudible sound or vibration in the low-frequency range of 0.1 to 20 Hz, including the 1, 2, 4, 8, and 16 Hertz octave bands that is perceivable by human sensation or exceeds a level of 50 dB(G) at any time and for any duration either due to impulsive or periodic excitation of structure or any other mechanism at a non-participating landowner's property line or at any point within a landowner's property.

(g) *Sound and Noise Characteristic Education.* The characteristics of any and all wind turbine sounds and noises, both audible and inaudible, shall be described in terms of frequency of occurrence, when it will occur, duration, tonal quality, and range of loudness. In addition to a written description, the applicant shall provide a recording or video of the various operational sounds or some other form of demonstration. A copy of all educational materials shall be provided to the Planning Commission at the time of application. Failure to provide information on all known or predictable sounds and noise, both audible and inaudible, occurring from the operational wind-energy system facility (including but not limited to blade yawing, cooling systems, hydraulics, amplitude modulation noise, wind buffeting, electrical transformers) may result in a violation of the special land use. Along with all educational materials, the applicant shall provide the measures, if any, that are proposed for implementation to mitigate these sounds and noises. The Planning Commission may require the applicant to implement measures to mitigate and/or eliminate an operational sound (other than the spinning blades)

And,

(8) *Special exception permit required.*

(g) *Sound study.* A sound study, prepared by an independent acoustical engineer approved by the Planning Commission, ~~to~~ shall provide an assessment of pre-construction and post-construction sound conditions. Additionally, the applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring

1. *Pre-Construction Sound Survey.* A predictive, pre-construction sound modeling study of turbine noise shall accompany an application to verify that ordinance requirements can be met. The sound modeling study must follow the most current version of International Standard, ISO 9613-2 "Acoustics-Attenuation of sound during propagation outdoors – Part 2: General method of calculation." The sound model used in the study shall incorporate actual wind turbine sound power levels, both audible and inaudible, provided by the wind turbine manufacturer, measured from the identical make and model of wind turbine generator proposed by the applicant. The model of wind turbine generator proposed shall have been operational at a manufacturer's test site for at least six months, and audible and inaudible sound measurements collected for the entire duration of the manufacturer's operational test shall be provided concurrently with the pre-construction sound modeling study.

2. *Post-Construction Sound Survey*. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission, and at the expense of the wind energy system owner, within 6 months of the commencement of the operation of the project. The post-construction study shall be performed at the same locations as the pre-construction study unless additional or alternative locations are required by the Planning Commission. The study should generally follow the procedures in the most recent versions of ANSI S12.9 Part 3 (with an observer present) and ANSI S12.18. All sound pressure levels shall be measured with instruments that meet ANSI or IEC Type 1 Precision integrating sound level meter performance specifications. In addition to measuring A-weighted sound levels, at least one monitoring location shall collect one-third octave band data down to 1 Hertz, measured using G-weighted sound levels and following IEEE 2400-2016, IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques. Additionally, the applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring. The Planning Commission retains the authority to require that all noise surveys, measurements, studies and reports, both pre- and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind developer.

Rationale for Change

The current wind ordinance has general guidelines for Audible Sound but these do not specify how sound is to be measured. There are differing ways to measure sound and if not specified, the results may be misleading. Second, sound levels considered annoying or disruptive are considerably lower at night during sleep time. Third, the county should further protect itself from possible data malfeasance by requiring county-approved sound collecting sources independent from a wind energy applicant.

Also, the wind ordinance provides regulations for Audible Sound but none for Inaudible Sound (Low Frequency Noise, Infrasound). Many authoritative sources indicate industrial-scale wind turbines produce LFN / infrasound which has been documented as harmful to humans and animals. Including LFN / infrasound regulations in pre-construction sound modeling requirements and post-construction measurements is prudent and may preclude resident litigation related to this issue.

The existing Sound Study text regarding the pre- and post-construction sound studies within the wind energy ordinance is inadequate to fully perform its intended purpose. As written, an applicant may hire their own "independent" expertise, without county approval or oversight, and this expertise may use any manner of data in the pre- and post-construction models, making results from these models unlikely to simulate realistic projected sound conditions for the modeled location.

Finally, county residents are unfamiliar with all possible manner of noises which may emanate from a wind turbine facility. If, after construction, unexpected sounds or noises occur that alter or affect their daily lives, nearby residents may seek legal recourse from the county for failing to inform them. Therefore it is important for all parties to have a good understanding of what the various sound-related impacts are of a large scale wind energy project.

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TAB C

Designated Special Project Area Wildlife Corridor

Designated Special Project Area Wildlife Corridor

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more*

(4) No tower should have any sign, writing…

(o) Utility scale wind energy systems shall be prohibited from being constructed in the designated Special Project Area Wildlife Corridor.

Rationale for Change

An industrial wind energy system requires a large area of land to be disturbed. The siting of turbines typically requires at least 5 acres per turbine, and then depending on the location of the project significant clearing of land for the turbines, support buildings, etc. may be required. In addition, in Botetourt County, desired locations for industrial wind energy systems are located on mountaintops where construction of access roads and turbine foundations will require substantial blasting. All of these activities and alterations of the landscape will have a significant impact on wildlife and vegetation. Botetourt County has been blessed with being located in a biologically diverse and significant area that should be preserved. This aspect has been recognized by the Virginia Outdoor Foundation and other environmentally oriented organizations, and as a result a portion of northern Botetourt County (including North Mountain) has been designated as the Special Project Area Buffalo Creek / Purgatory Wildlife Corridor (Wildlife Corridor) by the Virginia Outdoor Foundation (VOF) in 2013 and is one of VOF's designated regions of unique natural resources.

- The Wildlife Corridor is scored and designated with an Ecological Integrity Score of C1 – Outstanding. The Ecological Integrity Score rates the relative contribution of the area to ecosystem values that have a high degree of biological diversity and contribute to water quality enhancement. The Department of Conservation and Recreation / Division of Natural History Program utilizes the Virginia Natural Landscape Assessment to assign over 50 attributes to ecological cores providing information about rare species and habitats, environmental diversity, species diversity, patch characteristics and water quality benefits.
- The Wildlife Corridor is recognized by the Nature Conservancy as a biodiversity hot spot.
- The Wildlife Corridor is one of the few remaining intact rural east-west connections between the Allegheny and Blue Ridge Mountains. This undeveloped corridor provides critical habitat connectivity and safe passage between ridge systems.
- Virginia Wildlife Action Plan 2015 – Roanoke Valley Region calls for establishing corridors both north/south and east/west between protected areas to assist species movement.
- The Wildlife Corridor includes numerous extensive conservation stewardship easements.

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Tab D

Wildlife Protection

Wildlife Protection

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(5) Local, federal and state requirements

(b) Wind energy systems shall be designed, constructed and operated without significant adverse impact ~~to fish, wildlife~~ on wildlife (defined as non-domesticated mammal, bird, reptile, amphibian, fish, and invertebrate species) or native plant resources, including ~~fish and wildlife habitat~~ local, regional, and state wildlife habitat and ecosystems, special protection areas, migratory routes, and state or federally-listed threatened or endangered fish, wildlife or plant species, and to meet all applicable state and federal environmental requirements.

1. If such standards and regulations are changed, then the owners and operators of the wind energy systems shall bring such systems into compliance as required by such applicable state or federal agency, following stated deadlines or within 180 days of enactment of the change, whichever is sooner. Failure to comply with federal or state standards and regulations shall constitute grounds for condemnation and removal of the noncompliant systems by the county at the owner's or operator's expense.

2. Before beginning construction, wind energy system developers shall formally participate in the US Fish and Wildlife Service (USFWS) Energy Project Review, including completion of a Habitat Conservation Plan and Eagle Conservation Plan. All projects shall be in receipt of an Eagle Take Permit before construction starts.

3. Technological requirements: wind energy system developers shall retrofit existing wind energy system projects with detection and shutdown systems that provide protection to wildlife listed in Virginia's Wildlife Action Plan, Species of Greatest Conservation Need, and other State and Federal Guidelines regarding migratory bird and bat species. New wind energy systems shall perform up-to-date radar and other detection surveys prior to construction. Technological studies to determine which of the many detection systems available will be selected shall be performed by independent consultants selected, approved by the Planning Commission, and paid for by the wind energy system developer.

4. Compensatory mitigation: in light of evolving federal and state migratory bird statutes, the Planning Commission shall establish a standing $500,000 Wildlife Compensation Fund, funded by the wind energy system developer, to be used to compensate for any loss of wildlife species. Fair compensation and equivalence will be jointly determined by the county and the wind energy project operator, and all payouts from this Fund shall be calculated semi-annually and shall go to bona fide wildlife conservation projects in Botetourt County.

Rationale for Change

5 (b) 1. The revised language of 5(b) does not change the original intent; it does, however, update the language to reflect current accepted biological and ecosystem-based concepts.

Change 1

As wind energy standards and regulations change for federal and state and agencies, owners and operators should be responsible for compliance. Botetourt should not bear the burden of these inevitable changes in regulations.

Change 2

As the ordinance is currently written, Botetourt does not require owners or operators to participate in a formal U.S. Fish and Wildlife Service (USFWS) Energy Project Review or seek an Eagle take permit. This is contrary to USFWS guidance on due diligence: "Even for permits with low fatality predictions, we believe it would be remiss not to review whether eagle take is within the authorized level, and whether there are elements of the adaptive management strategy that should be implemented" (USFWS, Eagle Permits; effective Jan 1, 2017). The Service advises all operating industrial wind facilities to seek a take permit, preferably in the planning stages, to further federal goals: "of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the geographic range of each species.'' Emphasis is on "modern" and "scientifically rigorous," long term, life-of-project rather than short-term, objectives. USFWS 2017 guidelines include detailed changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees. The onus for compliance with complicated and updated federal standards should be on the developer; the county can ensure such by requiring all wind energy system projects, regardless of stage of development, to formally participate in the tiered USFWS Energy Project Review and secure a Take Permit. The Energy Project Review requirement will also benefit wind developers in complying with Virginia statutes and satisfying local and state requirements: "For state-listed T&E [threatened and endangered] wildlife, the applicant shall take all reasonable measures to avoid significant adverse impacts or shall demonstrate in the mitigation plan what significant adverse impacts cannot practicably be avoided and why additional proposed actions are reasonable. These additional proposed actions may include best practices to avoid, minimize, or offset adverse impacts to resources analyzed pursuant to 9VAC15-60-40."

Change 3

The county wind ordinance does not account for inevitable changes in state and federal regulations that occur during or after permitting. Requiring owners and operators to bring systems into compliance helps assure that the County is exercising due diligence and oversight and may not held legally responsible. For example, even though a wind developer may apply for an incidental take permit, the USFWS does not allow any golden eagle deaths. There are proven sightings of golden eagles on North Mountain. The county wind ordinance does not document how a wind developer shall count and report avian deaths, allowing the wind developer an opportunity to hide and/or not report golden eagle deaths. If golden

eagle deaths occur (a felony), the county could be liable for federal penalties for not including ordinance direction on avian death reporting, mitigation requirements and penalties.

Recent technological advancements in wildlife detection and fatality counts to better protect migratory species are now available to wind owners and operators. Tech solutions to what has been an unacceptable and egregious loss of migratory birds and bats at wind installations have now been studied extensively and wind energy companies are employing a variety of technologies and operational techniques to minimize fatalities of vulnerable species. Numerous tech companies offer consulting and tech fixes for retrofitting older systems or planning new installations. This ordinance requires applicants to incorporate new technologies into pre-construction planning documents. Wind operators at operating projects shall be required to employ tech upgrades as a condition of their continued operation.

Change 4

Numerous Botetourt citizens, through volunteer efforts and in conjunction with local non-profit wildlife conservation groups, have for many years spent considerable time and money helping the county meet Botetourt's comprehensive planning goals to ensure residents "are enjoying a quality of life marked by...environmental protection" (Vision for Botetourt County, Comprehensive Plan, 2010, page 3).

Indeed, "It was evident from comments made at the public-input meetings that Botetourt County residents take pride in the unique natural resources that make the County a desirable and beautiful place to live" (Summary of public Input, Comprehensive Plan, 2010, page 9-10). To that end, county planners adopted a goal to "Enhance and protect Botetourt County's environment from adverse environmental impacts of land development through implementation and enforcement of local, state and federal environmental regulatory requirements" (Cultural and Environmental Resource Goals, Comprehensive Plan, pages 78-79).

Federal and state migratory bird and wildlife conservation statutes continue to adapt, more recently to issues of climate and environmental justice and habitat protection. The Community Mitigation Fund for Wildlife Conservation (CMFWC) would serve as one cost-effective way Botetourt could mitigate adverse environmental impacts on the local level. In addition, there is evidence that wind developers are slow to respond to legal compensatory and mitigation efforts brought by citizens or counties affected negatively by project decisions. See bibliography. While project developers benefit from taxpayer subsidies and tax breaks, citizens are often uncompensated for their restoration and wildlife protection efforts. A CMFWC would go a long way in recognizing and supporting these citizen conservation efforts.

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TAB E

Monitor Bird and Bat Mortality

Monitoring Bird & Bat Mortality

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(5) Local, federal and state requirements

5. Post construction wildlife mitigation: Bird and bat collision counts and mortality data shall be performed and/or supervised post-construction by independent biologists, using the most current carcass count and collection methods, and conforming to best practices as required in USFWS and Virginia conservation regulations. The county shall hire an independent contractor to perform the regular searching and counting of bird and bat carcasses at the wind-energy operator's expense. Results of the counting shall be made available to the public.

i. Wind-energy project operators, employees, USFWS, lease holders, etc. shall be prohibited from handling, moving, or touching carcasses. Only employees of the independent contractor assigned to perform the searching and counting shall be allowed to handle carcasses.

ii. All scanning for carcasses will require the contractor to use a reasonable and ethical attempt to find carcasses. Formal searches 1 ½ times out from maximum turbine heights shall be scanned for carcasses morning and evening. At least once per week scanning shall include all areas within the required set-back distance from turbine towers.

iii. During searches, every carcass or wounded species found shall be photographed and this information disclosed to the public. In addition, this disclosure will apply for all special status species for the operational life of the wind project.

iv. Any unauthorized removal of carcasses shall be subject to civil penalties. A repeated instance of unauthorized removal of carcasses shall result in the operator of the wind energy project losing the license to operate the wind energy project, and the turbines will be shut down until another operator becomes licensed and takes control of the project.

Rationale for Change

It has been well established that owners and operators of industrial wind facilities underreport bird and bat mortality. And, wind power companies have been sued to prevent the disclosure of mortality data (Reference 1) claiming it is proprietary. Since wind companies only "self-report" bird and bat mortality, there is a direct conflict of interest. In addition, if carcass searches are not made frequently enough, carcasses may decompose and not be recognized, or may be carried off by scavengers.

A report from the Altamont Pass Wind Resource Area did a careful study of bird mortality and found instances where bird carcasses were hidden. In an article about bird mortality referencing this report (reference 2) the following statement is made:

*This study stands in marked contrast to studies being conducted today, especially the **Wildlife Reporting Response System** that is currently the only analysis happening or permitted at most wind farms. The WRRS is the power companies' own fatality reporting system, and allows paid personnel to collect and count carcasses. It explains why mortality numbers are always on the low side and why many high-profile species are disappearing near turbine installations.*

This article also discusses the greater danger that larger turbines present to birds and bats.

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3. "How Communities Can Stop Wind Industry Research Rigging", Greenwich Neighbors United, Eric Tuttle, December 2019, http://www.greenwichneighborsunited.com/wp-content/uploads/Victims-of-Industrial-Wind.pdf

TAB F

Protect Property Values

Protect Property Values

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(6) ~~Reserved.~~ Property Values. A property value analysis shall be prepared by a licensed appraiser in accordance with the standards of the real estate appraisal industry. The appraiser shall be selected without prejudice by the county, and paid for by the applicant.

(a) The appraisal analysis shall include all properties within a three-mile radius of the boundaries of the project or with visibility of one or more turbines as determined by the visual impact study.

(b) A fund shall be established with the county to cover properties identified in item (a). Based on said appraisal, the fund shall be used to compensate property owners whose selling price is less than the appraised price due to the presence of the utility-scale wind-energy project. The fund shall be in the form of a surety bond in the amount equal to 10% of the total appraised value of all properties in item (a) and paid by the applicant to be held by the county for the life of the wind-energy project.

(c) The applicant shall sign a RESIDENTIAL PROPERTY VALUE GUARANTEE AGREEMENT provided to all property owners as determined in item (a), allowing a property owner to agree or decline to participate in the property value guarantee program. The applicant shall notify all identified property owners via registered mail that such a program exists and include in the mailing the guarantee agreement form and a 90-day time period from the date of notice for an owner to respond.

Rationale for change

While the wind industry claims that proximity to an industrial wind facility does not affect property values, several independent studies have documented a substantial amount of evidence to the contrary. The studies that win developers most often cite as “proof” that wind turbines do not negatively impact property values originated ten or more years ago by the Lawrence Livermore National Laboratory. However, these studies are hardly objective, as all of them were at least partly funded by the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Wind & Hydropower Technologies Program. This is the arm of the Energy Department that promotes renewable energy projects across the United States.

Since the publication of the Lawrence Livermore Labs studies, a number of regional and community-specific studies in the mid-west and northeast portions of the United States, in addition to Ontario, Canada offer impacts of approximately 12% to 45% depending upon a home’s distance from, and view of an industrial wind facility (see references below). And, in the PBR application for Rocky Forge, in Attachment 8: Mitigation Plan, section C “Description of Potential Visual Impacts to the Tredegar House

and Mitigation Measures" the developer (Apex Clean Energy) acknowledges adverse impact to the scenic, cultural, and historic environment for the Tredegar House:

… it was determined that project design and location changes were not viable and that meaningful and effective opportunities to avoid or minimize visual impacts to the Tredegar House are not available. Therefore, the Applicant proposes the following actions as mitigation for potential visual impacts to the Tredegar House

And, therefore one of the mitigation actions that the developer stated that they would take is a:

Financial contribution to the Botetourt Historical Society to support education and program development relative to the historic mining and furnace operations in the county

Since a historic property is being adversely affected by proximity to, and visibility of, wind turbines, it is reasonable to expect that residential properties may also be adversely impacted. And it is only fair to property owners that the value of their property be guaranteed.

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TAB G

Economic Impact Analysis

Economic Impact Analysis

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(7) ~~Reserved.~~ Economic Impact Analysis Report. The county shall select, paid by the wind-energy applicant, an independent financial organization experienced in performing economic impact analyses. The economic impact analysis report shall cover the entire life-cycle of the proposed wind-energy project, from construction through decommissioning. The report shall be completed prior to construction and be publicly available.

Rationale for Change

Part of the claim made by companies that want to build an industrial wind facility in an area are the economic benefits that the area will reap. And while it is true that there will be economic benefits (construction jobs, tax revenue, and a small number of permanent jobs), there are also economic costs that will occur. These costs can be reduced property values resulting in lower real estate tax revenue, decreased tourism, etc. (Reference 1). In order for the county to make an informed decision about whether a proposed industrial wind facility will benefit the county economically, a full cost benefit analysis must be performed (Reference 2).

References

1. "Estimated Annual Community Financial Impact for the Proposed Encumbrance Wind Project", Alliance for Wise Energy Decisions, http://wiseenergy.org/Energy/Wind_Economics/Wind_Net_Economics_Summary.pdf
2. "An Expert Guide to Cost Benefit Analysis", Smartsheet, https://www.smartsheet.com/expert-guide-cost-benefit-analysis

TAB H

Wind Study

Wind Study

Suggested Change to Ordinance

(8) *Special Exception Permit Required*

> (c) *Wind study.* The applicant shall provide a summary of the wind data gathered for the proposed system with the application, including Wind Rose Diagrams. ~~The dates and periods of the collection of the wind data shall also be submitted.~~ The Wind Rose Diagram will demonstrate the dates, periods of collection, direction, duration, and intensity of the wind. A Wind Rose Diagram shall be provided for each MET tower, for each full year and portion thereof in which a MET tower has collected wind data, for each height of wind sensor mounted on the meteorological tower, from every MET tower within the proposed project area. In addition, the applicant shall provide the Maximum Power Coefficient(s) for the wind turbine model(s) to be used in the project, as well as a Weibull distribution graphic of wind speed for each full year and portion thereof in which a MET tower has collected wind data (to verify the applicant's claim regarding the amount of electricity generated).

Rationale for Change

The county has received inadequate summary wind information from which to make an informed decision as to whether North Mountain is a viable candidate for industrial-scale wind energy turbines. The manner in which an applicant provides summary wind data to the county is not stated. The current wording allows an applicant to provide summary wind data provided by others, not collected on-site from the temporary meteorological towers specifically erected and approved for this purpose.

It is important for the county to know how much electricity will be generated from a proposed large scale wind project in order to have a complete understanding of the costs and benefits to the county. There are several critical factors that determine the actual amount of energy that will be produced by the proposed project:

Capacity Factor - is defined as the actual electricity production divided by the maximum possible electricity output of a power plant, over a period of time. For PJM, for wind projects located in mountainous terrain, the capacity factor is 14.7% (reference 1). This means that for a wind project that claims 100MW, the actual power generated over time will only average 14.7MW.

Wind Power Density – is a useful way to evaluate the wind resource available at a potential site. The wind power density, measured in watts per square meter, indicates how much energy is available at the site for conversion by a wind turbine. See reference 2 for how this is calculated.

Power Output – the actual power being generated by a wind turbine is calculated with the formula:

$$P = k * Cp * 0.5 * D * A * V ^ 3$$

Where: P = Power output, Megawatts

K = 0.133, a constant to convert to Megawatts

Cp = Maximum power coefficient, ranging from 0.25 to 0.45

(theoretical maximum = 0.59)

A = Rotor swept area, sq. ft., or (rotor diameter ft / 2) ^2. * 3.1416

V = Wind speed, mph

Because there are many factors that determine the actual power produced by a wind turbine, the large wind energy applicant generally just makes the claim that a given industrial wind project will "generate enough power for X homes". This is a very misleading statement since that amount of power is rarely produced as it is a theoretical maximum. As can be seen in reference 4, there are many factors that determine the amount of energy produced, and it is important to know what the actual predicted amount will be for each month of the year so that a rational judgement can be made as to the benefit of a specific project.

References

1. "Class Average Capacity Factors", PJM Interconnection LLC, June 2017, https://www.pjm.com/-/media/planning/res-adeq/class-average-wind-capacity-factors.ashx?la=en
2. "Lesson Number 1 .in an Oklahoma Wind Power Tutorial Series", Tim Hughes, Environmental Verification and Analysis Center, University of Oklahoma, https://openei.org/w/images/0/0e/Oklahoma_Wind_Power_Initiative_Lesson1_windenergycalc.pdf
3. "Wind Turbine Power Calculations", RWE npower renewables, Royal Academy of Engineering, https://www.raeng.org.uk/publications/other/23-wind-turbine
4. "Windpower Program Technical Web pages",
    a. http://www.wind-power-program.com/turbine_characteristics.htm
    b. http://www.wind-power-program.com/wind_statistics.htm
    c. http://www.wind-power-program.com/mean_power_calculation.htm
    d. http://www.wind-power-program.com/betz.htm
    e. http://www.wind-power-program.com/intermittency.htm
    f. http://www.wind-power-program.com/intermittency2.htm

TAB I

Transportation Impacts

Transportation Impacts

Suggested Change to Ordinance

(8) *Special exception permit required*

(j) *Transportation Impacts:* An analysis of impacts on local transportation shall be prepared, regarding impacts anticipated during construction, reconstruction, modification, or operation of the wind project. Transportation impacts to be considered shall include, at a minimum, potential damage to local road surfaces, road beds and associated structures; potential traffic tie-ups by haulers of wind project materials; impacts on school bus routes; impacts of visitors to the wind project facilities. Local roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(k) *Transportation Plan:* A transportation plan describing routes to be used in delivery of project components, equipment and building materials, and those to be used to provide access to the project site during and after construction. Such plan shall also describe any anticipated improvements to existing roads, bridges or other infrastructure, and measures to restore damaged/disturbed access routes following construction. Roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(l) *Traffic Routes:* Construction of utility scale wind energy projects pose potential risks because of the large size construction vehicles and their impact on traffic safety and their physical impact on local roads.

1. Construction and delivery vehicles for large wind projects and/or associated facilities shall use traffic routes established as part of the application review process. Factors in establishing such corridors shall include:

a. minimizing traffic impacts from construction and delivery vehicles;

b. minimizing large wind project related traffic during times of school bus activity;

c. minimizing wear and tear on local roads; and

d. minimizing impacts on local business operations. Permit conditions may limit large wind project related traffic to specified routes, and include a plan for disseminating traffic route information to the public.

2. The applicant is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads.

3. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing.

No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road. Prior to placing the large wind energy project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant.

And

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more*

(13) *Remediation of Damaged Roads.* The utility scale wind energy operator is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing. No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road. Prior to placing a large wind project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant

Rationale for Change

The construction of an industrial wind facility is a significant construction project involving earth moving equipment, blasting, cranes, and construction of access roads to the project site. Also, large quantities of concrete are required for the turbines. For example, at a wind project in Ohio, for turbines that are 328 feet tall, foundations 15-20 feet deep were required. As written in reference 1:

On average, each of these below-ground support systems used 60 truckloads of concrete (750 yd^3),

After all of the construction required for placement of the turbines, the turbines themselves must be moved onto the site. By itself this phase of the project has significant impacts to traffic flow and potential roadwork can be required (see reference 2 for some transport images). All of these factors will have a significant impact on county infrastructure, perhaps requiring widening of bridges and roads, potential damage to road surfaces and road beds, additional removal of trees, etc.

References

1. "Take a closer look at pouring turbine foundations", Windpower Engineering Development, Paul Dvorak, December 2012, https://www.windpowerengineering.com/take-a-closer-look-at-pouring-turbine-foundations/

2. Images of turbine transport, Google search, https://www.google.com/search?q=wind+turbine+transport&sxsrf=ACYBGNQgrjCHhHivh1Na4FzulieEl_7kZg:1578432003547&tbm=isch&source=iu&ictx=1&fir=MaRpLKsfzkE81M%253A%252CJjbctZLTB_ZupM%252C_&vet=1&usg=AI4_-kTLTEW9aZGTEjm1CgQLuF3VlkqOfg&sa=X&ved=2ahUKEwjFm_62tfLmAhUwFzQIHcIODBEQ9QEwC3oECAkQPw#imgrc=MaRpLKsfzkE81M:
3. "Wind Energy Facility Local Law for Town of Hammond", Town Board, Town of Hammond, NY, 2009, https://townofhammondny.com/wp-content/uploads/2018/08/2009-LL-1-wind-energy-facilities.pdf

TAB J

Natural Resource Survey Expirations

Natural Resource Survey Expirations

Suggested Change to Ordinance

(8) *Special exception permit required.*

(o) *Expired/Outdated Wildlife Surveys.* All Permit by Rule pre-construction wildlife surveys conducted by the applicant that are expired, according to Permit by Rule Regulation 9 VAC 15-40-40.A, must be renewed in full at the developer's expense and resubmitted to US Fish and Wildlife Service (USFWS), Virginia Department of Game and Inland Fisheries (VDGIF) and Virginia Department of Environmental Quality (DEQ) for analysis of adverse impacts, for project mitigation or for project abandonment. Additionally, all required pre-construction analyses of Permit by Rule - Section 7, Analysis of Potential Beneficial/Adverse Impacts on Natural Resources, expire three years from the date of study and must be performed again at the developer's expense and resubmitted for evaluation, project mitigation or project abandonment.

Rationale for Change

The current Botetourt County wind ordinance does not protect the County by accounting for the impacts of project pre-construction delays on the validity of natural resource surveys and changes that may occur to habitat, to wildlife and avian population, to migration patterns, to scenic rivers or byways, to the status of Status of Species of Greatest Conservation Need and all natural resources. Natural resources exist in a fluid state by nature. Project delays and project timeline changes can result in surveys required by PBR 9-VAC 15-40-40A, to exceed their stated shelf life and become invalid. Protection for the County's natural resources must be safeguarded by requiring that all submitted surveys of potential adverse impacts to all wildlife, natural and scenic resources must have an expiration date and be required to be redone at the developer's expense and resubmitted for evaluation, project mitigation or project abandonment.

References

1. "Wind Permit by Rule (PBR) GUIDANCE, Section II: Methodology", pages 7-8, Department of Environmental Quality (DEQ), July 2017, https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\440\GDoc_DEQ_4495_v11.pdf

TAB K

Public Safety

Public Safety

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more*

(11) ~~*Emergency response plan .*~~ *Public Safety*

(a) *Emergency response plan.* The owner or operator shall coordinate with county emergency services to develop, implement and periodically update, including exercising of, an emergency response plan for the wind energy system.

(b) *Safety Manual.* The Applicant shall provide with the Permit application unredacted copies of the manufacturer's safety manual for each model of turbine constructed in the wind-energy facility, without distribution constraints, to be kept at the (*primary county location*) and other locations deemed necessary by Planning Commission or local first responders. The Manual shall include standard hazard issue and response information for an industrial site such as materials, chemicals, fires, emergency access, safe distances during turbine failure, processes in emergencies, etc. In addition, manufacturer's safety manuals will be made available for review upon request by any resident living within three miles of any Industrial Wind Turbine.

(c) *Reducing Emergency Response Time*. Due to the potential for large wind-energy project locations in areas remote from Fire and EMS services, Fire & EMS first responders require zero communications delay to effectively address emergencies. To minimize risk toward this end, at the operator's sole expense, HDTV cameras shall be permanently mounted and aimed at each turbine, and real-time data feeds for all cameras shall be provided continuously in the County Emergency Communications Center. All HDTV cameras shall be day/night, all-weather, always on, variable zoom and pan-motion capable, with active microphones. County Emergency Communications Center staff shall be capable of listening to, zooming and panning each camera independently and at will, and the County Fire & EMS Chief shall have sole discretion as to mounting and placement of each camera system. Any HDTV camera malfunction noted in the County Emergency Communications Center shall be reported to the operator of the large wind energy project within 24 hours and shall be returned to operational function within 72 hours by the operator at the operator's expense.

(d) *Public Service Costs*. For any public services (police, fire, rescue) required due to operation, maintenance or failure of any item within a wind-energy facility, any costs incurred shall be the sole responsibility of the wind-energy facility owner / operator.

Rationale for Change

One of the purposes stated in the first sentence of the county wind ordinance is "address public safety" but due to the specific safety issues posed by industrial wind energy projects additional requirements need to be specified. In addition to the existing text that requires "conform[ance] to relevant and applicable local, state and federal codes, including, but not limited to, safety and performance codes", the ordinance should include some specific, sensible, public-safety-related requirements.

References

1. “Fires are major cause of wind farm failure, according to new research”, Colin Smith, Imperial College London, July 2014, https://www.imperial.ac.uk/news/153886/fires-major-cause-wind-farm-failure/
2. “Turbines on Fire”, website, http://turbinesonfire.org/

TAB L

Annual Report

Annual Report

Suggested Change to Ordinance

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more*

~~(14)~~(15) *Annual report.* Commencing after initial operational capability, the facility owner and operator of each wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more shall submit a report to the zoning administrator once a year, no later than July 1. The report shall state the current ~~user~~ status of the wind energy system, to include total energy generated each month, all failures and turbine down times, all on-site accidents, and a comprehensive list of all local resident complaints and actions taken to mitigate them. (See Tab M) The yearly report shall include a phone number and identify a responsible person for the public to contact with inquiries and complaints available twenty-four (24) hours a day, seven (7) days a week throughout the life of the facility or turbine.

Rationale for Change

The existing wind energy ordinance text regarding the Annual Report is inadequate to perform its intended purpose. As written, there is no specified start date for annual reports, and this has been interpreted by some to mean that an annual report has been due every year since the project was approved in 2015, making the current applicant in violation for not providing annual reports for the years 2016 to 2019. Furthermore, the existing wording allows an applicant to report content of the wind energy facility's choosing, possibly providing little or no value to the county.

References

None.

Sec. 25-446. - Wind energy systems.

(a) *Purpose.* The purpose of this section is to establish requirements for construction and operation of wind energy systems and to provide standards for the placement, design, construction, monitoring, modification, and removal of wind facilities; address public safety, minimize impacts on scenic, natural, and historic resources; and provide adequate financial assurance for decommissioning.

(b) *Applicability.* This division shall apply to all wind energy systems constructed after the effective date of this division, including any physical modifications to any existing wind facilities that materially alter the type, configuration, or size of such facilities or other equipment.

(c) *General requirements.*

(1) All wind energy systems, temporary meteorological towers (MET), and wind turbines, including but not limited to their associated electrical and mechanical components, shall conform to relevant and applicable local, state and federal codes, including, but not limited to, safety and performance codes.

(2) A building and zoning permit is required prior to the initiation of construction of any and each component of a wind energy system or a temporary meteorological tower (MET).

(d) *Temporary meteorological tower (MET) or wind monitoring tower requirements; by right.* A temporary meteorological tower is permitted as a use by right in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Height.* A temporary meteorological tower shall not exceed one hundred and ninety-nine (199) feet in height.

(2) *Lot or parcel size.* No temporary meteorological tower shall be permitted by right on a lot or parcel smaller than five thousand (5,000) acres in size.

(3) *Setbacks.* A temporary meteorological tower shall be setback a distance at least equal to four hundred percent (400%) of the total structure height from any property line.

(4) *Lighting.* A temporary meteorological tower shall not be artificially lighted unless required by the FAA or appropriate authority.

(5) *Maximum period of special exception permit.* A temporary meteorological tower is intended to be a temporary structure and any approved permit shall be valid for a period that does not exceed twenty-four (24) months.

(e) *Temporary meteorological tower (MET) or wind monitoring tower requirements; special exception.* A temporary meteorological tower must obtain special exception permit approval in accordance with section 25-583 of this chapter in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Height.* A temporary meteorological tower shall not exceed one hundred and ninety-nine (199) feet in height.

(2) *Lot or parcel size.* No temporary meteorological tower shall be located on a lot or parcel smaller than two (2) acres in size.

(3) *Setbacks.* A temporary meteorological tower shall be setback a distance at least equal to one hundred and ten percent (110%) of the total structure height from any property line or a distance at least equal to one hundred and fifty percent (150%) of its total height from the nearest occupied building on a non-participating landowner's property.

(4) *Lighting.* A temporary meteorological tower shall not be artificially lighted unless required by the FAA or appropriate authority.

(5) *Maximum period of special exception permit.* A temporary meteorological tower is intended to be a temporary structure and any approved permit shall be valid for a period that does not exceed twenty-four (24) months.

(f) Reserved.

(g) Reserved.

(h) Reserved.

(i) Reserved.

(j) Reserved.

(k) Reserved.

(l) *Utility scale wind energy system requirements.* A utility scale wind energy system must obtain special exception permit approval in accordance with section 25-583 of this chapter in the Agricultural Use District (A-1) and the Forest Conservation Use District (FC) provided the following requirements are met:

(1) *Energy capacity.* Utility scale wind energy system shall include all such systems that have a rated capacity of one megawatt (1 MW) or greater.

(2) *Lot or parcel size.* The minimum lot size for a utility scale wind energy system shall be five (5) acres per turbine.

(3) *Turbine height.* The individual turbines shall not exceed five hundred and fifty (550) feet in height, as measured from the ground to the highest vertical portion of the blade when fully extended. The system height established through a special exception permit shall supersede any other height requirement in the zoning ordinance.

(4) *Setbacks.* Wind turbines, post construction meteorological towers and other associated towers shall be set back a distance at least equal to one hundred and ten (110) percent of its total height from all adjacent non-participating landowner's property lines and a distance equal at least to one hundred and fifty (150) percent of its total height from the nearest occupied building on a non-participating landowner's property. Wind energy systems shall meet all setback requirements for primary structures for the zoning district in which the wind energy system is located in addition to the requirements set forth above.

(5) *Separation.* The minimum distance required between turbines shall be no less than one hundred and fifty percent (150%) of the total structure height.

(6) *Commission permit.* A commission permit in accord with Section 15.2-2232 of the Code of Virginia shall be required prior to or in conjunction with any special exception approvals that may be required by the district regulations of this chapter.

(7) *Verification of equipment.* The utility scale wind energy developer shall submit the type of turbine proposed to be installed. Evidence shall be provided in the application that the specified turbine has been in constructed and operated successfully in similar field conditions as proposed in the Special Exception Permit for a period of five years prior to their installation. (See Tab A)

(m) Reserved.

(n) Reserved.

(o) *Requirements for wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more.*

(1) *Siting requirements.* The requirements for siting and construction of all wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more shall include the following.

(2) Wind energy system towers shall be of monopole design and shall be painted a non-reflective unobtrusive color such as white, off-white or gray that blends with the surrounding environment and prevents glint, unless Federal Aviation Administration (FAA) standards require otherwise. The planning commission and board of supervisors may approve any other color that is deemed to be less visually obtrusive.

(3) Wind energy system towers shall not be artificially lighted unless required by the FAA or appropriate authority. If lighting is required, the owner or operator shall provide a copy of the FAA determination to establish the required markings and/or lights for the wind turbines. Lighting of other parts of the wind energy project, such as appurtenant structures, shall conform to the requirement for outdoor lighting in article IV, division 5.

(4) No tower should have any sign, writing, or picture that may be construed as advertising. Appropriate warning signage shall be placed on wind turbines, electrical equipment, and wind energy systems project entrances. All signs, flags, streamers or similar items, both temporary and permanent, are prohibited on turbines except as follows:

(a) Manufacturer's or installer's identification on the wind turbine.

(b) Appropriate warning signs and placards.

(c) Signs that may be required by a federal or state agency.

(d) Signs that provide a 24-hour emergency contact phone number and warn of any danger.

(e) ~~Audible sound from a wind energy system shall not exceed sixty (60) decibels, as measured from any adjacent non-participating landowners' property line. This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation.~~ *Audible sound.* During the daytime, audible sound from a wind energy system shall not exceed 60 L_{max} dB or 45 L_{Acq} dB(A), or A-weighted decibels, outside the nearest non-participating landowners' occupied building. At nighttime, or at all times inside the nearest non-participating landowners' occupied building, audible sound from a wind energy system shall not exceed 45 L_{max} dB or 30 L_{Acq} dB(A). This level may be exceeded during short-term exceptional circumstances, such as severe weather. In accordance with section 25-446(o)(8)(g) below, an applicant for a wind energy system with a rated capacity of one hundred kilowatts (100 kW) or more shall provide a sound study. The owner or operator of a wind energy system shall measure and document, on a continuing basis, which shall not be less frequent than annually, or upon by request by the county, that noise levels comply with the study, and any violation will constitute a zoning violation. The Planning Commission retains the authority to require that all noise surveys, measurements, studies, and reports, both pre-construction and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind energy system developer.

(f) *Inaudible Sound and/or Vibration.* Inaudible sound or noise from wind-energy systems consists of both low-frequency noise (LFN or infrasound) and amplitude modulation noise (AMN). Wind-energy systems shall not create vibrations that are detectable by humans within non-participating landowner's homes. The applicant shall provide acoustic modeling at the time of application estimating low-frequency vibrations for both participating and non-participating landowners. Near-field and far-field inaudible sound levels shall be estimated from the closest non-participating landowner's occupied building using the dB(G) weighting scale and IEEE 2400-2016, *IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques.* The modeling study of low-frequency sound and vibration shall demonstrate meeting: (1) ANSI S12.9/Part 4-2005 Annex D threshold for minimal annoyance and beginning of rattles from outdoor low-frequency noise and (2) the ANSI S12.2-2019 sound level limits for moderately perceptible vibration and rattles within homes as modified to equivalent outdoor sound limits in Table 2, page 139 of the March-April, 2011 Noise Control Engineering Journal article by O'Neal, et al. Source (2) shall be used to determine if outdoor sound levels will create perceptible vibration or low-frequency problems indoors. If the post-construction sound survey outdoor octave-band sound-level measurements reveal that low-frequency sound from wind turbines at the exterior of an occupied or non-occupied building of a non-participating landowner may create a vibration or low-frequency noise problem, then further studies shall be conducted to assess the

problem. The further studies shall use the above referenced ANSI and IEEE standards. If the further study indicates that the low-frequency sound/vibration exceeds acceptable levels, mitigation shall be required by the Planning Commission. Mitigation may include operational changes to the turbine(s), modifications to the subject building or buildings, or other measures as determined by the Planning Commission and paid for by the wind-energy facility owner. No wind-energy system shall generate or permit to be generated any inaudible sound or vibration in the low-frequency range of 0.1 to 20 Hz, including the 1, 2, 4, 8, and 16 Hertz octave bands that is perceivable by human sensation or exceeds a level of 50 dB(G) at any time and for any duration either due to impulsive or periodic excitation of structure or any other mechanism at a non-participating landowner's property line or at any point within a landowner's property.

(g) *Sound and Noise Characteristic Education.* The characteristics of any and all wind turbine sounds and noises, both audible and inaudible, shall be described in terms of frequency of occurrence, when it will occur, duration, tonal quality, and range of loudness. In addition to a written description, the applicant shall provide a recording or video of the various operational sounds or some other form of demonstration. A copy of all educational materials shall be provided to the Planning Commission at the time of application. Failure to provide information on all known or predictable sounds and noise, both audible and inaudible, occurring from the operational wind-energy system facility (including but not limited to blade yawing, cooling systems, hydraulics, amplitude modulation noise, wind buffeting, electrical transformers) may result in a violation of the special land use. Along with all educational materials, the applicant shall provide the measures, if any, that are proposed for implementation to mitigate these sounds and noises. The Planning Commission may require the applicant to implement measures to mitigate and/or eliminate an operational sound (other than the spinning blades). (See Tab B)

(h) The minimum distance between the ground and any protruding blades utilized on a wind energy system shall be fifteen (15) feet, as measured at the lowest point of the arc of the blades. The lowest point of the arc of the blade shall be ten (10) feet higher than the tallest peak of any structure within one hundred and fifty (150) feet of the base of the tower.

(i) Wind energy systems shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the wind energy system.

(j) The base of the tower shall not be climbable for a distance of fifteen (15) feet above ground surface.

(k) All access doors to wind turbines and electrical equipment shall be locked or fenced, as appropriate, to prevent entry by unauthorized persons.

(l) A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

(m) Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the wind energy system. Adherence to erosion and sediment control regulations is required. The restoration of natural vegetation in areas denuded for construction activities shall be required so long as the restored vegetation does not interfere with the operation of the wind energy system or the maintenance thereof.

(n) Any on site transmission or power lines shall be placed underground, unless written evidence is provided, satisfactory to the board of supervisors during the special exception permit process, demonstrating the need for transmission or power lines to be placed above ground.

(o) Utility scale wind energy systems shall be prohibited from being constructed in the designated Special Project Area Wildlife Corridor. (See Tab C)

(5) Local, federal and state requirements:

(a) Wind energy systems must comply with applicable FAA regulations.

(b) Wind energy systems shall be designed, constructed and operated without significant adverse impact ~~to fish, wildlife~~ on wildlife (defined as non-domesticated mammal, bird, reptile, amphibian, fish, and invertebrate species) or native plant resources, including ~~fish and wildlife habitat~~ local, regional, and state wildlife habitat and ecosystems, special protection areas, migratory routes, and state or federally-listed threatened or endangered fish, wildlife or plant species, and to meet all applicable state and federal environmental requirements.

1. If such standards and regulations are changed, then the owners and operators of the wind energy systems shall bring such systems into compliance as required by such applicable state or federal agency, following stated deadlines or within 180 days of enactment of the change, whichever is sooner. Failure to comply with federal or state standards and regulations shall constitute grounds for condemnation and removal of the noncompliant systems by the county at the owner's or operator's expense.

2. Before beginning construction, wind energy system developers shall formally participate in the US Fish and Wildlife Service (USFWS) Energy Project Review, including completion of a Habitat Conservation Plan and Eagle Conservation Plan. All projects shall be in receipt of an Eagle Take Permit before construction starts.

3. Technological requirements: wind energy system developers shall retrofit existing wind energy system projects with detection and shutdown systems that provide protection to wildlife listed in Virginia's Wildlife Action Plan, Species of Greatest Conservation Need, and other State and Federal Guidelines regarding migratory bird and bat species. New wind energy systems shall perform up-to-date radar and other detection surveys prior to construction. Technological studies to determine which of the many detection systems available will be selected shall be performed by independent consultants selected, approved by the Planning Commission, and paid for by the wind energy system developer.

4. Compensatory mitigation: in light of evolving federal and state migratory bird statutes, the Planning Commission shall establish a standing $500,000 Wildlife Compensation Fund, funded by the wind energy system developer, to be used to compensate for any loss of wildlife species. Fair compensation and equivalence will be jointly determined by the county and the wind energy project operator, and all payouts from this Fund shall be calculated semi-annually and shall go to bona fide wildlife conservation projects in Botetourt County. (See Tab D)

5. Post construction wildlife mitigation: Bird and bat collision counts and mortality data shall be performed and/or supervised post-construction by independent biologists, using the most current carcass count and collection methods, and conforming to best practices as required in USFWS and Virginia conservation regulations. The county shall hire an independent contractor to perform the regular searching and counting of bird and bat carcasses at the wind-energy operator's expense. Results of the counting shall be made available to the public.

i. Wind-energy project operators, employees, USFWS, lease holders, etc. shall be prohibited from handling, moving, or touching carcasses. Only employees of the independent contractor assigned to perform the searching and counting shall be allowed to handle carcasses.

ii. All scanning for carcasses will require the contractor to use a reasonable and ethical attempt to find carcasses. Formal searches 1 ½ times out from maximum turbine heights shall be scanned for carcasses morning and evening. At least once per week scanning shall include all areas within the required set-back distance from turbine towers.

iii. During searches, every carcass or wounded species found shall be photographed and this information disclosed to the public. In addition, this disclosure will apply for all special status species for the operational life of the wind project.

iv. Any unauthorized removal of carcasses shall be subject to civil penalties. A repeated instance of unauthorized removal of carcasses shall result in the operator of the wind energy project losing the license to operate the wind energy project, and the turbines will be shut down until another operator becomes licensed and takes control of the project. (See Tab E)

(c) Utility scale wind energy systems that generate over five (5) megawatts of electricity shall comply with the Virginia Department of Environmental Quality (DEQ) and Virginia State Corporation Commission (SCC) application regulations and receive all necessary approvals as required, prior to issuance of a zoning and building permit, as required by section 25-571 of this chapter.

(6) ~~Reserved.~~ Property Values. A property value analysis shall be prepared by a licensed appraiser in accordance with the standards of the real estate appraisal industry. The appraiser shall be selected without prejudice by the county, and paid for by the applicant.

(a) The appraisal analysis shall include all properties within a three-mile radius of the boundaries of the project or with visibility of one or more turbines as determined by the visual impact study.

(b) A fund shall be established with the county to cover properties identified in item (a). Based on said appraisal, the fund shall be used to compensate property owners whose selling price is less than the appraised price due to the presence of the utility-scale wind-energy project. The fund shall be in the form of a surety bond in the amount equal to 10% of the total appraised value of all properties in item (a) and paid by the applicant to be held by the county for the life of the wind-energy project.

(c) The applicant shall sign a RESIDENTIAL PROPERTY VALUE GUARANTEE AGREEMENT provided to all property owners as determined in item (a), allowing a property owner to agree or decline to participate in the property value guarantee program. The applicant shall notify all identified property owners via registered mail that such a program exists and include in the mailing the guarantee agreement form and a 90-day time period from the date of notice for an owner to respond. (See Tab F)

(7) ~~Reserved.~~ Economic Impact Analysis Report. The county shall select, paid by the wind-energy applicant, an independent financial organization experienced in performing economic impact analyses. The economic impact analysis report shall cover the entire life-cycle of the proposed wind-energy project, from construction through decommissioning. The report shall be completed prior to construction and be publicly available. (See Tab G)

(8) *Special exception permit required.* Any landowner, in cooperation with the owner and/or proposed operator of any proposed wind energy system with a rated capacity of greater than one hundred kilowatts (100 kW), constructed after the effective date of this ordinance, including any physical modifications to any existing wind energy systems that materially alter the type, configuration, or size of such systems or other equipment, must obtain special exception permit approval in accordance with section 25-583 of this chapter. In addition to the requirements set forth in section 25-583, wind energy systems with a rated capacity of greater than one hundred kilowatts (100 kW) are subject to the following application requirements:

(a) *Project description.* A narrative identifying the applicant and the proposed owner or operator of the wind energy system and a description of the proposed wind project, including an overview of the project and its location; approximate generating capacity of the wind energy

project; the approximate number, types and height or range of heights of wind turbines to be constructed; and a description of ancillary facilities, if applicable. This should include all specifications of the proposed wind energy system, including the manufacturer and model, materials, color and finish, rotor diameters, rated capacity and tower types.

(b) *Concept plan.* Each applicant requesting a special exception permit for a wind energy system shall submit a scaled concept plan, prepared by an engineer with a professional engineering license in the Commonwealth of Virginia, to include the following:

1. The proposed location of all wind energy system structures and components, including all turbines, permanent meteorological towers, ground equipment, transmission lines, utility lines, electrical storage and cabling, collection and supply equipment, transformers, ancillary equipment and other proposed structures. The concept plan should indicate if proposed transmission or utility lines are to be above ground or underground;
2. Property lines, setback lines, access roads and turnout locations, parking, proposed lighting, service areas, any existing or proposed easements and/or rights-of-way, and excavation and fill areas;
3. Proposed heights of all wind energy systems structures. The applicant shall provide evidence that the proposed height of the wind turbines does not exceed the height recommended by the manufacturer or distributor of the system;
4. The location of any public or private road rights-of-way being utilized for or adjacent to the proposed project;
5. The location of existing vegetation and the limits of proposed clearing and grading;
6. Existing tree cover, including average height of trees, on the subject property and on adjacent parcels within the setback distance of any component of the wind energy system;
7. Outline of all existing buildings and their uses on all adjacent parcels within the setback distance of any component of the wind energy system. Include distances from the wind energy system to each building shown;
8. Location of visualization viewpoints as required in this section.

(c) *Wind study.* The applicant shall provide a summary of the wind data gathered for the proposed system with the application, including Wind Rose Diagrams. ~~The dates and periods of the collection of the wind data shall also be submitted.~~ The Wind Rose Diagram will demonstrate the dates, periods of collection, direction, duration, and intensity of the wind. A Wind Rose Diagram shall be provided for each MET tower, for each full year and portion thereof in which a MET tower has collected wind data, for each height of wind sensor mounted on the meteorological tower, from every MET tower within the proposed project area. In addition, the applicant shall provide the Maximum Power Coefficient(s) for the wind turbine model(s) to be used in the project, as well as a Weibull distribution graphic of wind speed for each full year and portion thereof in which a MET tower has collected wind data (to verify the applicant's claim regarding the amount of electricity generated). (See Tab H)

(d) *Visual impact analysis.* The applicant shall demonstrate through project siting and proposed mitigation, if necessary, that the wind energy system minimizes impact on the visual character of Botetourt County.

1. The applicant shall provide accurate, to scale, photographic simulations showing the relationship of the wind energy system and its associated facilities and development to its surroundings. The photographic simulations shall show such views of wind energy structures from locations such as property lines and roadways, as deemed necessary by the county in order to assess the visual impact of the wind energy system.

a. The total number of simulations and the perspectives from which they are prepared shall be established by the zoning administrator after the pre-application meeting.

b. Visual representations shall be in color and shall include actual pre-construction photographs and accurate post-construction simulations of the height and breadth of the wind system.

c. All visual representations will include existing, as well as proposed buildings and tree coverage.

d. The visualizations must be accompanied by a complete description of the technical procedures used to produce the visualization (distances, angles, lens, etc.).

2. The applicant shall also provide scaled elevation views.

(e) *Operation and maintenance plan.* A plan for the operation and maintenance of the wind energy system. The plan should identify and list methods to mitigate any signal interference resulting in the disruption or loss of radio, telephone, television or similar signals or service.

(f) *Environmental inventory and impact statement.* The applicant shall present information regarding any site and viewshed impacts, including direct and indirect impacts to national and state forests, national or state parks, wildlife management areas, conservation easements, or any known historic or cultural resources within five (5) miles of the proposed project. The applicant shall provide evidence of written notification to the office of a national or state forest, national or state park unit, wildlife management area, or known historic or cultural resource sites, if a proposed wind energy system is within five (5) miles of the boundary of said entity.

(g) *Sound study.* A sound study, prepared by an independent acoustical engineer approved by the Planning Commission, ~~to~~ shall provide an assessment of pre-construction and post-construction sound conditions. Additionally, the applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring

1. *Pre-Construction Sound Survey.* A predictive, pre-construction sound modeling study of turbine noise shall accompany an application to verify that ordinance requirements can be met. The sound modeling study must follow the most current version of International Standard, ISO 9613-2 “Acoustics-Attenuation of sound during propagation outdoors – Part 2: General method of calculation.” The sound model used in the study shall incorporate actual wind turbine sound power levels, both audible and inaudible, provided by the wind turbine manufacturer, measured from the identical make and model of wind turbine generator proposed by the applicant. The model of wind turbine generator proposed shall have been operational at a manufacturer’s test site for at least six months, and audible and inaudible sound measurements collected for the entire duration of the manufacturer’s operational test shall be provided concurrently with the pre-construction sound modeling study.

2. *Post-Construction Sound Survey*. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission, and at the expense of the wind energy system owner, within 6 months of the commencement of the operation of the project. The post-construction study shall be performed at the same locations as the pre-construction study unless additional or alternative locations are required by the Planning Commission. The study should generally follow the procedures in the most recent versions of ANSI S12.9 Part 3 (with an observer present) and ANSI S12.18. All sound pressure levels shall be measured with instruments that meet ANSI or IEC Type 1 Precision integrating sound level meter performance specifications. In addition to measuring A-weighted sound levels, at least one monitoring location shall collect one-third octave band data down to 1 Hertz, measured using G-weighted sound levels and following IEEE 2400-2016, IEEE Standard for Wind Turbine Aero Acoustic Noise Measurement Techniques. Additionally, the

applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring. The Planning Commission retains the authority to require that all noise surveys, measurements, studies and reports, both pre- and post-construction, be conducted by experts or consulting firms chosen at the Planning Commission's discretion and paid for by the wind developer. (See Tab B)

(h) *Construction plan.* A phasing schedule for the construction of the large wind energy system or utility wind energy system, including the estimated commencement and completion date. Such plan shall identify staging areas, off-site storage facilities, and transportation routes to be used by construction and delivery vehicles, and the gross weight and height of the maximum delivery vehicle.

(i) *Shadow flicker model.* A shadow flicker model, prepared by an independent engineer, that certifies that any wind turbine that is sited within one-half mile of any occupied building on a non-participating landowner's property either avoids shadow flicker on any occupied building or that reasonable efforts to minimize shadow flicker to any occupied building on a non-participating landowner's property shall be made. The model shall include a description of the zones where shadow flicker will likely be present within the project boundary and a one-half mile radius beyond the project boundary, the expected durations of the flicker at these locations and the calculation of the total number of hours per year of flicker at all locations.

(j) *Transportation Impacts:* An analysis of impacts on local transportation shall be prepared, regarding impacts anticipated during construction, reconstruction, modification, or operation of the wind project. Transportation impacts to be considered shall include, at a minimum, potential damage to local road surfaces, road beds and associated structures; potential traffic tie-ups by haulers of wind project materials; impacts on school bus routes; impacts of visitors to the wind project facilities. Local roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(k) *Transportation Plan:* A transportation plan describing routes to be used in delivery of project components, equipment and building materials, and those to be used to provide access to the project site during and after construction. Such plan shall also describe any anticipated improvements to existing roads, bridges or other infrastructure, and measures to restore damaged/disturbed access routes following construction. Roads shall include all state highways, county highways, city and town highways, which will be or may be used by the applicant.

(l) *Traffic Routes:* Construction of utility scale wind energy projects pose potential risks because of the large size construction vehicles and their impact on traffic safety and their physical impact on local roads.

1**.** Construction and delivery vehicles for large wind projects and/or associated facilities shall use traffic routes established as part of the application review process. Factors in establishing such corridors shall include:

a. minimizing traffic impacts from construction and delivery vehicles;

b. minimizing large wind project related traffic during times of school bus activity;

c. minimizing wear and tear on local roads; and

d. minimizing impacts on local business operations. Permit conditions may limit large wind project related traffic to specified routes, and include a plan for disseminating traffic route information to the public.

2. The applicant is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be

posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads.

3. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing. No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road Prior to placing the large wind energy project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant. (See Tab I)

~~(j)~~(m) *Decommissioning plan.* As part of the project application, the applicant shall submit a Idecommissioning plan, certified by an engineer with a professional engineering license in the Commonwealth of Virginia, which shall include the following:

1. The anticipated life of the project;
2. The estimated decommissioning cost in current dollars;
3. How said estimate was determined;
4. The method of ensuring that funds will be available for decommissioning and restoration;
5. The method that the decommissioning cost will be kept current; and
6. The manner in which the project will be decommissioned and the site restored.

~~(k)~~(n) *Independent review.* Upon submission for a special exception permit for a wind energy system, the county will be authorized to hire an independent consultant to review the application and all associated documents for compliance with this section and any other state and federal codes. Any costs associated with the review shall be paid by the applicant. Any payment of such fees would in no way be a substitute of payment for any other application review fees otherwise required by this chapter.

(o) *Expired/Outdated Wildlife Surveys.* All Permit by Rule pre-construction wildlife surveys conducted by the applicant that are expired, according to Permit by Rule Regulation 9 VAC 15-40-40.A, must be renewed in full at the developer's expense and resubmitted to US Fish and Wildlife Service (USFWS), Virginia Department of Game and Inland Fisheries (VDGIF) and Virginia Department of Environmental Quality (DEQ) for analysis of adverse impacts, for project mitigation or for project abandonment. Additionally, all required pre-construction analyses of Permit by Rule - Section 7, Analysis of Potential Beneficial/Adverse Impacts on Natural Resources, expire three years from the date of study and must be performed again at the developer's expense and resubmitted for evaluation, project mitigation or project abandonment. (See Tab J)

(9) *Monitoring and maintenance.* The owner or operator shall maintain large wind energy systems and utility wind energy systems in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the foundation and support structure and security barrier if applicable, and maintenance of the buffer areas and landscaping if present. Site access shall be maintained to a level acceptable to the chief of fire and emergency medical service. The project owner shall be responsible for the cost of maintaining the large wind energy system and utility scale wind energy system and access roads, unless accepted as a public way, and the cost of repairing damage to private roads occurring as a result of construction and operation.

(10) *Liability insurance.* The owner or operator shall provide written evidence of liability insurance in an amount acceptable to the purchasing utility provider for utility-scale wind energy systems prior to the issuance of a zoning/building permit.

(11) ~~*Emergency response plan .*~~*Public Safety*

(a) *Emergency response plan.* The owner or operator shall coordinate with county emergency services to develop, implement and periodically update, including exercising of, an emergency response plan for the wind energy system.

(b) *Safety Manual.* The Applicant shall provide with the Permit application unredacted copies of the manufacturer's safety manual for each model of turbine constructed in the wind-energy facility, without distribution constraints, to be kept at the (*primary county location*) and other locations deemed necessary by Planning Commission or local first responders. The Manual shall include standard hazard issue and response information for an industrial site such as materials, chemicals, fires, emergency access, safe distances during turbine failure, processes in emergencies, etc. In addition, manufacturer's safety manuals will be made available for review upon request by any resident living within three miles of any Industrial Wind Turbine.

(c) *Reducing Emergency Response Time*. Due to the potential for large wind-energy project locations in areas remote from Fire and EMS services, Fire & EMS first responders require zero communications delay to effectively address emergencies. To minimize risk toward this end, at the operator's sole expense, HDTV cameras shall be permanently mounted and aimed at each turbine, and real-time data feeds for all cameras shall be provided continuously in the County Emergency Communications Center. All HDTV cameras shall be day/night, all-weather, always on, variable zoom and pan-motion capable, with active microphones. County Emergency Communications Center staff shall be capable of listening to, zooming and panning each camera independently and at will, and the County Fire & EMS Chief shall have sole discretion as to mounting and placement of each camera system. Any HDTV camera malfunction noted in the County Emergency Communications Center shall be reported to the operator of the large wind energy project within 24 hours and shall be returned to operational function within 72 hours by the operator at the operator's expense.

(d) *Public Service Costs*. For any public services (police, fire, rescue) required due to operation, maintenance or failure of any item within a wind-energy facility, any costs incurred shall be the sole responsibility of the wind-energy facility owner / operator. (See Tab K)

(12) *Signal interference.* Large wind energy systems and utility wind energy systems shall be sited in a manner that causes no disruption or loss of radio, telephone, television or similar signals or service. If loss or disruption occurs due to the operation of the large wind energy system or utility wind energy system, the owner or operator shall be required to provide appropriate mitigation measures to ensure that the signal or service is restored within twenty-four (24) hours. The owner or operator of a wind energy system may be required to discontinue use until the specified interference has been corrected.

(13) *Remediation of Damaged Roads.* The utility scale wind energy operator is responsible for remediation of damaged roads upon completion of the installation or maintenance of a large wind project. A public improvement bond shall be posted prior to the issuance of any building permit in an amount, determined by the Planning Commission, sufficient to compensate the County for any damage to local roads. If the applicant uses any seasonal use road in the off-season, it shall be solely responsible for the maintenance of said road including but not limited to snow plowing. No act of maintenance on a seasonal use road by an applicant shall be considered as County maintenance of that road for purposes of determining the seasonal use status of the road. Prior to placing a large wind project in operation, the applicant shall repair or reconstruct all state roads, county roads, and city roads used by the applicant to the standards set forth by the Virginia Department of Transportation regardless of the condition of such roads prior to the commencement of construction by the applicant. (See Tab I)

~~(13)~~(14) *Abandonment, decommissioning and expiration.* Any wind energy system which has reached the end of its useful life or has been abandoned shall be removed. At such time that a large wind energy system or utility wind energy system is known to be abandoned or discontinued, the owner shall notify the zoning administrator within ten (10) days of such knowledge by certified mail of the proposed date of discontinued operations and plans for removal. The owner or

operator shall physically remove the wind system and restore the site no more than one hundred and fifty (150) days after the date of discontinued operations. This may be extended by up to one hundred and fifty (150) days if a written request is submitted by the landowner and approved by the zoning administrator. Decommissioning of discontinued or abandoned wind energy system shall include the following:

(a) Physical removal of all wind turbine(s) and above-ground appurtenant structures from the subject property including, but not limited to, buildings, machinery, equipment, cabling and connections to transmission lines, equipment shelters, security barriers, electrical components, roads, unless such roads need to remain to access buildings retrofitted for another purpose, or if a written request is submitted by the landowner and approved by the zoning administrator that such roads remain).

(b) Below-grade structures, such as foundations and underground collection cabling, shall be removed to a depth of four (4) feet below ground level or covered to an equivalent depth with fill material; however, these structures may be allowed to remain if a written request is submitted by the landowner and approved by the zoning administrator. Compacted soils shall be decompacted to a depth of four (4) feet.

(c) Restoration of the topography of the project site to its pre-existing condition, except that any landscaping or grading may remain in the after-condition if a written request is submitted by the landowner and approved by the zoning administrator.

(d) Proper disposal of all solid and hazardous waste in accordance with local and state waste disposal regulations.

(e) *Abandonment:* Absent notice of a proposed date of decommissioning, the system shall be considered abandoned when the system fails to operate for more than one year without the written consent of the zoning administrator. The county shall determine at its discretion what proportion of the system is inoperable for the system to be considered abandoned. If the applicant fails to remove the wind energy system in accordance with the requirements of this section within one hundred and fifty (150) days of abandonment or the proposed date of decommissioning, the county or its agents shall have the authority to enter the property and physically remove the system and the costs of such removal shall be at the owner's expense.

(f) Prior to obtaining a building and zoning permit, and on every fifth anniversary of the commencement of the commercial operation of the project, the owner or operator shall provide to the county an estimate of the projected cost of decommissioning as stated in the required decommissioning plan, and as stated in section 25-446(o)(13) above, prepared by an independent engineer with a professional engineering license in the Commonwealth of Virginia.

(g) Based on this determination, the owner or operator shall post a surety bond, cash bond, or an irrevocable letter of credit, in a form approved by the county administrator or the county attorney, in order to ensure removal and decommissioning of the utility-scale wind energy project when it is no longer used for the generation of electricity. Such surety shall be an amount approved by the Zoning Administrator, that is no less than the total estimated cost for decommissioning, removing and restoring the site for the wind energy system as stated above plus ten percent (10%) of said estimated costs as a reasonable allowance for administrative costs, inflation, and potential damage to existing roads and utilities.

(h) The applicant will ensure the surety shall remain in full force and effect until the County has inspected the site and verified the wind energy system has been decommissioned as stated above, at which time the County shall release the surety. The surety shall be binding on subsequent owners of the property or wind energy system. If the property owner or responsible party fails to decommission the wind project or to decommission a discontinued or derelict wind turbine in accordance with this section, Botetourt County may access such surety for the completion of decommissioning and site restoration. Any excess funds that accrue after consideration of salvage value may be returned to the responsible party.

(i) *Expiration:* A special exception permit issued pursuant to this section shall expire if the wind energy system is not installed and functioning within five (5) years from the date the permit is issued; or the wind energy system is abandoned as defined above.

~~(14)~~(15) *Annual report.* Commencing after initial operational capability, the facility owner and operator of each wind energy systems with a rated capacity of one hundred kilowatts (100 kW) or more shall submit a report to the zoning administrator once a year, no later than July 1. The report shall state the current ~~user~~ status of the wind energy system, to include total energy generated each month, all failures and turbine down times, all on-site accidents, and a comprehensive list of all local resident complaints and actions taken to mitigate them. (See Tab L.) The yearly report shall include a phone number and identify a responsible person for the public to contact with inquiries and complaints available twenty-four (24) hours a day, seven (7) days a week throughout the life of the facility or turbine.

~~(15)~~(16) *Notice of change in ownership.* Notice shall be provided to the county within ten (10) working days of any change in ownership of the facility.

(Res. No. 15-06-18, 6-23-15)

Form: TH-07
August 2018

townhall.virginia.gov

Periodic Review Report of Findings

Agency name	Department of Environmental Quality
Virginia Administrative Code (VAC) citation	9VAC15-40
Regulation title	Small Renewable Wind Energy Projects Permit by Rule
Date this document prepared	March 12, 2019

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1 VAC7-10), and the *Virginia Register Form, Style, and Procedure Manual for Publication of Virginia Regulations.*

Acronyms and Definitions

Please define all acronyms used in this Report. Also, please define any technical terms that are used in the document that are not also defined in the "Definition" section of the regulations.

MW- Megawatts
PBR- Permit by Rule

Legal Basis

Please identify (1) the agency or other promulgating entity, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency or promulgating entity's overall regulatory authority.

The Department of Environmental Quality is authorized by § 10.1-1197.6 of the Code of Virginia to adopt regulations for permits or permits by rule (PBR) if the Department determines permits are necessary for the construction and operation of small renewable energy projects. The Department of Environmental Quality determined that a PBR was needed for wind energy projects with a rated capacity greater than 5MW and less than 100MW and adopted Small Renewable Energy Wind Projects Permit by Rule on December 22, 2010. The regulation was amended in 2017 to increase the size of the small renewable wind energy projects eligible for coverage under the PBR from 100MW to 150MW. State law requires other necessary environmental permits to be obtained in addition to this PBR (§10.1-1197.6 B 12).

Alternatives

Please describe any viable alternatives for achieving the purpose of the regulation that were considered as part of the periodic review. Include an explanation of why such alternatives were rejected and why this regulation is the least burdensome alternative available for achieving its purpose.

As part of this review, the Department considered requiring a case by case analysis of each project. This alternative was rejected since the regulation contains requirements that are applicable to all projects that are protective of human health and the environment. The current method of regulating this activity by the use of a PBR protects human health and the environment while minimizing the burden on the operators of renewable energy wind projects. The PBR provides a mechanism for applicants to evaluate and review natural resource impacts not otherwise covered under regulatory permit programs. The PBR process also encourages the development of renewable energy wind projects, benefitting air quality.

Public Comment

Please summarize all comments received during the public comment period following the publication of the Notice of Periodic Review, and provide the agency response. Ensure to include all comments submitted: including those received on Town Hall, in a public hearing, or submitted directly to the agency or board. Please indicate if an informal advisory group was formed for purposes of assisting in the periodic review.

An informal advisory group was not formed for the purpose of this periodic review.

Comment Number	Commenter	Comment	Agency response
1	Michael Jamison/ Alternative Energy Systems	Small wind generating turbines should not be allowed if they are over 100' tall. The energy required for backup generators and the amount of electricity to get a wind turbine spinning from a stalled position should be revealed to the public and who pays for that energy should also be revealed to the public.	Section 10.1-1197.6 of the Code of Virginia requires a certification to be provided by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. The local governing authority is able to provide such limitations or restrictions if deemed appropriate; however, the department has no statutory authority to establish such limits. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.
2	Alan Brown	The PBR application process and regulations must require that wind energy generation claims be verified by a third party and be made available to state agencies and the public. The use of tax payer subsidies must require transparency in the PBR process.	The requested third party verification is an additional requirement that is not authorized by the Code of Virginia. Section 10.1-1197.6 of the Code of Virginia does not address tax payer subsidies, which are handled at the local level. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
3	Laura Harrawood	The PBR Wind Turbine application process must allow protection for adjoining counties of any proposed turbine project. The intense negative impacts of industrial turbines cross jurisdictional lines and all adjoining counties must have a voice in the approval process. The case of the proposed Rocky Forge project by Apex is a toxic example of proposed turbines destroying the scenic economy of multiple counties.	Section 10.1-1197.6 of the Code of Virginia requires a certification to be provided by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.
4	Steve Neas	There is growing resistance to industrial wind energy in this country and abroad. Large industrial wind turbines inflict damage to wildlife and negatively affect humans living in proximity to industrial wind projects. These effects do not respect jurisdictional lines. If these effects, cross the jurisdictional lines of the entity providing the certification, then the PBR should not apply. Effects are noise, viewshed, shadow flicker, or infra-sound (typically travels 4 times audible sound). The purpose of this requirement is to give those affected by a wind project a voice.	Section 10.1-1197 et.seq. of the Code of Virginia does not provide authority to the Department for siting criteria within the PBR regulation for proposed wind projects. The local governing body makes determinations regarding siting of wind facilities proposed within their jurisdictional control and can choose to not allow such development. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
5	Steve Neas	In the world of power generation, the amounts of electricity a fossil fuel plant can produce is well known. If a certain amount of natural gas is pumped into a boiler, a known amount of steam will be produced and therefore the energy produced is known. No surprises. Conventional energy production cannot be compared to renewable energy in the same way. Installed capacity with conventional energy production closely matches that actual energy production; not so with wind energy. Most engineers familiar with wind energy will agree that the most one will get out of a wind project is less than 20% of the installed capacity, more like 10% to 13%, depending on location. As part of the certification required by the application, and in the spirit of transparency, a third party engineer's certification should be required showing the actual energy that can be expected based on at least one year of actual measured wind data at the site, with back up wind data.	The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
6	Steve Neas	Wind energy like solar is very dilute. To categorize wind or solar by installed capacity is misrepresentative. Because wind energy is very dilute, large amount of property is required to develop very little unreliable energy. For instance, Apex Clean Energy confirmed to me that they typically clear cut 5 acres around one 3MW 500' tall industrial wind turbine. Using that information, a 150 MW facility that is allowed under PRB would clearcut 450 acres. Does anyone at DEQ think a project requiring 450 acres clear cut is small? Compound that with the difference between 'installed' capacity and 'actual' energy produced and the concept is more outrageous. PJM, the owner of the grid in this area, rates wind energy at 13% of installed capacity. In other words, they expect to receive 13% of the installed capacity. So, for the 150MW facility that uses 450 acres of land, one could expect 19.5 MW of energy. The only thing small is the very little amount of energy produced for significant disruption to the environment. Change the definition of "Small wind energy" to 150 MW and not to require more than 50 acres of land.	Public policy regarding renewable energy for the Commonwealth of Virginia is determined by the General Assembly which passed Section 10.1-1197.5 of the Code of Virginia. The definition by statute states: “small renewable energy project” means (i) an electrical generation facility with a rated capacity not exceeding 150 megawatts that generates electricity only from sunlight or wind; (ii) an electrical generation facility with a rated capacity not exceeding 100 megawatts that generates electricity only from falling water, wave motion, tides, or geothermal power; or (iii) an electrical generation facility with a rated capacity not exceeding 20 megawatts that generates electricity only from biomass, energy from waste, or municipal solid waste.” The requested change conflicts with state law and no change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
7	Sandra Stuart, Virginians for Responsible Energy	9 VAC15-40 -10: Definitions ADD – >“Geological features” means the underlying landforms of valleys, ridges, beaches, etc. > “Impact zone” means all geographic areas, regardless of political boundaries and including geological and water features, that will be affected by construction, operation & maintenance, vibrations, blasting for the purpose of siting wind turbines. > Under “Small wind energy project” ..... Add (iii) project not to exceed 50 acres >“Water features” means streams, wetlands, springs.	Public policy regarding renewable energy for the Commonwealth of Virginia is determined by the General Assembly which passed Section 10.1-1197.6 of the Code of Virginia and specifies which resources are to be evaluated under the Permit by Rule Regulation which does not include geological features. The statute determines the size of a project by amount of electricity produced, not the acreage required. No changes will be made to the regulation. Recommendations pertaining to the definition of “Impact zone” and “water features” may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.
8	Sandra Stuart, Virginians for Responsible Energy	9 VAC15-40-20: Authority and Applicability CONSIDER– > Repealing parts that allow “small wind” projects to be developed in mountainous karst areas and that would require more than 50 acres of land.	The local governing body makes determinations regarding siting of wind facilities proposed within their jurisdictional control and can choose to establish limitations or to not allow such development. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
9	Sandra Stuart, Virginians for Responsible Energy	9VAC15-30 Application for permit by rule wind energy projects Application A -2. ADD – > Projects that lie on the border of another political entity (county) will need the applications and the approval of both local governments.	Section 10.1-1197.6 of the Code of Virginia requires a certification to be provided by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.
10	Sandra Stuart, Virginians for Responsible Energy	9VAC15 -40-30: Application for permit by rule for wind energy projects Application A-7 ADD – > Water features within the impact zone need to be identified and protected by a permit that includes stormwater and erosion & sediment regulations approved by DEQ. The plan also needs to indicate how dependable oversight and enforcement will be provided. > Geological features that will be destroyed during the construction need to be identified. Blasting required to level and eliminate ridgelines needs to be identified by site and an engineer's design submitted for approval. The omissions of these obvious "natural resources" is puzzling. Other than the Natural Heritage program which is mainly concerned with plants and DGIF's website with probable fish & wildlife, a complete analysis of the natural resources is not required in the current regulation. [A one-minute You Tube site shows construction for a 500 foot turbine, requiring on flat land excavation 9.8 feet deep and 100.7 feet diameter. https://www.youtube.com/watch?v=Q2o5P-6zm6Y. For comparison, Rocky Forge: 25 turbines, 550 feet high, on steep slopes]	Public policy regarding renewable energy for the Commonwealth of Virginia is determined by the General Assembly. Section 10.1-1197.6 of the Code of Virginia specifies which resources are to be evaluated under the PBR and does not include geological features. Section 10.1-1197.6 of the Code of Virginia does require a certification signed by the applicant that the small renewable energy project has applied for or obtained all necessary environmental permits; this includes permits for wetlands, soil erosion and stormwater permitting. Enforcement of these permits are handled under the respective offices of the Department. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
11	Sandra Stuart, Virginians for Responsible Energy	9VAC15 -40-30: Application for permit by rule for wind energy projects Application A-8 ADD – > to the “significant adverse impacts ....” add “geologic features, water features ....” The significant destruction of these natural resources needs to be recognized and included in any honest appraisal of the construction of turbines.	Regarding the proposed revision pertaining to geological features, please see response to comment # 7. The proposed revision pertaining to water features may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.
12	Sandra Stuart, Virginians for Responsible Energy	9VAC15-40 -40: Analysis of the beneficial and adverse impacts on natural resources ADD to C – > Geological features and water features: identify these features within the impact zone and provide analysis of the expected impact.	Regarding the proposed revision pertaining to geological features, please see response to comment # 7. The proposed revision pertaining to water features may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.
13	Sandra Stuart, Virginians for Responsible Energy	9VAC15 - 40 -50: Determination of likely significant adverse impacts. ADD – > C. The department shall find that significant adverse impacts to geologic features and water features are likely to occur whenever a proposed project diminishes any aspect of the natural resource's integrity. (Reference the geologic and water features that are identified on an updated site plan 9VAC15-40-70)	Regarding the proposed revision pertaining to geological features, please see response to comment # 7. The proposed revision pertaining to streams, springs and wetlands may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.

Comment Number	Commenter	Comment	Agency response
14	Sandra Stuart, Virginians for Responsible Energy	9VAC15-40-60: Mitigation plans ADD – > D. Mitigation measures for significant adverse impacts to geologic features to include the loss of the ridge top of a mountain which cannot be replaced. (Essentially turbine construction amounts to mountaintop removal) > E. Mitigation measures for significant adverse impacts to water features to include the cost of cleaning up the streams, springs, and wetlands.	Regarding the proposed revision pertaining to geological features, please see response to comment # 7. The proposed revision pertaining to streams, springs and wetlands may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.
15	Sandra Stuart, Virginians for Responsible Energy	9VAC15-40 -70: Site plan and context map requirements in application A ... ADD – > in (i) change to “the boundaries of the impact zone” > in (ii) Add size of base of turbine and materials used for each turbine site.	The proposed revision may be considered when the regulation is reopened for amendment in the future.
16	Sandra Stuart, Virginians for Responsible Energy	9VAC15-40 -70: Site plan and context map requirements in application B ... Change – > “.... the area encompassed by the site and within five miles of the site boundary” .... to “ .... the area encompassed by the impact zone.”	The proposed revision will be considered when the regulation is reopened for amendment in the future.
17	Tenney Mudge	PBR regulations must prohibit and disallow applications for wind turbine projects in areas where the results of 9VAC 15-40 Wind PBR Guidance DEQ Section II Methodology analyses confirm threatened or endangered species are located in the proposed project area. No mitigation permissible.	The proposed revision may be considered in consultation with the Department of Game and Inland Fisheries when the regulation is reopened for amendment in the future.

Comment Number	Commenter	Comment	Agency response
18	Tenney Mudge	PBR regulatory process must include adjoining counties All adjacent counties and city governmental administrations must receive formal written notification of a PBR Notice of Intent (Code of Virginia Article 5 Small Renewable Energy Projects 10.1-1197.6 B1) submitted in an adjoining county within a designated time period from the date of Notice of Intent for any wind turbine project.. All counties and governmental jurisdictions impacted by analyses as required by PBR Guidance DEQ Section II Methodology 9VAC 15-40 including view shed and scenic resources must be included and required in writing to approve or disapprove of the project as part of the regulatory process. Wind turbine projects severely impact across county and city governmental boundaries	Section 10.1-1197.6 of the Code of Virginia requires a certification to be provided by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
19	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 5. Certification regarding project's maximum generation capacity AND 6. attainment of national ambient air quality standards CHANGE: These two items are currently based only on the theoretical maximum generation capacity based on the proposed number and make and model of wind turbines. This is insufficient to provide a realistic analysis of the actual impact of the project on attaining any standards. I propose the following: Since wind speed is the basis for the actual production of electricity, and since wind speed is highly variable from hour to hour and day to day, and time of the year, an analysis of wind data collected from instrumentation located at the proposed site must be conducted The wind data must cover a period of at least one year The wind data and the results of the analysis must be included in the application so that an independent verification of the analysis can be performed The analysis of power generation must take into account the wind data and operational down time due to turbine maintenance and mitigation schedules REASON: The applicant for Rocky Forge Wind claimed that enough electricity will be generated for up to 20,000 homes. An analysis of wind data from another site in the region showed that the number was only about 8,000 homes. The applicant refused to provide wind data from the Rocky Forge site to environmental groups, or even a local county government, claiming it was proprietary. Thus it was impossible for anyone or any state agency to verify claims of energy generation. The wind is not proprietary, and refusal to make the data available raises serious questions about the integrity of the claims made by the applicant.	The information request may be considered when the regulation is reopened for amendment in the future.

Comment Number	Commenter	Comment	Agency response
20	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 2. furnishes to the department a certification by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances CHANGE: This regulation does not address the situation where the proposed project is located close to governmental boundaries (i.e., county, city, etc.). Currently only the governing body where the project is physically located needs to provide approval. If a project is close to the boundary there can easily be significant impacts (view shed, noise, shadow flicker, erosion, etc.) that cross governmental boundaries. I propose the following: If a project has impacts across governmental boundaries then all impacted governing bodies need to furnish certification that the project complies with all applicable land use and other applicable ordinances. An alternative would be that if a project has impacts across governmental boundaries the project no longer can be considered to be a “small” renewable energy project and must go through the standard permit process with the State Corporation Commission. REASON: The location of Rocky Forge Wind in Botetourt County is right on the border with Rockbridge County and Allegheny Counties, and visual, sonic, blasting, run-off, and other impacts are as significant in those counties as in Botetourt County. But, only Botetourt County needed to grant a permit, and the other counties had no authority to allow or prevent the project. This is an extremely poor situation that needs to be remedied.	Section 10.1-1197.6 of the Code of Virginia requires a certification be provided by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. The requested change is an additional requirement that is not authorized by the Code of Virginia. No change will be made to the regulation.

Comment Number	Commenter	Comment	Agency response
21	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 2. furnishes to the department a certification by the governing body of the locality or localities wherein the small renewable energy project will be located that the project complies with all applicable land use ordinances. CHANGE: The Model Wind Ordinance available from DEQ written in 2012. Since that time there has been a lot more research on the impacts of, and experience with, industrial wind. I propose the following: Establish a panel of experts, consisting of both advocates and opponents of industrial wind to review the Model Wind Ordinance. Obtain input from locations around the U.S on problems that have been encountered where industrial wind projects have been built, and use that information to come up with appropriate regulatory language that sets requirements for noise (audible & infrasound), setback (for shadow flicker, ice throw, etc.), and other aspects. REASON: Many items in the model ordinance are based on input from the wind industry and its advocates and do not reflect current research and real world experiences with the impacts of noise, shadow flicker, ice throw, bird and bat mortality, etc. Many counties, particularly in rural locations where wind projects are proposed, do not have the expertise or financial resources to research and write an effective ordinance. Thus the energy companies are able to provide the language that tilts the ordinance in their favor to the disadvantage of county government and residents.	The department follows the requirements for regulation development as required in the Administrative Process Act (APA) (§2.2-4000 et seq. of the Code of Virginia). Specifically, § 2.2-4007.02. Public participation guidelines, establishes the use of ad hoc advisory panels and consultation with groups and individuals indicating interest in working with the agency. Such a process was utilized when the regulation was first developed and such a process will be followed when the regulation is reopened for amendments. If changes are made to the regulation in the future, the agency will assist local government representatives to update the model ordinance.

Comment Number	Commenter	Comment	Agency response
22	Jeffrey Scott	REGULATORY SECTION: 50. Determination of Likely Significant Adverse Impact CHANGE: I propose the following: Add new paragraph C, “Property Values” and provide a methodology for determining the zone of impact for properties that will be adversely impacted by noise and visual degradation require the applicant to establish an escrow fund for those properties within the zone of impact so that the owner will be able to receive fair market value for the property if it is sold REASON: Industrial wind advocates claim property values are not affected citing studies to support that position. There are also many studies that show that they are. To insure that property owners are not financially harmed, it is only reasonable to provide a guarantee.	The department has no statutory authority to create escrow funds for private or public property owners. No change is needed to the regulation.
23	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 1. Notice of Intent CHANGE: I propose the following addition: Prohibit the applicant from signing any Non-Disclosure Agreements with property owners prior to providing notification to the local government authorities of the applicant’s intent to pursue approval for an industrial wind project REASON: NDA’s are commonly used by industrial wind companies to gain a “foothold” in an area before any announcement is made to the public, or any notice given to local government, about the intentions to build an industrial wind facility. Citizens need to know what money is being spent by the applicant to gain acceptance and silence dissent.	The department has no statutory authority to interfere in the agreements between private property owners. No change is needed to the regulation.

Comment Number	Commenter	Comment	Agency response
24	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 13. Public review and comment, AND 90. Public participation. A. Public Notice CHANGE: Announcement by applicant of public comment period needs to be more widely publicized than just in the "Public Notices" section of newspaper classifieds. I propose the following: the applicant must place the notice in the main section of the paper and be of a size at least 3 columns wide and 5 inches high, with a title using a large font clearly stating "Notice of Public Comment Period" the applicant be required to set up a website for the proposed project, and that the announcement of the comment period be clearly visible on the home page The applicant be required to provide electronic versions of all application documents available on the website in addition to hard copy versions The applicant be required to allow subscriptions so that notices will be emailed the DEQ shall set up a page containing links to of all PBR applicants' websites REASON: The notification of the public comment period for Rocky Forge Wind was "buried" in the "Public Notices" section of the newspaper classifieds among notices of bankruptcies, etc. Even though I was on the lookout for the notice, I did not see the notice until another person pointed out where it was. Other notices of proposed construction, rate changes, etc., by electric utilities are printed in the main section of the paper and are much more visible. The requirement for a website and email notifications is that in this day and age, many people do not get their information from traditional newspapers and get their information via the internet.	DEQ agrees that email notifications are a useful way to notify the public concerning the receipt of a Notice of Intent for a wind energy PBR. DEQ publicizes the receipt of a Notice of Intent from an applicant for a wind energy PBR by listing the project on the DEQ website and by issuing a general notice through the Virginia Regulatory Town Hall website. The Virginia Regulatory Town Hall notification service allows registered users to receive notifications concerning regulatory changes as well as general notices issued by DEQ. Individuals interested in a specific project may contact the DEQ staff listed for the project to receive additional information on the project. No change will be made to the regulation.

25	Jeffrey Scott	REGULATORY SECTION: 50. Determination of Likely Significant Adverse Impact A. Wildlife CHANGE: It is stunning that the PBR regulation requires the determination of likely significant impact on wildlife and historic resources, but not on people! This is an oversight that needs to be remedied. Aside from that, there is no mention of the adverse impact that noise can have on wildlife. Many studies have shown that wildlife is adversely impacted by noise, and currently there is nothing in the regulation that requires an analysis of that impact. Require actual noise studies, not computer models. I propose the following: The applicant will use sound generation equipment producing the noise levels (i.e., dB) and frequencies (audible and infrasound) that the proposed wind turbine make and model generates The sound generation equipment shall be placed at the proposed locations of the wind turbines Sound monitoring devices shall be placed at various locations and distances from the sound generation equipment The sound generators will be elevated to the height of the nacelle of the proposed turbine make and model The sound generation tests will be performed in various temperature, humidity, and wind conditions. Public notification of sound generation testing must be sent to all landowners within two miles of the proposed site The results of the noise study must be included in the PBR REASON: The noise study performed for Rocky Forge Wind used a computer simulation that was developed for flat land, and that was explicitly stated to be “not intended for use in mountainous regions”. Anyone who has lived in mountainous areas knows how sound can carry and bounce around. I know from personal experience that I can easily hear a chain saw or power mower from a mile away, and my hearing is that of a 64 year old man. In addition, no infrasound study or analysis was conducted. Due to the nature of infrasound, it carries farther than audible sound, and its health impacts to people and wildlife can be even more severe.	All regulation development activities are required to evaluate public health impacts as required under the Administrative Processes Act (APA) (§2.2-4007 et seq. of the Code of Virginia). However, the suggestion of a noise evaluation study and the potential impacts may be considered when the regulation is reopened for amendment in the future if the impacts are not otherwise covered by regulatory permit programs.

Comment Number	Commenter	Comment	Agency response
26	Jeffrey Scott	REGULATORY SECTION: 90. Public participation CHANGE: It is important that the PBR process be as transparent as possible. I propose the following: Require the DEQ (and its agencies) and governmental agencies such as boards of supervisors, planning commissions, etc. to make publicly available all communications between them and the applicant without having to have FOIAs submitted REASON: In the Rocky Forge Wind application, a small group with limited resources that wanted to make sure that the applicant and county government or state agencies had made no secret arrangements or promises was forced to submit FOIA requests. In one case the FOIA request resulted in exorbitant fees and legal action.	The Virginia Freedom of Information Act (FOIA) (§2.2-3700 et seq. of the Code of Virginia) establishes the requirements for public records to be open to inspection. The Department of Environmental Quality adheres to the statutory requirements of FOIA. No change is needed to the regulation.
27	Jeffrey Scott	REGULATORY SECTION: 30. Application A. Requirements 13. Public review and comment CHANGE: The individuals who submit comments as part of the public comment period do not have any opportunity to question the validity of the applicant's responses. I propose the following: Persons who submit responses need to be given the opportunity to challenge an applicant's response The DEQ would provide the forum for the resolution of the challenge REASON: Many comments were submitted by the public as part of the Rocky Forge Wind PBR application, and many responses to those comments by Rocky Forge Wind were "non-responsive" or dismissive of the information presented by the commenter.	The department follows the requirements for regulation development as required in the Administrative Process Act (APA) (§2.2-4000 et seq. of the Code of Virginia) (Specifically, § 2.2-4007.02.) Changes to the public participation requirements in the PBR may be considered when the regulation is reopened for amendment in the future, however §10.1-1197.6 B 14 only requires a public comment period to be held prior to authorization of the project.

Comment Number	Commenter	Comment	Agency response
28	Jeffrey Scott	REGULATORY SECTION: General CHANGE: The Virginia Constitution states "it shall be the Commonwealth's policy to protect its atmosphere, lands and waters from pollution, impairment, or destruction, for the benefit, enjoyment and general welfare of the people of the commonwealth." Article XI, Section 1. The PBR regulation needs to be reviewed to determine if it is consistent with the constitutional requirements. I suggest the following: A review board be established to specifically review the PBR with respect to 1) omissions of requirements to insure constitutionality (for example there is nothing about the general welfare of the people), or 2) requirements that conflict with the Virginia Constitution REASON: The PBR was written to expressly encourage development of industrial wind. As seen in its first application, there are many issues with it, some of which raise concerns about its constitutionality.	As part of the periodic review, the regulation is reviewed by the Office of the Attorney General. The Office of the Attorney General has certified the agency has the authority to adopt this regulation.
29	Jon Claunch	Because the Small Renewable Wind Energy Project Permit By Rule (PBR) has inadequate and/or ineffective internal controls, it should be abolished. Internal controls were non-existent or not followed with the Rocky Forge Wind Energy Project in Botetourt County. DEQ leadership favored this project before the Botetourt County Board of Supervisors even evaluated or voted on it from a local standpoint, likely swaying the county's decision. In addition, the PBR has no means to independently verify or validate input submitted by wind project advocates using an unbiased subject matter expert, allowing invalid, inaccurate, or incomplete data to be easily submitted to obtain DEQ approval of wind energy projects having questionable benefit and likely environmental harm.	The department is required to establish and maintain a permitting program for wind renewable energy projects under Article 5 in Chapter 11.1 of Title 10.1 of the Code of Virginia. This law requires the department to permit wind renewable energy projects of a certain size provided, among other requirements, the local governing authority provides certification that the project comports with all local land use ordinances. The department followed the requirements under the current regulation for permitting such facilities. The requested independent verification is an additional requirement that is not authorized by the Code of Virginia.

Comment Number	Commenter	Comment	Agency response
30	William F. Abell, Jr	The previous commenter Mr. Claunch is correct. This type of administrative procedure is easily manipulated to avoid accountability.	See response to Mr. Jon Claunch's comment #29.

Effectiveness

Pursuant to § 2.2-4017, please indicate whether the regulation meets the criteria set out in Executive Order 14 (as amended, July 16, 2018), including why the regulation is (a) necessary for the protection of public health, safety, and welfare, and (b) is clearly written and easily understandable.

This regulation is necessary for the protection of public health, safety and welfare and is clearly written and easily understandable. The regulation provides a permitting process for wind energy projects with a rated capacity of less than 150MW that is protective of human health and the environment.

Decision

Please explain the basis for the rulemaking entity's decision (retain the regulation as is without making changes, amend the regulation, or repeal the regulation).

The regulation is being retained. The regulation provides a permitting process for wind energy projects with a rated capacity of less than 150 MW that is protective to human health and the environment. The PBR provides a mechanism for applicants to evaluate and review natural resource impacts not otherwise covered under regulatory permit programs.

Small Business Impact

As required by § 2.2-4007.1 E and F of the Code of Virginia, include a discussion of the agency's consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation from the public; (3) the complexity of the regulation; (4) the extent to the which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation. Also, discuss why the agency's decision, consistent with the stated objectives of applicable law, will minimize the economic impact of regulations on small businesses.

The regulation is needed to provide a permitting process for wind energy projects that is also protective of human health and the environment.

Comments were received during the public comment period. None of the comments submitted indicated the regulation is burdensome on small businesses.

The regulation details the permitting process, and a wind energy project is deemed to operate under the permit by rule provision if it meets the requirements of the regulation. Other permits may be required for the wind energy project.

This regulation does not overlap, duplicate, or conflict with federal or state law or regulations.

This regulation was adopted in 2010 and amended in 2013, 2015, and 2017. Since initial adoption, the regulation has been amended to maintain consistency with other regulations pertaining to PBRs developed for solar and combustion projects designed with a rated capacity not exceeding 150 MW. The regulation was also amended in 2017 to increase the size of a small renewable wind energy project from 100 MW to 150 MW allowing potentially more projects to be permitted by a permit by rule.

Why Rocky Forge Wind Should NOT Be Built

Visualization of the height of proposed wind turbines compared to the Wells Fargo Tower in Roanoke

The Rocky Forge Wind project on North Mountain, on hold for several years (no buyers for the expensive electricity it might generate), now appears to be moving forward. Apex Clean Energy, the Rocky Forge builder, wants Botetourt County to change the Special Exception Permit and the County Wind Ordinance to allow Apex to build taller wind turbines. The original turbine height was 547ft, and Apex now proposes 680ft (a 24% increase). Taller turbines further increase the negative impacts to the county. A few of the many issues ***of either turbine height*** are summarized in this brochure.

Insufficient Winds

The wind speeds reported by Apex are minimal for driving wind turbines. And when electricity demand is at its highest in the summer, wind speeds are low, and are highly variable. Turbines will be turned off on summer nights to prevent bat kills, further reducing power generation, so turbines won't replace fossil fuels. The project is not viable here.

Decreased Property Values

Property values go down where industrial wind turbines have been built. Reductions up to 60% have been documented in other states. "Participating" property owners get funds from turbine owners and sign non-disclosure agreements to keep them quiet; all others get nothing.

Health Impacts to People and Animals

Recent studies document physiological health impacts from audible noise and infrasound pressure waves, including sleep deprivation, dizziness, heart palpitations, and birth defects. Low frequency wind turbine noise travels VERY FAR; a Finland study measured turbine noise 40-60km (25-37mi) from the nearest wind facility. Sound studies Apex performed used a computer model not meant for analyzing sound propagation in mountainous areas, and *did not include infrasound measurements at all*.

Apex is not a good community partner

Apex claims to be a community partner, establishing long-term relationships. In fact, they have been sued in several states. Their promised contribution to the Botetourt Historical Society "to support education...to the historic mining and furnace operations in the county" has not occurred, and the amount has never been stated. Historically, after government tax credits have been extracted, wind installation owners sell to others. Why? Wind energy is not viable.

Destroys Scenic Views

Botetourt County's Comprehensive Plan states: *"Preserving scenic views and vistas is particularly important for Botetourt County. The County's scenery is critical to the rural character and is one of its most distinguishing features. The Blue Ridge Mountains are a national attraction and derive their popularity from spectacular views*". This local beauty produces valuable economic impact. Erecting 680 foot tall man-made structures destroys the natural beauty, and these proposed turbines will be visible from the Blue Ridge Parkway.

Wildlife Habitat Loss

Mountain ridges are some of the most environmentally sensitive and important areas in Virginia. Impacts to protected and endangered species will be devastating. Rocky Forge is located in the Buffalo Creek – Purgatory Mountain Wildlife Corridor and is on the migratory route for many birds, including the protected Golden Eagle. Wind turbines kill thousands of birds and bats, and the low-frequency noise and pressure waves they generate destroys local animal habitat for miles. This devastation outweighs any potential benefits.

Renewable Energy has Existed in Southwest Virginia for Decades

Hydroelectric dams and pumped-storage hydroelectric facilities already produce 3500MW of renewable and on-demand energy here. Rocky Forge's likely 10-20MW output is just not worth it.

Impairment of Water Quality

Construction activities will result in significant erosion and runoff problems. Sinking Creek, Mill Creek, and others in the area are pristine trout streams which will suffer from drastically changed drainage patterns. In addition, blasting could easily disrupt aquifers. Finally, spills of oil and hydraulic fluid could seep into underground water.

Increased Fire Danger

Turbine fires occur 10 times more frequently than reported by the wind industry. Fires in mountainous areas are particularly difficult to control, and could lead to the destruction of hundreds or thousands of acres of vital wildlife habitat, result in significant water runoff problems, and destroy homes.

Financial Risks to the County

Claims have been made by Apex on the tax revenue that Botetourt will receive. But funds for decommissioning, liabilities, damage to county roads, lower property values, etc. could have a significant impact on the county's fiscal health.

What Can You Do To Stop Rocky Forge?

- Contact your Board of Supervisors member or the County Administrator (540-928-2006) and let him know your concerns and opposition to Rocky Forge
- Talk with your friends and neighbors
- Do your own research on the internet to get more information. Good sources of information are: https://www.wind-watch.org/ and http://na-paw.org/
- Come to the county meetings of the Planning Commission and Board of Supervisors (Dec. 19) and ask questions and voice your concerns

Virginians for Responsible Energy

"Green isn't always green"

www.VirginiansForResponsibleEnergy.org

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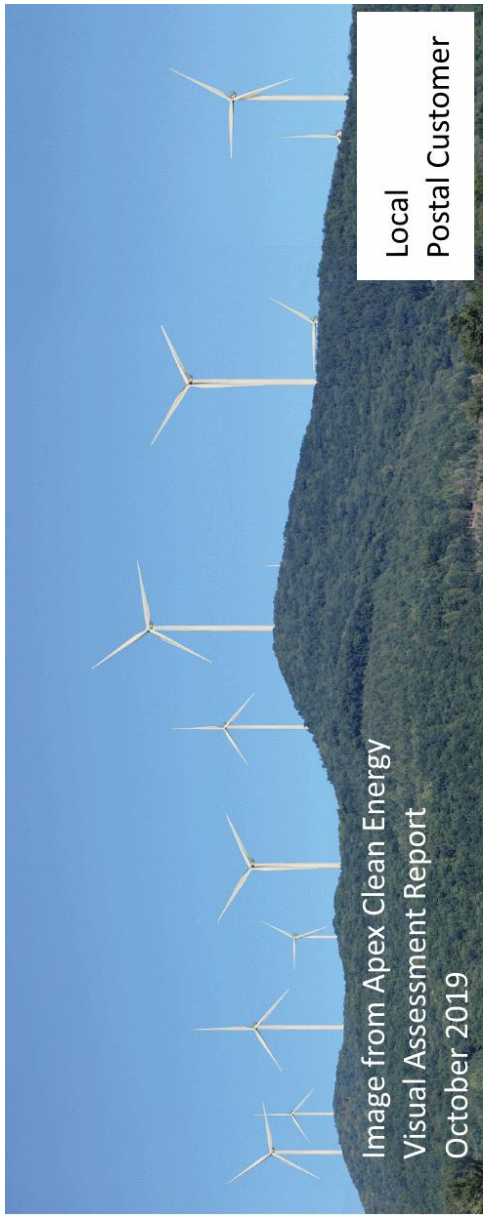

Image from Apex Clean Energy
Visual Assessment Report
October 2019

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SOUTHEASTERN
WIND COALITION

Dear Virginia Department of Environmental Quality,

The Southeastern Wind Coalition appreciates the opportunity to provide comments on the Rocky Forge Wind permit by rule ('PBR') modification with the Virginia Department of Environmental Quality ('VDEQ'). The Southeastern Wind Coalition focuses on education and outreach to advance the wind industry in the Southeast. We take an objective, data-driven, and business-focused approach to understanding and communicating the economic case for wind energy.

With this PBR modification the VDEQ has an opportunity to play a role in furthering new technological advances in the renewable energy industry. The taller towers proposed will create multiple project, environmental, and economic benefits. The requested modification to increase turbine height from 550ft to 680ft will allow for the project to have a smaller footprint with fewer turbine installations—22 rather than 25— and reduce the areal extent of the proposed disturbance area. Furthermore, the modification would allow the project to utilize new turbine technology, resulting in greater efficiency and the capture of stronger winds.

The Apex Rocky Forge wind energy project would provide an additional $20-$25 million in state and county tax revenue over the life of the project, with millions of dollars expected to be injected into Botetourt County's economy. Figures like these are common for wind projects. Virginia neighbors in eastern North Carolina, Pasquotank County and Perquimans County, have seen a tax revenue increase of over $600,000 a year combined, from the Amazon US East wind farm. These figures double when land-lease payments are considered. Botetourt County should capitalize on its abundant wind resources to provide tax payments that can help to fund local schools, hospitals, police, and fire departments, as well as keep property taxes low for current residents.

Landowners in Botetourt will also see significant economic benefits from the wind farm. Leases from the Rocky Forge project would provide landowners with a stable source of revenue for 30 years. Because of the limited physical requirements for wind turbines, landowners are able to use the vast majority of the leased land for a host of other purposes, including agriculture. Likewise, the approved modification would decrease the total number of turbines, therefore occupying even less of an already small footprint.

The Rocky Forge Wind project will likely require 250 full-time equivalent jobs during the construction phase and seven full-time permanent operations and maintenance jobs. The median annual wage for wind turbine technicians in 2018

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was $54,370 and was the fastest growing occupation in the country. Wind farms can also be a tourist attraction, providing an additional boost to the local economy. Along with clean and renewable energy, Rocky Forge will bring a host of economic benefits to Botetourt County.

Finally, the development of Rocky Forge is consistent with the Virginia Clean Economy Act, which puts the Commonwealth on a trajectory to 100% clean energy by 2050 with the promise of creating new jobs for Virginians. The Rocky Forge Wind farm does just that, as Virginia's first onshore wind farm and a key catalyst of economic development for Botetourt County.

The Southeastern Wind Coalition fully supports the PBR modification required to implement the Rocky Forge project given the increase in tax revenue for Botetourt County and Virginia, the additional economic boost from landowner payments, the creation of jobs, the subsequent infrastructure improvements, and the clean, renewable energy the project provides. Wind development is one of the best economic development tools available to our rural counties and should be taken advantage of.

Thank you for your consideration of our comments. If you have any questions, please contact Katharine Kollins, President, at katharinek@sewind.org or (303) 564-9687

Sincerely,

Katharine Kollins

Katharine Kollins
President, Southeastern Wind Coalition

SIERRA CLUB
VIRGINIA CHAPTER

August 10, 2020

Virginia Department of Environmental Quality
Via Rocky Forge Wind, info@rockyforgewind.com

Re: Rocky Forge Wind PBR Modification Application

Dear Sir/Madam:

On behalf of the Sierra Club Virginia Chapter let me iterate our support for the Rocky Forge wind project and the PBR modification allowing for newer, larger turbines to be used for the project.

The Sierra Club - from the Roanoke group, to the Virginia Chapter to our national organization – is not only committed to transitioning ASAP from dirty fossil fuels to clean energy but also doing so in a way that is sensitive to the natural environment. Proper siting and good turbine designs are essential to any wind project, and Apex Clean Energy has proved willing and able to meet these requirements.

There are a number of positive elements surrounding this project:

- Apex Clean Energy has proposed building 22 turbines on private property in the Rocky Forge area adjacent to existing highways and transmission lines – eliminating the need for new infrastructure to be constructed. Much of the project site has been previously cleared. The nearest home is a mile and a half away.
- The project complies with Sierra Club's site specifications guidelines. The project follows a 14-point permitting process that is quite rigorous when it comes to safely managing potential impacts on wildlife.
- Apex Clean Energy is coordinating with federal and state wildlife agencies to make sure that the project is sited in an area where impacts to birds and bats are minimized and appropriately mitigated if necessary.
- The project will generate enough clean energy to power 21,000 homes, provide important tax revenue for the local economy, and land Botetourt County the honor of being home to Virginia's first wind power project.

Specific to the application before you, allowing for larger turbines means significant cost reductions as they operate more efficiently, harnessing the wind at taller hub heights, and thus reducing the overall number of turbines in the project.

Wind power is quickly gaining as one of our best answers to the climate crisis. Cities and counties around the country are signing on to commitments to 100% clean energy, and this year Virginia joined the ranks of the leading states in committing to a transition to a zero carbon electric sector by 2050. Achieving these goals requires replacing fossil fuels with a combination of energy efficiency and renewable energy.

The Rocky Forge project will be, we hope, the first of many wind farms in Virginia, and we are pleased that it sets a strong precedent for future wind projects in the state.

Thank you for your consideration of our comment and we look forward to working together to pursue Virginia's clean energy future.

Sincerely,

Eileen Woll
Offshore Energy Program Director
Virginia Chapter Sierra Club
801 Boush Street, Suite 200
Norfolk, VA 23510
757-277-8537 (cell)
sierraclub.org/virginia

From: Joe Stinnett
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Thursday, July 16, 2020 7:30:11 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Joe Stinnett
6 Branch Rd
Eagle Rock, VA 24085

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: comments on Rocky Forge project
Date: Monday, August 10, 2020 1:43:37 PM

---------- Forwarded Message ----------

From: Sandra Stuart <sws.watershed@gmail.com>

Date: 2020-08-08T17:39:56-04:00

Subject: comments on Rocky Forge project

To: info@rockyforgewind.com

Cc: mary.major@deq.virginia.gov, Jeff Scott <jeff@virginiansforresponsibleenergy.org>

ATTN: Charlie Johnson

Being concerned about climate change, I am discouraged that the Rocky Forge project is being considered as part of the solution to the problems facing us. Essentially, a carbon sink in karst terrain with a healthy ground and surface water complex structure, surrounded by forested federal and state parks and a rare wildlife trail from the Alleghenies to the Blue Ridge mountains will be

*destroyed. *

This project started with 550 foot turbines and it has now been increased to a 680 foot model, which has yet to be installed anywhere, even on flat ground. One 500-foot, steel wind turbine requires anchoring in a platform of more than a thousand tons of concrete and steel rebar, 30 to 100 feet across and anywhere from 6 to 30 feet deep. Mountain tops must be blasted to create a level area of at least 3 acres for each turbine. Rocky Forge

will build up to 22 wind turbines 680 feet high.

[A one-minute You Tube site shows construction for a 500 foot turbine, requiring on flat land excavation 9.8 feet deep and 100.7 feet diameter. https://www.youtube.com/watch?v=Q2o5P-6zm6Y.]

Bigger blades on a taller tower can capture more wind to run a bigger generator, but they require a correspondingly larger foundation and an area around them clear of trees and other turbines to maximize the effect of the wind and avoid interference.

In addition to mountain top removal that will occur from the installation of these turbines, the many mountain streams and wetlands and the life they support will be demolished and the resulting erosion and sediment from stormwater will be deposited in the James River. Since this is a known karst-riddled area, the blasting required will disturb far more than the 2 miles the company has been asked to research beyond the project and will likely affect the reservoir close to the Rockbridge and Botetourt county line.

After water, concrete is the most widely used substance on earth. If cement were a country, it would be the third largest emitter of carbon dioxide in the world – 2.8 billion tons/year – surpassed only by China and the US. In production, it also sucks up almost one-tenth of the world's industrial water use, all the while destroying the natural infrastructure and ecological function that humanity depends on for providing soil fertilization, flood control, water purification, and habitat biodiversity.

Wind turbines can play an important part in our transition from gas and oil; however, Rocky Forge is not appropriate environmentally for North Mountain and is not cost effective from any other aspect of the project from construction, transportation, installation, production, decommissioning, to recovery. Mitigation for the problems this project faces is not even close to an even trade and cannot replace the destruction of a healthy forest already sequestering carbon.

We need to be more practical and careful by using our dollars to support projects that will provide reliable sustainable energy and preserve the natural protection we have. Rocky Forge , despite its best efforts, cannot meet those goals.

Sandra W. Stuart

Rockbridge County

#001

Posted by **Gretchen Sukow** on **08/01/2020** at **8:05am** [Comment ID: 7] - Link

Type: Suggestion

Agree: 0, Disagree: 0

Wind Turbine Projects are certainly needed for a sustainable future, but the particular site for this one is poorly chosen. It puts avian wildlife and nearby wetlands at significant risk. This project should be cancelled.

#002

Posted by **Karen Lanning** on **07/21/2020** at **10:16am** [Comment ID: 5] - Link

Type: Suggestion

Agree: 0, Disagree: 0

The Rocky Forge Wind Project is a poorly conceived idea in a view shed and wilderness area, and should be cancelled.

#003

Posted by **John Wise** on **08/06/2020** at **6:10pm** [Comment ID: 8] - Link

Agree: 0, Disagree: 0

I was unable to open the entire list of 498! species of known or likely species of animals that are likely to occur within a two mile radius OF A SINGLE POINT in the development.

My concern is that studies have not been done to evaluate the increased harm especially to birds and bats by the increased height, increased swept area and the increased tip speeds that the fewer, but bigger turbines may cause.

I feel that more studies need to be done on this before approving any permit for Rocky Forge. Once built and damage done there is no recourse to ameliorate damage to (especially) for rarer and less robust species.

I am NOT sure if the revised plan is to light the towers but if this is a change, then the effect of the light on animal mortality needs to be considered also before approving any permits.

The 'deal' between Apex and the 'Commonwealth' for "green energy" from R Forge seems to create a potential conflict of interest when scrutinizing this project for natural resource issues.

From: Nathan thomas
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Monday, July 27, 2020 9:04:45 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Nathan thomas
900 Mt Moriah Rd
Eagle Rock, VA 24085 <https://linkprotect.cudasvc.com/url?a=http%3a%2f%2fadmin.phone2action.com%2femail%2fopen%2fleg%2f374446%2f93721375&c=E,1,GEz9k_O57NMVIJiuO2SvdGDp1elc41d7rUxKn6czw00324ZY_6zCfVnLNOzLjIW4tVwxy-mkEvJ9w6CS3cJ2v4Gue44FqB6rXNXLiyx_IDx-W-IDjJPV&typo=1>

From: David Tod
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Friday, July 10, 2020 1:03:41 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
David Tod
1654 Harding Rd
Blacksburg, VA 24060

From: info@rockyforgewind.com
To: Charlie Johnson
Subject: Fwd: Wind Turbine Project
Date: Monday, August 10, 2020 1:41:25 PM

---------- Forwarded Message ----------
From: Neil Treger <neil@financegatekeeper.com>
Date: 2020-08-10T10:01:03-04:00
Subject: Wind Turbine Project
To: "info@rockyforgewind.com" <info@rockyforgewind.com>
Cc: "mary.major@deq.va.gov" <mary.major@deq.va.gov>

Please note that I am sending this e-mail in opposition to the Rocky Forge Wind project.

This project makes little sense:

1. It will cause significant environmental damage during construction, and severely adversely impact the surrounding rural area;
2. The electricity generated is not as high as the projections from Amex forecast, given that the turbines will be turned off at night and the area simply does not generate as much wind as is assumed. Their projections are faulty;
3. While they claim that their footprint is reduced with taller structures, the aerial footprint is actually significantly larger;
4. This project affects Rockbridge County, yet is being approved by a neighboring county that will actually have little impact or much less impact from the project;
5. The equipment itself must be certified per an executive order restricting the use of equipment from certain countries, yet Apex does not include or disclose where this equipment would come from and thus the project may be in violation of a federal executive order;
6. Wildlife studies are not up-to-date, with the most recent one being completed in 2016 and the firm that was used for the study has a record of falsifying information, as was done for the Galloo project in New York, with the project later dropped;
7. Public discussion has been limited in time and scope. Simply put, the corporate interests backing this project are ignoring local public opposition and limiting their input.

Again, this project makes no sense.
Neil Treger

From: Robert Trent
To: Charlie Johnson
Subject: Comment for Rocky Forge Modification
Date: Wednesday, July 15, 2020 12:25:28 PM

Dear Mr. Johnson,

I support the development of renewable wind energy in Virginia. Rocky Forge Wind will be the first onshore wind farm in our state, providing the Commonwealth of Virginia with enough clean energy to power up to 21,000 homes annually while providing additional benefits to the local community.

Rocky Forge Wind will provide significant investment to the local economy including revenues for property owners, local government services, and schools for at least 30 years. Over the life of the project, Rocky Forge Wind will add $20 million to $25 million in state and county tax revenue. New local jobs will be created as a result of this project, including 250 jobs during construction and seven full-time employees to manage the site.

The modifications to the Rocky Forge Wind application will allow the project to utilize new turbine technology which will result in a more efficient project. For these reasons I urge the approval of the Rocky Forge Wind Permit by Rule modification.

Thank you for your time and consideration.

Regards,
Robert Trent
306 4th St
Radford, VA 24141

WRITTEN COMMENT PURSUANT TO VIRGINIA CODE § 10.1-1197.6(B)(13)

August 10, 2020

VIA ELECTRONIC MAIL

Charlie Johnson
Apex Clean Energy
310 4th St., NE. Ste. 200
Charlottesville, VA 22902
(540) 446-0645
info@rockyforgewind.com

Dear Mr. Johnson:

We write to you, the primary point of contact for Rocky Forge Wind, LLC, [1] to provide a written comment with respect to Rocky Forge Wind, LLC's Small Renewable Energy Projects (Wind) Permit by Rule Application for PBR Modification ("PBR Modification"), pursuant to Virginia Code § 10.1-1197.6(B)(13). For the reasons that follow, we strongly oppose the Application for PBR Modification.

As you are well aware, Rocky Forge Wind, LLC ("Rocky Forge"), has submitted the PBR Modification for the purpose of developing the Rocky Forge Wind Project ("Industrial Wind Project") in Botetourt County, Virginia. This modification request is recent, but the Project itself has a long and storied history. Suffice it to say that, since the Industrial Wind Project was announced nearly half a decade ago, Rocky Forge has received a plethora of public comments through both official and unofficial channels criticizing the Industrial Wind Project and articulating why the Industrial Wind Project, at least as proposed by Rocky Forge, would be a detriment to the region's government, people, and environment.

To be sure, we echo those sentiments. But, through this comment, we specifically wish to highlight how Rocky Forge, with respect to its Industrial Wind Project, has flouted the letter and the spirit of Virginia's law regarding small renewable energy projects. It is our sincere hope that by bringing to Rocky Forge's attention the deficiencies in not only the PBR application but the Industrial Wind Project as a whole, Rocky Forge will reconsider its course of action and, if it still

[1] Rocky Forge Wind, LLC's ultimate parent company is Apex Clean Energy, Inc. ("Apex"). All comments addressed herein to Rocky Forge should be construed as being addressed to Apex as well.

desires to pursue the Industrial Wind Project, due so in a responsible, sustainable, and lawful matter.

1. THE PBR MODIFICATION FAILS TO ABIDE BY BOTH THE LETTER AND THE SPIRIT OF VIRGINIA LAW

Despite criticisms and concerns from the public, the Virginia Department of Environmental Quality ("DEQ") authorized use of a PBR for the Industrial Wind Project on March 2, 2017. Since that date, however, Rocky Forge has proposed several changes to the Industrial Wind Project, which Rocky Forge has characterized as "de minimis" but are, in fact, significant. In particular, the revised design includes approximately 18 acres of additional disturbance corridor, and wind turbines with a maximum height of 680 feet, as opposed to the prior limit of 550 feet.

DEQ regulations allow project modifications ***if and only if*** (1) such modifications are "in accordance with the requirements of this permit by rule"; (2) "do not increase the rated capacity of the small wind energy project; and (3) "the owner or operator of a project authorized under a permit by rule . . furnish[es] to the department ***new certificates prepared by a professional engineer***, ***new documentation required under 9VAC15-40-30***, and the appropriate fee in accordance with 9VAC15-40-110." 9VAC15-40-100 (emphasis added). The DEQ must then "view the received modification submittal in accordance with the provisions of subsection B of 9VAC15-40-30." *Id.* In other words, DEQ regulations contemplate that applications to modify a PBR undergo the same path as original applications for a PBR.

As an initial matter, the PBR Modification fails to meet 9VAC15-40-100's basic requirement in that, instead of providing new documentation as required under 9VAC15-40-30, Rocky Forge has relied heavily on outdated documents it submitted with its original PBR application years prior. 9VAC15-40-100 clearly contemplates that ***new documentation*** be furnished for any proposed modification. Further, because of this fatal flaw, the many requirements of 9VAC15-40-30[2] have not been satisfied, as described specifically below:

A. Interconnection Studies and Agreements

Virginia Code § 10.1-1197.6(B)(3)–(4) and 9VAC15-40-30(A)(3)–(4) require the applicant of a PBR or modification to a PBR, such as Rocky Forge, to furnish "interconnection studies undertaken by the regional transmission organization or transmission owner, or both, on behalf of the small renewable energy project" and "a copy of the final interconnection agreement between the small renewable energy project and the regional transmission organization or transmission owner indicating that the connection of the small renewable energy project will not cause a reliability problem for the system. If the final agreement is not available, the most recent interconnection study shall be sufficient for the purposes of this section."

Rocky Forge failed to provide ***new documentation***, as required by 9VAC15-40-100(B), instead relying upon the interconnection studies and interconnection agreement provided with their

[2] Note that the factors of 9VAC15-40-30 overlap entirely with the conditions of Virginia Code § 10.1-1197.6. Thus, these requirements are not just administrative regulations, but requirements imposed by the Commonwealth's General Assembly.

original application. *See* PBR Modification, pp. 3–4. This, alone, renders the PBR Modification incomplete. Additionally, as explained in Section 1.H, *infra*, the failure to include the interconnection studies and interconnection agreement in the PBR Modification diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

B. Maximum Generation Capacity Certification

Virginia Code § 10.1-1197.6(B)(5) and 9VAC15-40-30(A)(5) require:

> A certification signed by a professional engineer licensed in Virginia that the maximum generation capacity of the small renewable energy project by (i) an electrical generation facility that generates electricity only from sunlight or wind as designed does not exceed 150 megawatts; (ii) an electrical generation facility that generates electricity only from falling water, wave motion, tides, or geothermal power as designed does not exceed 100 megawatts; or (iii) an electrical generation facility that generates electricity only from biomass, energy from waste, or municipal solid waste as designed does not exceed 20 megawatts.

Rocky Forge's PBR Modification includes a certificate by Daniel J. Jamison, professional engineer license no. 38979, that "the maximum generation capacity, ***as designed***, of the [Industrial Wind Project] does not exceed 100 megawatts." *See* PBR Modification, Attachment 5 (emphasis added). Yet, by Rocky Forge's own admission, "there are still parts of the design currently in process" and "the substation design is currently in flux." *See* PBR Modification, p. 15. Moreover, neither the number[3] nor the make and model[4] of the Industrial Wind Project's turbines has been finalized yet. Indeed, at the public meeting held on July 28, Rocky Forge's representative, Charlie Johnson, stated that the number or type of turbines is undecided.

While Rocky Forge has represented that the maximum generation capacity of its Industrial Wind Project will not exceed 100 megawatts, Virginia Code § 10.1-1197.6(B)(5) and 9VAC15-40-30(A)(5) require an engineer's certification for a good reason: such representations are simply not sufficient. Rather, maximum generation capacity must be established by objective, verifiable fact. That the design of the Industrial Wind Project remains in flux necessarily means that the certification provided by Mr. Jamison is invalid.

C. Air Quality Standards Analysis

Virginia Code § 10.1-1197.6(B)(6) and 9VAC15-40-30(A)(6) require an "analysis of potential environmental impacts of the small renewable energy project's operations on attainment of national ambient air quality standards." Rocky Forge has attempted to comply with this

[3] *See* PBR Modification, p. 11 ("This modification proposes to install up to 22 turbines.").

[4] *See generally* PBR Modification. Rocky Forge has not identified either the manufacturer or the model number of the turbines it proposes to install at the Wind Farm. Rather, Rocky Forge has only spoken in vague generalities with respect to purportedly "newer, more efficient wind turbine models" and "taller, more efficient turbine models." *See* PBR Modification, p. 1

requirement by asserting that, per the EPA AVERT Tool available at https://www.epa.gov/statelocalenergy/avert-web-edition, the Industrial Wind Project's energy generation would offset airshed emissions by 185,870 tons of carbon dioxide; 223,390 lbs of nitrogen oxides; and 290,800 lbs of sulfur dioxide.

This purported "analysis" is woefully inadequate. As an initial matter, Rocky Forge does not provide any of the data used for modeling via the EPA AVERT Tool. Without such data, Rocky Forge's claims with respect to offsetting airshed emissions cannot be verified. Furthermore, Rocky Forge's analysis fails to take into account the sum total environmental impacts its Industrial Wind Project will have on attaining national ambient air quality standards. Rocky Forge's analysis should include, among other things, the impact of mining the rare earth and other minerals for turbine components; making the steel, plastic, and fiberglass components; transporting the turbines; construction activity of blasting and grading; making the many tons of concrete required for the foundations; and the loss of carbon sequestration by trees and plants.

In short, Rocky Forge's bare suggestion that the Industrial Wind Project "will not have a negative effect on air quality," flimsily supported by purported estimations of emissions offsets, meets neither the spirit nor plain language requirements of Virginia Code § 10.1-1197.6(B)(6) and 9VAC15-40-30(A)(6). Accordingly, in that sense Rocky Forge's PBR Modification is incomplete.

D. Natural Resources Analysis

Virginia Code § 10.1-1197.6(B)(7) and 9VAC15-40-30(A)(7) require "an analysis of the beneficial and adverse impacts of the proposed project on natural resources. For wildlife, that analysis shall be based on information on the presence, activity, and migratory behavior of wildlife to be collected at the site for a period of time dictated by the site conditions and biology of the wildlife being studied, not exceeding 12 months." The PBR Modification attempts to address this requirement in three subsections, one regarding wildlife, one regarding historic resources, and one regarding other natural resources, as required by 9VAC15-40-40. As explained below, its analysis fails with respect to each of these categories.

i. Wildlife

9VAC15-40-40(A) contains a number of requirements with respect to wildlife analysis. Most pertinently, it requires, among other things, "a wildlife report and map generated from DGIF's Virginia Fish and Wildlife Information Service web-based application (9VAC15-40-120[C][3]) or from a data and mapping system including the most recent data available from DGIF's subscriber-based Wildlife Environmental Review Map Service"; "a breeding bird survey to identify state T&E [Threatened & Endangered] bird species and Tier 1 and Tier 2 bird SGCN [Species of Greatest Conservation Need] occurring within the disturbance zone during the species' annual breeding season"; "one year of raptor migration surveys, in both the spring and fall seasons"; "bat acoustic surveys to determine the presence of and level of bat activity and use within the disturbance zone"; "a season-appropriate mist-netting survey or harp-trapping survey or both"; and "a report summarizing the relevant findings of the desktop and field surveys conducted . . . along with all data and supporting documents," which "shall assess and describe the

expected beneficial and adverse impacts, if any, of the proposed project on wildlife resources identified in . . . this subsection."

The only new documentation Rocky Forge provided with respect to these requirements was a revised desktop review. *See* PBR Modification, Attachment 7A(1). For the other required documentation, Rocky Forge again referenced documents in its original PBR Application, repeating its assertion that no new breeding bird surveys, raptor migration surveys, bat acoustic surveys, and additional bat acoustic and mist-netting surveys are required for the PBR Modification. That assertion, however, is contrary to reason.

As an initial matter, it must be remembered that the PBR Modification is not "de minimis" but significant; common sense dictates that a maximum turbine height of 680 feet will impact wildlife differently when compared to the prior limit of 550 feet, necessitating the need for ***new, up-to-date*** studies. Furthermore, even a cursory review of the original PBR Application materials confirms this simple truth.

First, the Breeding Bird and Aerial Nest Surveys conducted by Western EcoSystems Technology, Inc. ("WEST"), which were Attachments 7A(2.1) and 7A(2.1a) to the original PBR Application, were conducted in 2015, over five years ago. Putting the question of these surveys' methodology aside, their conclusions that "impact to breeding birds . . . is likely to be low" and that "[n]o bald eagle nests or nests of other raptor species were observed" or "documented" are woefully outdated. Common sense, of course, dictates that such surveys have little if any meaning with respect to present conditions. Furthermore, DEQ guidance provides that such negative survey results remain valid for one year with respect to bald eagles and two years with respect to other birds. *See Wind Permit by Rule (PBR) GUIDANCE Department of Environmental Quality (DEQ) Section II: Methodology*, https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\440\GDoc_DEQ_4495_v11.pdf, p.7.

Second, the General Avian Use and Raptor Migration Survey conducted by WEST, which was Attachment 7A(4) to the original PBR Application, was similarly conducted over five years ago, between 2014 and 2015. Again, Common sense dictates that such surveys have little if any meaning with respect to present conditions. Furthermore, Rocky Forge's argument—"Since the original data was collected for all raptors migrating through the area regardless of flight height, the information provided in the original report is sufficient to address the Modifications requested in this application and do not change the results of this analysis"—is contradicted by the General Avian Use and Raptor Migration Survey itself, which frequently references "heights within the planned rotor swept area." Now that the proposed Industrial Wind Project's turbines will be up to 680 feet, up from 550 feet, the "planned rotor swept area" is clearly different now than it was when this study was performed, necessitating—as 9VAC15-40-100 wisely contemplates—***new documentation***.

In addition, WEST's General Avian Use and Raptor Migration Survey was inadequate in and of itself. For instance, it appears that the study was conducted within four miles of the proposed Industrial Wind Project site; The United States Fish and Wildlife Service ("USFWS"), however, recommends that bird migration and use surveys for eagles "be conducted on and within 10 miles

of a project's footprint." *See Eagle Conservation Plan Guidance*, https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf, p.12.

Third, the Bat Acoustic Surveys conducted by WEST and Indiana and Northern Long-eared Bat Acoustic and Mist-net Survey, which were Attachments 7A(6) and 7A(7) to the original PBR Application, were similarly conducted years ago, in 2010 and 2015 respectively. Again, common sense dictates, and the Virginia Code and related DEQ regulations contemplate, that such surveys have no application to the impacts the Industrial Wind Project will cause to this vulnerable population[5] in 2020 and beyond.

It follows, then, from all of the above that the PBR modification fails to provide "a report summarizing the relevant findings of the desktop and field surveys conducted . . . along with all data and supporting documents," which "shall assess and describe the expected beneficial and adverse impacts, if any, of the proposed project on wildlife resources identified in . . . this subsection." Indeed, Rocky Forge's assertion that its "proposed Modifications do not change the risks to wildlife and no new field studies are necessary to evaluate the Modifications' impact on wildlife" is contrary to reason. The passage of over five years from the most recent study, as well as the significant change of the Industrial Wind Project's turbines being approximately 130 feet higher than the original studies contemplates, compels the conclusion that new studies are required to effectively assess the expected beneficial and adverse impacts of the Industrial Wind Project. What's more, such new studies are required by the Virginia Code and associated DEQ regulations, as explained above.

Additionally, as explained in Section 1.H, *infra*, the failure to include these prior studies in the PBR Modification diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

In sum, Rocky Forge's analysis reflects that it has done the absolute bare minimum with respect to mitigating bird[6] and bat loss in our region. Rocky Forge's bare, unsupported claim that the studies submitted with its original PBR Application are adequate is no substitute for the legal and regulatory requirements the Commonwealth has enacted for the protection of our shared natural resources, and wildlife in particular. As is, Rocky Forge's PBR Modification is simply incomplete.

ii. Historic Resources

9VAC15-40-40(B) contains a number of requirements with respect to analysis of historic resources. A "qualified professional meeting the professional qualification standards of the Secretary of the Interior's Standards for Archeology and Historic Preservation" must "gather information on known historic resources within the disturbance zone and within five miles of the

[5] Note that the northern long-eared bat, a threatened species at both the federal and state level, has a confirmed presence in the proposed Wind Farm area.

[6] Note that of particular concern is the proposed Wind Farm's impact on the golden eagle, a small and vulnerable population of raptor that has federally protected status and is designated Tier 1 (Critical Conservation Need) by the Commonwealth of Virginia. Accordingly, we have reserved a subsequent section of this comment, *see supra* Section 2, to this important issue.

disturbance zone boundary"; "conduct a field survey of all architectural resources, including cultural landscapes, 50 years of age or older within the disturbance zone and within 1.5 miles of the disturbance zone boundary"; and "conduct an archaeological field survey of the disturbance zone and evaluate the eligibility of any identified archaeological site for listing in the VLR [Virginia Landmarks Register]." It also requires the applicant, in this case, Rocky Forge, to "provide to the department a report presenting the findings of the studies and analyses," which "shall assess and describe the expected beneficial and adverse impacts, if any, of the proposed project on historic resources identified."

Rocky Forge's application references a study conducted by Dutton + Associates as Attachment 7B to the PBR Modification. However, at the time of this comment, this attachment is unavailable to either view or download on the website Rocky Forge has directed the public to for its PBR Modification materials. *See* https://rockyforgewind.konveio.com/environmental-and-cultural-studies. We are therefore unable to comment on whether Rocky Forge's representations are accurate. Additionally, as explained in Section 1.H, *infra*, the failure to make this study available has diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

It is also worth noting that Dutton + Associates, LLC conducted a similar survey in 2016, in connection to the original PBR Application. *See* Attachment 7(B) to the original PBR Application. However, that survey was specifically premised on the Industrial Wind Project consisting "of up to 25 roughly 550- foot tall wind turbines spaced approximately 1/4 mile apart and spinning at an average rate of about 15 RPM." Clearly, the Industrial Wind Project's design has subsequently changed and, like other surveys related to the Industrial Wind Project, this survey is outdated.

iii. Other Natural Resources

9VAC15-40-40(C) contains a number of requirements with respect to analysis of other natural resources, including a "desktop survey of natural heritage resources within the site and within two miles of the boundary of the site"; "[f]ield surveys within the disturbance zone mapping"; and "for the area within the site and within five miles of the boundary of the site, a viewshed analysis of the impact of the proposed project on existing federally designated or state-designated scenic resource." It also requires the applicant, in this case, Rocky Forge, to "provide to the department a report, including maps, documenting the results of the analyses conducted," which "shall assess and describe the expected beneficial and adverse impacts, if any, of the proposed project on natural resources identified." As with its analyses for wildlife and historic resources, Rocky Forge's analysis for other natural resources is outdated and/or incomplete, warranting the denial of this PBR Modification.

With respect to desktop surveys, Rocky Forge relies upon Attachments 7C(1) and 7C(1.1) of the original PBR Application, which were surveys performed by the Department of Conservation and Recreation ("DCR"). Rocky Forge justifies this decision with the misplaced logic that because "the Project location has not changed, additional desktop surveys are not warranted to address the Modifications." *See* PBR Modification, p.11. In so doing, Rocky Forge fails to abide by the requirements DCR imposed in its survey letter: "***New and updated***

information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information ***if the scope of the project changes and/or six months has passed before it is utilized***." *See* Original PBR Application, Attachment 7C(1), p.3 (emphasis added). Rocky Forge's failure to re-submit information for its Industrial Wind Project renders this old survey invalid; consequently, Rocky Forget has failed to abide by 9VAC15-40-40(C). In addition, the survey failed to even consider impacts to Buffalo Creek–Purgatory Mountain, 178,800 acres which have been designated by the Virginia Outdoors Foundation as a Special Project Area. *See* https://www.vof.org/tag/buffalo-creek/.

Regarding scenic resources, Rocky Forge at least included a more recent study, attaching to its PBR Modification a visual assessment report prepared by Hill Studio and updated on October 8, 2019. *See* PBR Modification, Attachment 7C(2). That visual assessment analysis, however, is inadequate for two reasons. First, the visual assessment failed to account for visual impacts when trees are not in leaf. Second, the visual assessment failed to account for the visual impacts of the FAA requirement to have lights on the turbines and the attendant light pollution. Indeed, as a recent news article discusses: "As a condition for its approval, the FAA said the turbines should be marked with white paint and equipped with synchronized red lights to make them more visible to pilots." *See* https://roanoke.com/business/tall-wind-turbines-in-botetourt-will-pose-no-hazard-to-aircraft-faa-determines/article_762c79f3-35f7-5408-aa84-31e3f622e044.html#tracking-source=home-the-latest. It is obvious that since the North Mountain area currently has very little night sky light pollution, such lights will impact the viewshed of the area surrounding the proposed Industrial Wind Project. Thus, any visual impact analysis that does not consider this fact is incomplete; consequently, Rocky Forget has failed to abide by 9VAC15-40-40(C).

E. Mitigation Plan, 9VAC15-40-30(A)(8)

Virginia Code § 10.1-1197.6(B)(8) and 9VAC15-40-30(A)(8) require "the submission of a mitigation plan detailing reasonable actions to be taken by the owner or operator to avoid, minimize, or otherwise mitigate such impacts, and to measure the efficacy of those actions." It should not be unexpected at this point that, once again, Rocky Forge flaunts 9VAC15-40-100's requirement for new documentation with the unsupported statement that the "formal mitigation plan attached as Attachment 8 to the original PBR application remains appropriate for the Modifications." This, alone, renders the PBR Modification incomplete. Additionally, as explained in Section 1.H, *infra*, the failure to include the outdated mitigation plan it relies upon in the PBR Modification diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

As discussed above, the significant changes to the proposed Industrial Wind Project necessitate new surveys and analyses, and thus also a new mitigation plan, if the Industrial Wind Project is to be approved in any capacity. Indeed, simple math demonstrates that the modifications sought by Rocky Forge are not "de minimis." Consider the original Industrial Wind Project design: the sweep area for each 550 foot turbine is 3.33 acres. Conversely, the new proposal would see turbines at 680 feet, resulting in a sweep area of 5.25 acres. Thus, even if there are (slightly) fewer turbines, the ***total*** sweep area is significantly higher (83 acres vs 115 acres). In addition, assuming equal RPM, the blade speed of the newly proposed, taller turbines would be significantly greater than the original design. The mitigation plan must account for what Rocky Forge actually intends

to build, not what it intended to build years ago. Thus, the mitigation plan that Rocky Forge has relied upon with its PBR Modification is no longer valid, meaning that Rocky Forge has failed to abide by Virginia Code § 10.1-1197.6(B)(8) and 9VAC15-40-30(A)(8).

F. Mitigation Plan Design Certification, 9VAC15-40-30(A)(9)

Virginia Code § 10.1-1197.6(B)(8) and 9VAC15-40-30(A)(8) require a "certification signed by a professional engineer licensed in Virginia that the small renewable energy project is designed in accordance with all of the standards that are established in the regulations applicable to the permit by rule."

Rocky Forge's PBR Modification includes a certificate by Daniel J. Jamison, professional engineer license no. 38979, that [t]he design and installation of the small wind energy project incorporate the requirements of the mitigation plan that pertain to the design and installation." *See* PBR Modification, Attachment 9. Yet, by Rocky Forge's own admission, "there are still parts of the design currently in process" and "the substation design is currently in flux." *See* PBR Modification, p. 15. Moreover, as discussed above, neither the number nor the make and model of the Industrial Wind Project's turbines has been finalized yet. In addition, as discussed above, the mitigation plan that Rocky Forge has relied upon with its PBR Modification is no longer valid, in that it fails to take into account substantial changes to Rocky Forge's proposed Industrial Wind Project. This fact, and the fact that the design of the Industrial Wind Project remains in flux, necessarily means that the certification provided by Mr. Jamison is invalid.

G. Operating Plan, 9VAC15-40-30(A)(10)

Virginia Code § 10.1-1197.6(B)(10) and 9VAC15-40-30(A)(10) require an "operating plan describing how any standards established in the regulations applicable to the permit by rule will be achieved." As with its approach to the mitigation plan requirement, Rocky Forge purports to comply with the operating plan requirement by relying upon the Operations and Maintenance Plan it submitted as Attachment 10 to its original PBR Application. This, alone, renders the PBR Modification incomplete. Additionally, as explained in Section 1.H, *infra*, the failure to include the outdated operating plan it relies upon in the PBR Modification diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

Furthermore, because the (outdated) operating plan incorporates the (outdated) mitigation plan, the operating plan is incomplete for the reasons we noted in Section 1.E, *supra*. In addition, the operating plan submitted with Rocky Forge's original PBR Application noted:

> During the development of a wind farm, there are specific studies that are performed to ensure that the structures on site do not interfere with federally-licensed (FCC) facilities for local radio, TV signals, point-to-point beam path signals, land mobile, and public safety signals. The results of the study find that there are no FCC land mobile transmitting stations, radio broadcast facilities, or microwave paths that are expected to be adversely affected.

See PBR Application, Attachment 10, p.3. Those findings are no longer valid because the proposed Industrial Wind Project will feature up to 680 foot turbines as opposed to up to 550 foot turbines—an increase of potentially 130 feet. It is clear, then, that new studies must be performed to determine whether the taller turbines that Rocky Forge proposes to use will interfere with federally-licensed (FCC) facilities for local radio, TV signals, point-to-point beam path signals, land mobile, and public safety signals. For all of these reasons, the operating plan that Rocky Forge has relied upon with its PBR Modification is no longer valid, meaning that Rocky Forge has failed to abide by Virginia Code § 10.1-1197.6(B)(10) and 9VAC15-40-30(A)(10).

H. Public Review and Comment Period, 9VAC15-40-30(A)(13)–(14)

Virginia Code § 10.1-1197.6(B)(13)–(14) and 9VAC15-40-30(A)(13)–(14) require a "30-day public review and comment period," during which time will be held "a public meeting . . . held in the locality or, if the project is located in more than one locality in a place proximate to the location of the proposed project." Additionally, the applicant, in this case Rocky Forge, must "prepare a report summarizing the issues raised at the meeting, including any written comments received."

9VAC15-40-90 expands upon what those seeking a PBR, such as Rocky Forge, must do with respect to public participation. Notably, the regulation required Rocky Forge to provide a "statement that the purpose of the public participation is to acquaint the public with the technical aspects of the proposed project and how the standards and the requirements of this chapter will be met, to identify issues of concern, to facilitate communication, and to establish a dialogue between the owner or operator and persons who may be affected by the project." In addition, Rocky Forge was required to make available for inspection "the documentation to be submitted to the department in support of the permit."

Understandably, given the COVID-19 epidemic, Rocky Forge did not conduct an in-person public meeting, but allowed the public to participate by phone (and provided most of the new documentation it submitted to the DEQ via its website). However, Rocky Forge's public meeting by telephone was a poor substitute indeed. During the meeting, held for approximately two hours on July 28, 2020, phone-in comments were limited to just three minutes, and the caller was neither permitted to ask any follow-up questions nor even make a subsequent comment. As there were only ten callers over the length of the meeting, simple math reveals that 90 minutes—3/4 of the time allotted for the meeting—was reserved for Rocky Forge/Apex, the slim remainder for the public, *i.e.*, those who are supposed to benefit the most from the public meeting requirement. It is clear that Rocky Forge/Apex, who presided over the meeting and recited their position on the Industrial Wind Project multiple times, neither "identif[ied] issues of concern" nor "facilitate[d] communication" and "establish[ed] a dialogue between [itself] and persons who may be affected by the project" in any meaningful sense, as contemplated by DEQ regulations enacted to effect Virginia Code § 10.1-1197.6.

Furthermore, while Rocky Forge purportedly made physical copies of the documentation available for inspection at the Botetourt County Circuit Court Clerk's office, given the reality of the COVID-19 epidemic the only viable method for members of the public to review the PBR Modification was to rely on the documents made available on Rocky Forge's website; indeed, the public notice published by Rocky Forge promised that "the full PBR modification application will also be accessible to the public online." Unfortunately, this was but a half-truth. While Rocky Forge made, with one exception, its new documentation accessible to the public online, the documents Rocky Forge had submitted with its original PBR Application and which it has erroneously relied upon for its PBR Modification were ***not*** accessible. In addition, as noted above, the referenced study conducted by Dutton + Associates (Attachment 7B to the PBR Modification) is unavailable to either view or download on the website Rocky Forge has directed the public to for its PBR Modification materials. The failure to provide ***all*** documentation incorporated into the PBR Modification has necessarily diminished the public's ability to participate in the hearing for and comment on the PBR Modification, in contravention of the clear intent of 9VAC15-40-90.

While we are all still contending with the effects of COVID-19, the requirements of Virginia Code § 10.1-1197.6(B)(13)–(14), 9VAC15-40-30(A)(13)–(14), and 9VAC15-40-90 are vital to the development of any small renewable energy project in Virginia. It is impermissible for a developer such as Rocky Forge to use COVID-19 as an excuse to justify the taking of shortcuts and short-changing the public with respect to the meeting and comment process. Yet Rocky Forge has done just that; consequently, Rocky Forge has failed to abide by Virginia Code § 10.1-1197.6(B)(13)–(14), 9VAC15-40-30(A)(13)–(14), and 9VAC15-40-90, rendering its PBR Modification incomplete.

2. THE PBR MODIFICATION FAILS TO ADDRESS THE INDUSTRIAL WIND PROJECT'S IMPACTS ON ENDANGERED AND THREATENED SPECIES, PARTICULARLY THE GOLDEN EAGLE (*AQUILA CHRYSAETOS*)

As discussed above, the PBR Modification is lacking with respect to the required analysis of the Industrial Wind Project's impacts on natural resources, including wildlife. There is one particular species, however, that deserves special attention: *Aquila chrysaetos*, better known as the golden eagle. This raptor has been given special protection under the Migratory Bird Treaty Act ("MBTA") and the Bald and Golden Eagles Protection Act ("BGEPA"), and has been designated by the Commonwealth of Virginia as Tier 1 (Critical Conservation Need) species. As stated by the authors of the paper *Known Breeding Distribution and Abundance of Golden Eagles in Eastern North America*, "[t]he eastern population of Golden Eagles is of increasing concern to conservationists and managers range-wide due to its small size, its vulnerability to a suite of human threats (e.g., wind-energy issues . . .) and the general lack of knowledge about these birds."[7]

The General Avian Use and Raptor Migration Survey conducted by WEST, which was included as Attachment 7A(4) to the original PBR Application, observed eight golden eagles in close proximity to the proposed Industrial Wind Project (a number which could be higher today). Moreover, WEST stated that six of the eight observed were within rotor swept heights, two flying

[7] *Known Breeding Distribution and Abundance of Golden Eagles in Eastern North America*, Francois Morneau *et al.*, Northeastern Naturalist 22(2):236-247, 237 (2015), https://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_morneau_001.pdf.

across the area of the proposed Industrial Wind Project's turbines; and because this report is outdated (and has not been supplemented), its point of reference was the original 550 foot turbine height, not the newly proposed 680 foot turbine height which will have significantly more blade sweep. Thus, the impacts that the PBR Modification will have on golden eagles requires further study, which Rocky Forge has failed to do.

Indeed, the dangers posed by wind energy systems to the vulnerable golden eagle population is well known to experts. One paper noted: "Golden Eagles that summer in southern Canada are also those that winter primarily in the northeastern Appalachian Mountains, where there are increasing numbers of utility-scale wind-energy facilities. These birds could experience a disproportionately greater risk of wind-turbine mortality than those from the southwestern portion of the winter distribution where such facilities are uncommon."[8] Likewise, another paper observed that "ongoing operations [of wind turbines] kill relatively large numbers of raptors [including golden eagles] and other birds protected by the MBTA and other environmental laws."[9]

Indeed, the special vulnerability of golden eagle populations has resulted in a federal law passed, in part, to protect this species, the BGEPA. This law makes it a crime to "knowingly, or with wanton disregard for the consequences of his act take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles" without being permitted to do so. 16 U.S.C. § 668. "Take" is defined by the BGEPA as including "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, ***molest or disturb***." 16 U.S.C. § 668c (emphasis added). Given this broad definition, Rocky Forge's Industrial Wind Project may constitute a taking of golden eagles, which is strictly prohibited absent an incidental take permit issued by the USFWS. To our knowledge, however, Rocky Forge has obtained no such permit.

In sum, the golden eagle is a vulnerable species appropriately protected internationally, federally, and at the state level. The importance of preserving this bird of prey invalidates Rocky Forge's reliance on old, inapplicable studies. Instead, Rocky Forge should conduct (or DEQ should require) new, additional studies on how the PBR Modification will impact golden eagles, and amend its proposed mitigation plan (which is also outdated) accordingly. Importantly, this would comport with USFWS guidance: "Even for permits with low fatality predictions, we believe it would be remiss not to review whether eagle take is within the authorized level, and whether there are elements of the adaptive management strategy that should be implemented."[10]

3. THE INDUSTRIAL WIND PROJECT'S OTHER ADVERSE IMPACTS HAVE NOT BEEN ADEQUATELY STUDIED

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[8] *Stable Hydrogen Isotopes Identify Leapfrog Migration, Degree of Connectivity, and Summer Distribution Of Golden Eagles In Eastern North America*, David M. Nelson et al., The Condor 117(3), 414–429, 426 (2015), https://bioone.org/journals/the-condor/volume-117/issue-3/CONDOR-14-209.1/Stable-hydrogen-isotopes-identify-leapfrog-migration-degree-of-connectivity-and/10.1650/CONDOR-14-209.1.full.

[9] *Bird Mortality in Altamont Pass Wind Resource Area, California*, K. Shawn Smallwod & Carl Thelander, Journal of Wildlife Management 72:215–223, 222, https://www.biologicaldiversity.org/campaigns/protecting_birds_of_prey_at_altamont_pass/pdfs/Smallwood_2008-Altamont_mortality_estimates.pdf

[10] *Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests*, 81 FR 91494, 91516 (2016).

As the above demonstrates, Rocky Forge's PBR Modification is woefully inadequate and incomplete. As such, DEQ should deny it pursuant to 9VAC15-40-30(B)(2). But aside from the requirements imposed by the Virginia Code and related DEQ regulations, there are other reasons why we oppose the Industrial Wind Project as developed by Rocky Forge. We briefly address these below:

A. Inaudible Noise Impacts

Impacts to health caused by infrasound generated by wind turbines are well documented in the scientific community. *See, e.g.*, *Low-frequency Noise From Large Wind Turbines*, Henrik Møller & Christian Sejer Pedersen, Journal of the Acoustical Society of America 129, 3727 (2011); *An Analysis of Low Frequency Noise From Large Wind Turbines*, Henrik Møller & Christian Sejer Pedersen, Proceedings from 14th International Conference on Low Frequency Noise and Vibration and its Control (2010);[11] Family with wind turbines in close proximity to home: follow-up of the case presented in 2007, Nuno A. A. Castelo Branco et al., Proceedings from 14th International Conference on Low Frequency Noise and Vibration and its Control (2010).[12]

Despite this public health and safety concern, DEQ does not currently require study of the infrasound that may be generated by a wind energy project, such as Rocky Forge's Industrial Wind Project, nor any potential effects thereof. DEQ, however, is authorized to do so by Virginia law, which provides that DEQ "may require every owner or operator of a small renewable energy project to furnish when requested such plans, specifications, and other pertinent information as may be necessary to determine the compliance status of the project and ***the effect of the project on human health*** or the environment." Va. Code § 10.1-1197.11 (emphasis added). It is our recommendation that in connection with any wind energy project, but especially the Rocky Forge Industrial Wind Project which may utilize up to 22 turbines of 680 feet, DEQ utilize this provision to require an infrasound analysis before approving any project. It should not need emphasizing, but when public health and safety are at risk no efforts are too great, no requirements are too burdensome.

B. Overstated Benefits

In both its PBR Modification and as a matter of public relations, Rocky Forge (and its ultimate parent, Apex) have touted the purported benefits of the Industrial Wind Project and downplayed its potential for detrimental effects. That is, of course, to be expected. But there are two sides to every story, and DEQ should be cognizant the side ignored by Rocky Forge.

Put simply, Rocky Forge's claim that the Industrial Wind Project will provide energy for upwards of 21,000 homes is dubious. The wind data for North Mountain, where the Industrial Wind Project will be situated, is not publicly available. Instead, citizens have been provided with only a superficial summary. Under such circumstances, it is by no means certain that the wind to be utilized by the Industrial Wind Project will be sufficient to generate at the level of power Rocky Forge has generously estimated.

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[11] We have enclosed a copy of this paper with this comment.

[12] We have enclosed a copy of this paper with this comment.

C. Any "Micro-siting" of the Industrial Wind Project's Turbines Will Require Additional FAA Approval

As discussed in the news article previously cited (*See* https://roanoke.com/business/tall-wind-turbines-in-botetourt-will-pose-no-hazard-to-aircraft-faa-determines/article_762c79f3-35f7-5408-aa84-31e3f622e044.html#tracking-source=home-the-latest), the FAA has determined that the 680 foot turbines proposed by the PBR Modification will not constitute a hazard to navigation by aircraft. However, FAA guidance states that "[a] new filing is required with the FAA any time there is an increase in height and/or change to the frequencies or use of greater power and/or ***coordinates*** stated on the original determination letter." *General FAQs*, FAA (2017), https://oeaaa.faa.gov/oeaaa/external/searchAction.jsp?action=generalFAQs (emphasis added). Although Rocky Forge's site plan documents are drawn for 22 turbines exactly, the PBR Modification indicates that the number of turbines has not been finalized yet. Indeed, at the public meeting held on July 28, Rocky Forge's representative, Charlie Johnson, stated that the number or type of turbines is undecided.

In other words, it cannot be said that the FAA has approved the Industrial Wind Project with respect to its obstruction potential in any final sense. Until Rocky Forge makes a final determination as to its design of the Industrial Wind Project—which any reasonable developer would have done long ago, not beyond the eleventh hour in the PBR process—the FAA's determination is effectively tentative. It would therefore be prudent for DEQ to delay its decision on the PBR Modification until whether the FAA's determination will stand is made unquestionably clear.

4. CONCLUSION

Put simply, Rocky Forge's approach to the PBR Modification is reflective of its approach to the Industrial Wind Project in general: incomplete, sloppy, and haphazard. For these reasons and those articulated above, we urge Rocky Forge will reconsider its course of action and, if it still desires to pursue the Industrial Wind Project, due so in a responsible, sustainable, transparent and lawful manner. If, as we suspect, Rocky Forge fails to do so, we encourage DEQ to review our comments, as required by Virginia Code § 10.1-1197.6(B)(13), and take the only appropriate action it can—deny the PBR Modification.

Sincerely,

Virginians for Responsible Energy
By: Eric Claunch
Steve Neas
Molly Petty
Jeff Scott

Enclosures

cc: Ms. Mary E. Major (mary.major@deq.virginia.gov)

Barbara L. Walsh
301 McLaughlin Street
Lexington, VA 24450
blwalsh123@gmail.com

August 10, 2020

WRITTEN COMMENT PURSUANT TO VIRGINIA CODE § 10.1-1197.6(B)(13)
VIA ELECTRONIC MAIL

Charlie Johnson
Apex Clean Energy
310 4th St., NE. Ste. 200
Charlottesville, VA 22902
(540) 446-0645
info@rockyforgewind.com

Dear Mr. Johnson:

Although a supporter of clean energy development when properly sited and designed for maximum benefit with minimum environmental damage, I have concerns about the scale, siting, lack of data, mitigation, and oversight of this particular project.

These concerns are increased by the proposed changes in design and lack of study of the increased turbine heights, total sweep area, tip speeds, etc., as well as other changes that have occurred in the area since the original Permit-By-Rule (PBR) was first considered.

Furthermore, the changes in impacts resulting from the larger scale design, new designations of the Natural Bridge State Park and Virginia Outdoors Plan, and recent scientific developments, including but not limited to Golden Eagle study and protection, and recent experiences with stormwater, erosion, and water quality controls in similar terrain on pipeline projects must be adequately addressed.

In brief, the following issues remain a concern:

1. Ecosystem Fragmentation and Wildlife Impacts – As previously noted, the proposed Rocky Forge power station site is in the area that has already been identified by the Virginia Outdoors Foundation (VOF), Valley Conservation Council (VCC), and Rockbridge Area Conservation Council (RACC) as the last, least developed, largely intact forested landscape in Virginia providing a functioning connection for wildlife between the Alleghany Highlands and the Blue Ridge Mountains (https://www.vof.org/2013/07/30/vof-designates-new-special-project-area-in-rockbridge-botetourt/, "201306_vof_bot_buffalo_creek_spa" at https://www.vof.org/resources/library/, and http://rockbridgeconservation.org/resources/Buffalo_Creek_Trifold.pdf).

   Many of the natural resource concerns originally expressed in the 6/6/16 comment letter from Lee Merrill to APEX submitted previously by RACC and included here by reference, also require re-evaluation of the proposed new design, construction, and operational parameters proposed for Rocky Forge.

Since the review of the original PBR, the State has added the Arcadia Initiative, a multijurisdictional effort to preserve this critical large landscape to the 2018 Virginia Outdoors Plan (page 13.35) for the protection of wildlife migration and forest ecology with compatible economic development such as outdoor recreation (details from RACC attached).

Virginia has also established and developed a plan for the new Natural Bridge State Park within the Arcadia Initiative region, which shares the natural resources and project impacts on those resources as well as park goals for night sky accreditation.

The increasing importance of this last inter-ridge connecting ecosystem conflicts with industrial scale development. There are alternative locations and scales of wind energy production available in Virginia that do not conflict with the State-recognized value of preserving this critical landscape.

2. Birds – I concur with and add my support for the comments submitted separately by the Rockbridge Bird Club and American Bird Conservancy (ABC) reflecting the most knowledgeable expertise on local bird populations in this area that is "underbirded" and appears as a blank area on the State's published map of bird occurrence including nocturnal and migrant species since it has not yet received comprehensive study by Audubon or the applicant. The ABC has furthermore identified the area as a Globally Important Bird Area precisely in the concentrated migration and nesting location of the small and potentially vulnerable population of the Eastern Golden Eagle, a species that is strictly protected by 3 Federal Acts and Treaties requiring full study of impacts due to increased turbine heights, tip speeds, and total swept area and compliance with the Bald and Golden Eagle Protection Act.

3. Water Quality – By definition, the Rocky Forge power plant ridge-top location is in the headwaters of important and high-quality water resources and habitats. As has been so clearly demonstrated by the nearby Mountain Valley and Atlantic Coast Pipeline projects during the time since the first Rocky Forge PBR review, the available best management practices for controlling runoff, erosion, sedimentation, and other water quality impacts are not adequately protective on the extremely steep slopes, thin soils, and geological conditions found in the mountainous terrain of the Alleghenies and Blue Ridge. Neither the impacts, mitigation, or compliance monitoring and sampling for these 'lessons learned' is adequately addressed for construction and operation at Rocky Forge and effects on surrounding receptors.

4. Wind Resources – As noted by others, the National Renewable Energy Lab data indicates that the Rocky Forge site offers marginal wind levels, and ridge top sites in Virginia in general have less productive wind resources than are found offshore. We cannot waste the precious capital available to meet Virginia's renewable energy goals on full scale build out of projects that don't contribute significantly to the power production needed by 2050, while at the same time using up the State's review, compliance monitoring and enforcement resources.

As initially stated, I fully support clean energy development when properly sited and designed for maximum benefit with minimum environmental damage and assessed for environmental justice

effects in impacted area communities as well as at the site itself. It is with great disappointment that I conclude that the revised Rocky Forge PBR application fails to meet these standards both in:

- the chosen location that regardless of mitigation will irreparably fragment and negatively impact a largely intact forest ecosystem and vital remaining wildlife and ecological corridor between the Allegheny Highlands and Blue Ridge recognized as a Virginia conservation priority in the 2018 Virginia Outdoors Plan compatible with low impact economic development like the new Natural Bridge State Park, and exhibiting high conservation and climate resiliency value now documented by multiple other organizations with knowledge of local conditions including the Virginia Outdoors Foundation, Open Space Institute, Nature Conservancy, American Bird Conservancy, Virginians for Responsible Energy, Valley Conservation Council, Rockbridge Area Conservation Council, and Rockbridge Bird Club.

- the inadequate study and mitigation of the other substantial ecological and environmental harms of the new design to the Golden Eagle, nocturnal migrant species, and the other ecological and natural resource impacts described above and in the attached and referenced materials; and

- the paucity of wind resources and net reduction of fossil fuel use benefit. A perhaps unintended consequence of the modest wind resource is that it results in minimal production capacity fitting the State definition of "small project" with a less rigorous PBR process, while the scale of construction and investment to create that modest output, as illustrated by the need to scale up the project, are not "small," and are offset by outsized environmental impacts and risks of the location.

Virginia's laudable and ambitious new state energy policies and statutes will require science-based solutions that optimize renewable energy resources and strategic, well-studied siting to prevent avoidable ecological harm or environmental injustice to disadvantaged communities. I join other commenters in emphasizing that "these considerations are particularly important in the development of the first of these projects, as they will become the precedents that are followed going forward."

The greater current understanding of the risks posed at the location and the increased scale proposed at Rocky Forge, along with the newly available data on birds and increased state priority for preservation of the integrity and natural resources of the Arcadia landscape, requires more thorough scrutiny to support a science-based decision based on thorough documentation of the net merits, rather than the current approach that may ultimately serve as a set-back for achieving Virginia's renewable energy goals.

In conclusion I urge DEQ to find that full compliance with State guidelines for comprehensive study, assessment, and mitigation have not been fully met and are not sufficient for issuance of the revised PBR.

Sincerely yours,

Barbara L. Walsh, P.G., C.E.G.

cc: Ms. Mary E. Major (mary.major@deq.virginia.gov)