



Pennsylvania Department of Environmental Protection

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Pittsburgh, PA 15222-4745  
February 19, 2008

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Fax: 412-442-4242

Southwest Regional Office

RECEIVED

FEB 22 2008

Ellen Lutz  
Shaffer Mountain Wind, LLC  
1 South Broad Street, 20th Floor  
Philadelphia, PA 19107

PA Fish & Boat Commission  
Division of Environmental Services

Re: Technical Review Letter  
Shaffer Mountain Wind Site  
DEP File No. PAI055607001  
Shade and Ogle Townships/Somerset County  
Napier Township/Bedford County

Dear Ms. Lutz:

The Department of Environmental Protection (DEP) has reviewed the Post Construction Stormwater Management Plan (PCSWM Plan) and public comments for the above referenced application for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. The review has resulted in the following questions, concerns and technical deficiencies:

**Technical Deficiency and Resource Concerns: Post Construction Stormwater Management Plans**

1. After conducting field investigations on October 1 and 2 and November 7, 8, and 9, 2007, the Department drafted a "Dam and Encroachment Inspection Report", ("Report") listing its observations, which was previously sent to you. To the extent that you have not already done so, please respond in writing to the items requiring additional information in this Report. The Department also observed additional aquatic resources beyond your consultant's study area, but within your proposed NPDES Permit boundary. In addition to your written responses to the Report, revise your "Wetland and Waterbody Map" and all of your project plans and drawings, including your erosion and sediment control plans and PCSWM Plans, to clearly identify the limits of your study area and the proposed limits of disturbance. Furthermore, identify all aquatic resources (i.e. watercourses and bodies of water, including wetlands) on all of your drawings.



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2. In addition to what you have already submitted, revise your project plans, including your E&S Plan Layout Sheets and PCSWM Plan Layout Sheets to include:
  - (a) the identified aquatic resources (*i.e.* watercourses and bodies of water, including wetlands, vernal pools, located near Crumb Road);
  - (b) the total linear feet of roads on the drawings, including dimensions of all new asphalt, concrete or other non-gravel surfacing within the NPDES boundary. Of the total linear feet of road, delineate on the post-drawing the linear feet of existing roads you propose to upgrade, use, and maintain;
  - (c) the exact number of turbines (30 or 33) indicating design, and identification number for each pad location;
  - (d) your entire project area, including staging areas, disposal areas, existing and proposed utility corridors, substation, etc., and all proposed grading activities;
  - (e) the location, water supply, wastewater disposal, stormwater pollutant control, and operating details on concrete batch plants or other support units serving the project; A batch plant may require an Industrial NPDES permit from the DEP Water Management Program, please contact Kareen Milcic at 412-442-4033;
  - (f) superimpose your proposed project boundaries to the "Sensitive Resources Map," in Binders 2 and 3 of 3, of your application for an Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities, and submit revised copies of this drawing and;
  - (g) identify all post construction stormwater BMPs on PCSWM Plans.
3. Provide a table that quantifies the size of each body of water, including wetlands, (in acres) and the length of each reach of watercourse (in feet) that you identified in your study area. In addition, in your table quantify the amount of any impact to each aquatic resource, where applicable, whether temporary or permanent.
4. In accordance with DEP's Chapter 93 rules and regulations, portions of Piney Run, Clear Shade Creek and their tributaries have protected water uses as either Exceptional Value (EV) or High Quality Waters-Cold Water Fishes (HQ-CWF), within and/or near your project area. In addition, there are wetlands within and/or near your project area that are categorized as EV wetlands, in accordance with 25 Pa. Code Section 105.17 of the Department's Chapter 105 Rules and Regulations. Identify all EV and HQ aquatic resources within your project area, and near your project area that would receive

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- stormwater runoff, during and after construction. Identify all EV and HQ aquatic resources on your SWM Plan drawings. In addition, Beaverdam Run, Clear Shade Creek, Cub Run and Piney Run are designated by the Pennsylvania Fish and Boat Commission (PFBC) as approved trout waters. A portion of Beaverdam Run is designated as Class A Wild Trout Waters and several of these watercourses and their tributaries appear on the PFBC list of "Pennsylvania Stream Sections that Support Wild Trout Production - revised April 2007." Piney Run is classified by the PFBC as a Wilderness Trout Stream. Quantify and describe any proposed impacts to these special protection and other waters, if applicable, along with your proposed efforts to avoid and/or minimize impacts to the resources. The Department may request you to consider measures to mitigate for any adverse environmental impacts, and/or potential impacts to fishing resources.
5. Describe in detail the current site conditions and land use. The Department recommends that you use aerial photos to help document this. You can overlay the proposed project on the photos and supplement with a written land use description.
  6. Your project plans show structures and activities, such as utility lines and access roads, which may require you to obtain a Water Obstruction and Encroachment Permit (WO&EP), prior to commencing construction. Discuss your need to obtain a WO&EP for your project, identifying all proposed water obstructions and encroachments, if applicable. If you plan to design your project without obtaining a WO&EP, describe how your construction activities will propose to avoid impacting aquatic resources identified within your project area.
  7. To the extent possible, identify, quantify and evaluate the potential for any additional impacts, from any future construction activities, such as Phase 2, which is referenced in your Wetland/Waterbody Delineation Report, dated January 22, 2007.
  8. Due to your proposed projects proximity to the Windber and/or Central City public water supplies please provide a Professional Geologist's evaluation of the potential for your proposed project to impact these water supplies or any surrounding springs or wells used for private drinking water such as Berkobile Springs. Evaluate and identify any measures you propose to implement to avoid impacts.
  9. Indicate whether you have considered options other than trucking for transporting the turbines to your project site to minimize the disturbed area.
  10. Your consultants indicated to the Department that the wider areas needed for turning large trucks during initial construction will be revegetated, along with other areas. Where you have demonstrated that roadway widths cannot be reduced, confirm your consultants' statements by including detailed statements on the drawings, including restoration of soils

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if necessary, and determine if the vegetation can be reforested with native trees. Identify other areas that will be reforested and/or revegetated. Revise your drawings to show all areas to be restored. Review your plans to determine if there are other areas where the proposed roadway width can be reduced in size. Indicate whether you considered the use of turn outs to allow for opposing traffic to pass. Quantify and document your efforts to restore areas that will be temporarily disturbed during construction, but not needed for the operation and maintenance of the proposed wind farm (i.e. construction staging areas, areas within temporary construction easements, etc.). Revise your plans to show areas to be restored.

11. Identify the dimensions of the concrete turbine bases and provide a design detail to include the depths for the metal rods.
12. Provide more details on your Antidegradation Alternatives evaluation, especially regarding: (a) alternative siting of your proposed project at other locations such as nearby strip mined areas and; (b) the potential for alternative usage of vertical wind turbines.
13. Indicate whether you plan to utilize the Center for Dirt and Gravel Roads Studies ("Center") recommendations regarding your proposed access roads. The Department requires additional information as to the characteristics of the width, density and maintenance of vegetated filters strips along gravel and paved areas. Demonstrate the availability of sufficient soils to create and maintain the BMPs. Document whether level spreaders are sufficient to prevent reconcentration of flow or whether other BMPs such as infiltration berms are necessary.
14. Indicate whether the gated road between Crumb and Turbine D6 will be used and upgraded, as well as other roads in the vicinity. Indicate whether you propose to lock-gate the private new access roads to exclude vehicles and 4-wheel ATVs. Provide information on your consultant's local experience using proposed rubber water bar deflectors and show on the typical plan view how the rubber water bar deflectors will be installed.
15. Evaluate any potential impacts to the environment that may arise from the operation and maintenance activities that you anticipate for this proposed project, and describe measures to be implemented to prevent these activities from degrading the water quality and the existing and designated uses of waters of this Commonwealth. In particular, address the following:
  - (a) Indicate whether you propose to spread materials on the roads to provide winter traction or summer dust control.

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- (b) Indicate what work needs to proceed should one of the turbines need to be replaced and whether or not the roadway system that has already been restored would need to be impacted again, and if so, your proposals to remedy such impacts.
  - (c) Since aquatic resources exist within the project area, and your consultant has identified a species of special concern within an existing utility corridor that you propose to utilize after replacing the existing infrastructure, evaluate the feasibility of utilizing methods other than herbicides, to manage the growth of vegetation within your project area.
  - (d) Do you propose to construct and maintain on-site sewage treatment/portajohns/ sewage holding tanks, oil, fuel or other liquid drum or tank storage, or floor drains in generator structures? If so, describe your plans, describe how you propose to control any leaks from gearboxes or transformers. Indicate whether a decision has been made on maintaining transformers inside versus outside the facilities. Indicate the likelihood of drips of organic liquids (such as lubricants) escaping from the turbine hub.
  - (e) Road maintenance must be addressed in more detail in an expanded and compulsory Maintenance section of the PCSWM Plan. Referencing the 2006 PA DEP Stormwater Manual is not sufficient. Provide details of your maintenance plans in the Narrative and/or Drawings sections. Document how often you propose to inspect and maintain roads and stormwater BMPs. You should consider adopting the maintenance recommendations from the Center for Dirt and Gravel Roads Studies
16. Document on the PCSWM Plans whether there are any pyritic rock formations in your project area or other acidic materials such as mine spoil areas. Quantify and discuss whether the proposed construction activities might expose any pyritic rock formations. If applicable, document measures to avoid, minimize and/or mitigate for any environmental impacts that might be associated with runoff during and post construction from pyritic rock. Similarly, document how you propose to identify and dispose of such materials.
17. Describe whether your excavations will expose any clay material(s). If applicable, document measures to avoid, minimize and/or mitigate for any environmental impacts that might be associated with runoff during and post construction from clay materials. Similarly, document how you propose to identify and dispose of such materials.
18. Explain how proposed rock-lined ditches and bypass areas along/near constructed roads will "improve" the quality and quantity of water being infiltrated, in comparison to stormwater management in a natural, wooded area.

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19. Due to the various changes that have already been made to the NPDES permit application and the additional changes that will be needed to address the comments in this letter, the NPDES permit application NOI will need to be revised. Remember to identify all post construction stormwater BMPs located on PCSWM Plans in the revised Section E of the application. Please provide a new NOI with the proper signature and notary seal.

#### Coordination with Resource Agencies

20. Please provide the status of your communications with the Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, relating to potential impacts to Blunt manna grass (*Glyceria obtusa*), Full dropseed muhly (*Muhlenbergia uniflora*), Yellow-fringed orchard (*Platanthera ciliaris*), Mountain bellwort (*Uvularia perfoliata*), and Fraser's sedge (*Cymophyllus fraserianus*).
21. In a letter dated June 11, 2007, the Pennsylvania Game Commission (PGC) reserved comment on additional potential adverse impacts to birds and mammals, state game lands and critical and unique habitats, until they received a revised draft site plan that included all access roads, roadways, turbine locations, utility plans, power lines, support buildings, etc. Please indicate whether you provided a draft site plan to PGC, and its response, if any, to address the concerns of the Commission, regarding potential impacts to important birding areas, migratory raptors – especially Golden eagles (*Aquila Chrysaetos*), spring and fall migration of birds and bats, Indiana bats (*Myotis Sodalis*), Bald eagles (*Haliastur leucocephalus*), Allegheny wood rat, and State Game Land No. 228.
22. Please provide the status of your communications with the U. S. Fish and Wildlife Service (USFWS), relating to potential impacts to Indiana bats (*Myotis sodalis*), bats, and bird migration, as expressed in their letter dated August 16, 2006.
23. In a letter dated December 8, 2006, the Pennsylvania Historical and Museum Commission concurred with the recommendations of your consultant, AMEC Earth and Environmental, to provide structural and archeological surveys for cultural resources. Indicate whether you provided those reports and the Commission's response, if any. Provide a status update on the Commission's review of your survey reports.

#### Public Comments

In addition to the inquiries and technical deficiencies noted above, this is your opportunity to consider all relevant public comments identified during the public comment process.

1. The Somerset County Natural Heritage Inventory identifies two (2) Landscape Conservation Areas (LCA) in and near your proposed project area (i.e. Clear Shade

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Creek LCA and State Game Land #228 LCA). In addition, several Biological Diversity Areas (BDA) such as Clear Shade Creek, Clear Shade Creek Headwater Wetlands, Crumb Bog and Shingle Run Wetland BDAs, exist within or near your project area. Are any of these areas in or near your project boundaries, and describe any impacts that your project may have on these areas.

2. Has the local condition of rapid melt of deep snowpack by rainfall been evaluated in post-construction design, such as its effect on the roads and receiving waters?
3. If blasting will occur, provide permit details
4. How will trout reproduction in streams be protected?
5. What assurance can you provide that the water quality will not be degraded'?
6. Have independent studies of the effects of the project on both surface water and groundwater been conducted? Have you considered the results of these studies?
7. Will areas within the NPDES boundary be susceptible to mudslides during or after construction.?
8. What project oversight will be provided, to assure work is done according to the approved design, and to ensure that protection is provided to the existing trees and their root systems and that soils are not compacted outside the areas shown on the drawings?
9. What impacts will the project have upon the Mauch Chunk or Burgoon aquifers or other local drinking water near the project?
10. Will open bottom culverts be constructed at proposed stream crossings?
11. Mountain ridge tops of the Allegheny Front could potentially harbor Indiana bats (*Myotis sodalisp*), a PA endangered species, and Eastern Small-footed myotis (*Myotis leibii*), a PA threatened species. Did your bat surveys identify the presence of these species in your project area? Describe measures that you propose to implement to avoid impacts to this species.
12. Attached is a "List of Birds Occurring in the Allegheny Mountains in Somerset County" provided in one public comment. Compare this list to the list of threatened and endangered bird species in Pennsylvania, from the PGC website. Discuss whether any of these species were found within your project area, from your bird surveys. If yes, describe any potential impacts to any of these bird species from your project, and any measures you propose to implement to avoid impacts to these species.

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13. Will your project affect the status of the Allegheny Front as an important bird area? Will your project adversely affect bird migration, nesting, habitat or other features that contribute to this area's designation as an important bird area? What measures will you implement to avoid or minimize any impacts?
14. How will your project affect Golden eagles and bird migration? Have you considered available data from the Allegheny Front Hawk Watch, while evaluating your project's potential to affect birds and bird migration?
15. Has bird or bat mortality occurred at any of your existing facilities, or nearby wind farms? What measures will you implement to avoid or reduce potential bird or bat mortality at the proposed Shaffer Mountain wind farm site?
16. Will your project create forest fragmentation, deforestation and/or otherwise affect wildlife habitat within your project area?
17. Will your project affect recreational uses, such as hunting, hiking, birding and tourism, in and near your project area?
18. Will your project affect air travel in the area, such as to the Bedford County Airport?
19. Will your project create noise disturbance in the surrounding area? What measures will you implement to avoid or minimize resulting noise disturbance?
20. What are the potential human health or well being impacts, such as headaches, fatigue and illnesses, that might result from strobe light effects/light flicker, low frequency noise and/or vibrations that may be associated with windmills, and "turbine syndrome"? What measures will you implement to avoid or minimize such impacts?
21. Will the proposed project affect property values in the surrounding area?
22. Will the proposed project affect the Gravity Hill Road fish hatchery?

You must submit a response for each of the above deficiencies and noted concerns within 60 calendar days from the date of this letter. It is recommended that you provide a written response to public comments listed on pages 6, 7 and 8, herein. The requested information must be submitted in triplicate. The Department recommends that you schedule a meeting to discuss any questions that you may have, regarding any of the aforementioned items. The meeting must be scheduled within the 60-day period allotted for your reply, unless otherwise extended by DEP. Please be advised that the Department has received additional information since our last written communication with you. If any of these comments have been addressed in your additional submissions, please clearly indicate the exact document.

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If you believe the stated deficiencies are not significant, you have the option of asking DEP to make a decision based on the information you have already made available. If you choose this option, you should explain and justify how your current submission satisfies the deficiencies noted above. Please keep in mind that if you fail to respond within 60 calendar days, your application will be returned.

If you have any questions concerning this matter, please contact Robert Scheib or Joseph Snyder of this office at the above telephone number, and refer to DEP File No. PAI055607001.

Sincerely,

Handwritten signature of Robert Coleman in cursive, with the word "FOR" written in capital letters below the signature.

Chris Kriley, P.E., Chief  
Permitting & Technical Services Section  
Watershed Management

Enclosure

cc: U. S. Army Corps of Engineers (2007-119)  
Pennsylvania Fish and Boat Commission  
Pennsylvania Game Commission  
DCNR - Bureau of Forestry, PNFI  
Somerset County Conservation District  
Bedford County Conservation District  
Shade Township  
Ogle Township  
Napier Township  
AMEC Earth & Environmental

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