



Pennsylvania Department of Environmental Protection

400 Waterfront Drive  
Pittsburgh, PA 15222-4745

March 17, 2009

Southwest Regional Office

412-442-4000

Fax: (412) 442-4242

Timothy Vought  
Shaffer Mountain Wind, LLC  
10 Penn Center  
1801 Market Street  
Suite 2700  
Philadelphia, PA 19103

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

Dear Mr. Vought:

The Pennsylvania Department of Environmental Protection (DEP) has reviewed your response to the Department's February 19, 2008 deficiency letter, regarding the above referenced application for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. Based upon this review, DEP has identified the following technical deficiencies which were discussed at our March 12, 2009 meeting:

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

1. Revise your narrative in the "Results" section, of your "Revised Wetlands/Water Body Delineation Report," with the following corrections:
  - a. Your narrative should state that DEP requested, based on field observations, that you revise Figure 5 and your project drawings, to more accurately depict the location of "Wetland/Waterbody Series F".
  - b. Your narrative should state that DEP only observed the portion of "Wetland/Waterbody Series AA" that is alongside Alvin Lane, because it is located outside of the proposed limit of disturbance, and no improvements are proposed to Alvin Lane; therefore, no direct impacts are anticipated to this wetlands series.
  - c. Your narrative should state that the boundaries for "Wetland/Waterbody Series N" extend beyond the proposed limits of disturbance for your project.
  - d. Your narrative, project drawings and Figure 5 should be revised to show that "Wetland/Waterbody Series U" and "JJ" have several fingerlike projections.

- e. Your narrative, project drawings and Figure 5 should be revised to show that “Wetland/Waterbody Series UUU” is a watercourse that extends from a culvert underneath Alvin Lane to tributary 45303 to Piney Run.
2. Your “Revised Wetland/Water Body Delineation Report” identifies the study area as the limit of disturbance; however, Figure 5, shows several areas that you investigated beyond the depicted limit of disturbance, such as the REC corridor and access roads. Revise your application and project drawings to clearly identify your study area.
  3. Revise your Figure 5, in your “Revised Wetlands/Water Body Delineation Report,” as well as other drawings if necessary, with the following corrections:
    - a. show “Wetland/Waterbody Series Y/VVV.”
    - b. show the headwaters to tributary 45298, located east of “Wetland/Waterbody Series JJ” to exist as several forked channels rather than a single channel.
    - c. show “Wetland/Waterbody Series U” with several, fingerlike projections.
  4. Your Figure 6, in your “Revised Wetlands/Water Body Delineation Report,” shows different blue lines for streams. Revise Figure 6 to resolve differences between the depicted blue lines.
  5. Regarding your “Access Plan for Wetland/Water Body Crossings”:
    - a. Page 2 of your access plan states that “...crossings....will need to be widened...” Identify the access roads and crossings that will need to be widened, and describe and quantify any impacts to watercourses, floodplains and water bodies, including wetlands, that may result from these roadway improvements.
    - b. Page 4 of your access plan indicates that approximately 1.77 acres of 18 wetlands and approximately 1,465 linear feet of stream channel will be temporarily disturbed. Revise Table 1 in this plan to specifically identify and quantify these temporary impacts and describe your efforts to restore each affected aquatic resource, after the temporary disturbances are completed. As discussed during our meeting of March 12, please make certain that this submittal reflects the same impacts that are shown on the “Table 1” which was submitted with the Joint Permit application. If there are any discrepancies in the impacts, please provide an explanation.
    - c. Based on your legend symbols for proposed turbine pads, Drawing Number ES-1A appears to show 31 proposed turbine pads instead of pads for only 30 turbines, as noted in your project description. (What appears to be a landing pad, looks like a proposed turbine pad.) Revise your legend or your application, accordingly.
    - d. Drawing Number ES-1A depicts timber landing areas that are not shown as limit of disturbance areas on Figure 5. Describe the scope of work at the proposed timber landing areas, and explain why these areas are not included within your identified limit of disturbance.

6. As discussed during our meeting, you are not proposing to improve any roadways other than what is currently shown on the site plans for your project. Please amend your narrative discussing rebuilding private trails and roads improvements to reflect this. Please identify the existing private trails and roads that will be completely rebuilt as part of your project, and identify any impacts to streams or wetlands associated with this work. In addition, quantify and describe each of these additional anticipated impacts.
7. In regards to your response to item 2D of the Department's February 19, 2008 letter, identify the location and limits of any proposed off-site soil disposal area(s) and temporary storage areas.
8. Identify 100% of the land uses within your project area.
9. Regarding your response item numbers 20 through 23, relating to PNDI and cultural resource issues:
  - a. provide the status of your efforts to resolve all PNDI issues.
  - b. provide copies of all correspondences from each of the noted resource agencies, to support the information that is presented within each response item.
10. In a recent electronic message to DEP, your consultant, AMEC Earth & Environmental, has indicated that a previously proposed temporary crossing of Wetland/Waterbody Series EEE, is now proposed to be constructed as a permanent crossing. Please revise your application to include this new information. Please describe and quantify the proposed impacts to the affected resource, and discuss why the previously proposed temporary crossing is no longer a feasible design alternative. If you are able to demonstrate that you can not avoid the proposed permanent crossing, consider designing a permanent structure that will minimize impacts to the affected resource.
11. Please address the following items related to your June 27, 2008 revised Post-Construction Stormwater Management Plan. The number in parenthesis refers to the original comment on DEP's letter dated 2/19/08.
  - a. Limits of disturbance are not labeled clearly on Post-Construction Drawings PC-1 through PC-16. Please label clearly. (1)
  - b. Please delineate/identify clearly existing roads versus new roads on the PCSW drawings. Please show the existing roads in the project limits to be used and describe for each road section if it is upgraded and/or maintained by Shaffer Mountain Wind (SMW). As discussed during our meeting, a single detail cross section could be added to the detail drawing to explain the upgrade. (2b)
  - c. Please mark turbine identification numbers on all the turbines on Drawings PC-1A, PC-14, PC-15, and PC-16. (2c)

- d. Please address the following items from your response to comment 2g of the Department's February 19, 2008 deficiency letter.
- (1) Please confirm that the vegetated buffer/filter strip areas designated on the drawings are drawn to scale. On the SMW Detail Drawing, provide a detail drawing of typical soil amendment, plantings, species, and details for the BMP that enables infiltration.
  - (2) Add to Note 24 on Drawing T-1: "site conditions may require additional topsoil and fertilizer to ensure dense vegetation is established. The on-site environmental inspector shall ensure construction results in the required dense vegetation."
  - (3) Add to end of last sentence in Note 24 on Drawing T-1: "as directed by the on-site environmental inspector. Major modifications require PA DEP approval before changes are made from the approved project drawings."
  - (4) The stormwater calculations in the PCSM plan include non-structural credits on Worksheet 3 for trees within 100 feet of imperious areas. Protection of existing trees is important for control of stormwater, but a maximum of 25% of the Required Control Volume on Worksheet 5 can be satisfied using non-structural credits. The remaining Required Control Volume must be satisfied using Structural BMPs. Please correct Worksheet 5.
  - (5) Please show on Drawing PC-2A "Transmission Line Layout" the same details as on Drawings PC-3 through PC-16.
  - (6) Please confirm the Structural BMP Volume calculated in Worksheet 5 using the formula on page 11 of the PCSM Plan is the additional infiltrating volume over and above the infiltrating volume of the pre-construction surface.
  - (7) Please confirm that the filter strip BMP will function as designed if vegetation cover is 51% damaged. If not, revise page 24 of the PCSM Plan Operation and Maintenance section.
  - (8) The application states that control of the peak 1, 2, 10, 25, 100 year storm runoff rates is accomplished by various controls. However, the PCSM Plan states that some drainage areas have an increase in peak flow rates. Please correct this inconsistency. (2g)
- e. Please clearly identify on all sheets of the SMW Plan Drawings all EV and HQ aquatic resources. Please answer the request to "quantify and describe any proposed impacts." (4)

- f. In your PCSM plan drawings and narrative you discuss the restoration of the turn out areas and roadway widening areas that will be used during construction but restored once the project is completed. Per our meeting discussion, please provide a typical detail drawing and cross section that shows the temporary impacts and the proposed restoration plans. Also note in the narrative that although the areas will not be reforested you will not restrict natural voluntary reforestation. (10)
- g. Besides comments above related to maintenance, please include all maintenance information, such as for the conveyor belt deflector BMP. Please include the width and density of the filter strips to be maintained. Please replace words “should” and “recommended” with the word “shall”. Please state the specific name of the entity to be responsible for the maintenance. Please add to the maintenance section: “If the BMPs do not appear to be controlling volume, the design engineer shall be contacted to evaluate and correct the problem.” (13)
- h. Please add to Drawing PC-17: “Note 5 – Dense vegetated filter area shall be established and maintained if the conveyor belt deflector directs water directly off the roadway in contrast to directing water to a diversion channel.” (13)
- i. During our meeting you indicated you no longer propose to use or improve the gated road between Crumb and Turbine D6. Please remove any reference to this road improvement work from the plans and narrative. (14)
- j. Please include transmission line corridor maintenance information in the PCSM Plan maintenance section. Carefully consider herbicide application in the vicinity of EV wetlands and watercourses. (15c)
- k. Turbine transformers in the nacelles are mentioned. Please confirm there will be no other electrical transformers. (15d)
- l. Please provide results and conclusions of acid-base testing pertaining to pyritic rock. (16)
- m. The response to comment 17 included the statement “SMW ESC Plan incorporates a variety of measures to trap sediment on-site near the source” in regard to clay. Please confirm clay-size particles are trapped and disposed where they will not be resuspended after construction is complete. (17)
- n. Please confirm all roads to be used will have proper stormwater controls, will be maintained and rates will be controlled in all areas. (18)
- o. Post Construction Stormwater Management is affected by surface conditions, such as forest versus field. Will tree removal begin before issuance of the NPDES permit?

**Public Comments**

1. For Public Comment 4, the commenter was asking about effects on more-vulnerable reproduction, not just protection of the trout streams. Will trout reproduction be affected? (PC-4)
2. Please provide a copy of the surface and groundwater studies mentioned in Public Comment 6. (PC-6)
3. Was the Eastern Small-footed myotis (*Myotis leibii*), a PA threatened species, found within your proposed project area, during your summer 2007 and summer 2008 mist net surveys, any of your telemetry studies and/or any of your other survey efforts? Please provide copies of your survey reports to support your response. If found within your project area, describe any potential impacts that your project may have upon this species of special concern, along with efforts to avoid or minimize these impacts.
4. Were any Indiana Bats (*Myotis sodalis*), a PA endangered species, found during your summer 2008 mist net survey or any of your other survey efforts? Please provide a copy of the report from this/these survey(s) to support your response. If found within your project area, describe any potential impacts that your project may have upon this species of special concern, along with efforts to avoid or minimize these impacts.
5. You report that your breeding bird survey found 16 regionally rare bird species and observed one PA endangered species, in addition to 52 common bird species. You also indicated that a copy of a report from this survey was submitted to the US Fish & Wildlife Service (USFWS) and PA Game Commission (PGC). Provide a copy of any comments from these resource agencies, relating to their review of your most recent survey reports. In addition, describe any potential impacts that your proposed project may have upon these species, and describe any measures that you propose to implement to avoid or minimize impacts to these species. Please provide a copy of your survey report to support your response.
6. You report that your spring 2007 raptor migration survey revealed that a small number of raptors, especially ospreys, were found to be flying within 98 to 250 yards of proposed turbine locations. You also indicated that a copy of a report from this survey was submitted to the USFWS and PGC, and that a survey was also going to be conducted during the fall 2007 migration period. Provide a copy of any comments from USFWS and PGC, relating to their review of your recent reports from these migration surveys. In addition, describe any potential impacts that your proposed project may have upon migrating raptors, and describe any measures that you propose to implement to avoid or minimize impacts to migrating birds. Please provide copies of your survey reports to support your response.

7. You indicate that a review of the data from the Allegheny Front HawkWatch has revealed that this data differed significantly from observations collected from the Shaffer Mountain Wind Farm site. Specifically describe these differences and discuss any reasons that might account for these differences. Please provide the data that was used to make the comparison.
8. Please provide a copy of reports from all studies that were completed to identify avian and bat species within and near the project area.
9. Please update us on your development of a protocol with the USFWS, relating to post-construction monitoring, to better understand the impact of wind farms on wildlife.
10. Please provide a copy of your Golden Eagle Survey. Based on this survey will your proposed project have any impacts upon Golden Eagles? If yes, please describe these impacts, and any measures that you propose to implement to avoid or minimize these impacts.
11. You have reported that proposed turbines will be sited over 400-ft from the Allegheny Front, in order to reduce bird or bat mortality. Discuss how this siting distance was selected, and how it will minimize potential impacts to migrating birds, neotropical birds, breeding birds and bat species.
12. You report that the Federal Aviation Administration (FAA) determined that your proposed project will have no effect on air travel. Please provide a copy of FAA's letter, dated May 27, 2007, which you reference in your response.
13. You report that Somerset County approved the Shaffer Mountain Wind Farm site in November, 2006. Provide a copy of this approval letter from the county.
14. You report that your proposed project should not decrease property values, based on the findings of a nationwide study that was conducted in 2003. Please provide a copy of this study, or other documentation, to support your response.

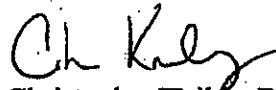
You must submit a response for each of the above deficiencies within 60 calendar days from the date of this letter. The requested information must be submitted in triplicate. Should you have any questions regarding the identified deficiencies, please contact Joseph Snyder or Robert Scheib to discuss your concerns or to schedule a meeting. The meeting must be scheduled within the 60-day period allotted for your reply, unless otherwise extended by DEP. In accordance with DEP's Monday-Back Guarantee Program, the clock tracking the elapsed time for the review of your application has stopped while you prepare a response to this letter. The clock will start again when we receive the requested information.

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 satisfied 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 Joseph Snyder or Robert Scheib of this office at the above telephone number and refer to DEP File No. PAI055607001.

Sincerely,



Christopher Kriley, P.E., Chief  
Permitting and Technical Support Section  
Watershed Management

cc: U.S. Army Corps of Engineers (207-119)  
Pennsylvania Fish and Boat Commission  
Pennsylvania Game Commission  
DCNR-Bureau of Forestry, PNDI  
Somerset County Conservation District  
Bedford County Conservation District  
Shade Township  
Ogle Township  
Napier Township  
Amec Earth & Environmental