

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THREE EMPIRE STATE PLAZA, ALBANY, NY 12223-1350

www.dps.ny.gov

PUBLIC SERVICE COMMISSION

GARRY A. BROWN

Chairman

PATRICIA L. ACAMPORA

GREGG C. SAYRE

DIANE X. BURMAN

AUDREY ZIBELMAN

Commissioners



PETER McGOWAN

General Counsel

KATHLEEN H. BURGESS

Secretary

August 13, 2013

Mr. Kevin Gaines
Chairman
Town of Denmark Planning Board
2707 Roberts Road
Carthage, New York 13619
denmarkplanningboard@gmail.com

Re: Comments by the New York State Department of Public Service on the Draft Environmental Impact Statement (DEIS) for Copenhagen Wind Farm in the Town of Denmark, Lewis County

Dear Mr. Gaines,

The New York State (NYS) Department of Public Service (DPS) has reviewed the Draft Environmental Impact Statement (DEIS) prepared by edr Companies on behalf of Copenhagen Wind Farm, LLC for the Copenhagen Wind Farm Project (the "project") in the Town of Denmark, Lewis County and the Towns of Rutland, Champion and Watertown, Jefferson County, New York.

The project, as proposed, includes 62 wind turbine sites, of which 49 turbine sites will be selected for construction. The proposed wind turbine model is the GE 1.6 – 100 wind turbine (or equivalent), with a rated capacity of 1.62 MW, which would generate up to 79.9 MW of electrical power. DPS Staff (Staff) notes that in May, 2013, General Electric (GE) introduced the latest iteration of this turbine model, the GE 1.7 – 100 Brilliant turbine, which boasts a 7 percent boost in generation capacity. Staff encourages innovation and advancement of technology, and only raises this matter in the context of project size and impacts, as well as the regulatory reviews and permits that may be applicable to the project. In the event that this newer 1.7 MW turbine model is selected for the project, then the 79.9 MW generating facility could be developed on a platform of 47 turbines, without an increase in turbine height or footprint. In the event that 48 or more 1.7 MW turbines are sited (up to the 62 sites identified in the DEIS) the project would exceed 80 MW and would then be subject to review and approval by the NYS Public Service Commission (PSC) pursuant to §68 of the Public Service Law. This approval considers development of electric plant in terms of public safety and facility reliability

considerations, and projects approved are granted a Certificate of Public Convenience and Necessity.

DPS Staff provides as Appendix A, comments on the DEIS for the Copenhagen Wind Farm Project, as currently proposed. We note that many of our comments address items listed as requirements for DEIS analysis in the Final Scope of Studies issued by letter of June 5, 2013 by Town of Denmark Planning Board Attorney Mark Gebo. Clearly, additional information is needed to conform the EIS to the requirements of the Final Scope.

If you have any questions concerning matters discussed in this letter or the attachment, please contact me at (518) 486-2853.

Respectfully,



Andrew Davis
Utility Supervisor, Renewable Energy and
Environmental Certification
& Compliance Section
NYS Department of Public Service
Office of Energy Efficiency and the Environment
3 Empire Plaza, Albany NY 12223-1350

Attachment

Cc: Prudence Kunert, Town Clerk - denmarkclerk@hotmail.com

Mark G. Gebo, Planning Board Attorney - mgebo@gebolaw.com

APPENDIX A – DPS Staff Comments on DEIS for Copenhagen Wind Farm Project

1. Project Description – Section 1

The developer should specifically show on a map the location of the 49 turbines they plan to use. The statement that 49 turbines out of 62 will be used is vague.

2. Summary of Potential Impacts – Section 1.0

Proximity of proposed wind turbines to the Cortland County landfill is identified as a potential impact. No explanation is provided for this statement in this section or any other section of the DEIS and the location of the Cortland County landfill is not within an area of anticipated impact for this project. It appears that this statement is residual text from a different project. Further explanation should be provided or the statement should be removed.

3. Summary of Mitigation Measures – Section 1

It is noted that the Applicant will utilize ‘best practice’ construction techniques that minimize disturbance to vegetation, streams, and wetlands. What specific document contains ‘best practice’ construction techniques? Provide a copy of the “best practice” document.

4. Description of Proposed Action – Section 2.0

The uncertainty resultant from the developer’s approach to defining the project is that the actual impacts that will result are not fully quantified in a logical presentation. The DEIS should identify the project layout proposed and assess impacts related to that layout and design.

Page 13 states that “On December 24, 2012, NYSERDA announced an eighth competitive solicitation for Main Tier renewable energy projects of up to \$250 million. Bid awards are anticipated during the spring of 2013.” The EIS should report the results of the spring 2013 awards, indicate whether Copenhagen Wind was selected for RPS awards, and indicate if future awards will be pursued.

The proposed O&M building is located remotely from the other project components, including the electrical collection substation. The DEIS does not address any needed communications links from the collection substation to downstream utility transmission point of interconnection (POI) substation, or to the O&M facility. Any facilities necessary to provide operations communications links, such as new fiber optic cables, microwave tower relays or other facilities should be reported and analyzed for environmental effects.

5. Project Layout and Components – Section 2.5

It is noted that the distance from non-participating land parcel, will maintain a minimum setback of 642’ (height of the highest portion of the nacelle plus twice the length of one

rotating blade) from the property line. It is also noted that in the event that a turbine is located less than 642' from these property lines, a setback waiver will be sought in accordance with the Town of Denmark local law. Finally, in reference to this topic, it is noted that setbacks for turbines will be a minimum of 1,500 feet from permanent residences (except by a waiver). Provide manufacturer's recommendations supporting these noted setbacks.

6. Wind Turbines – Section 2.5.2

It is noted on page 21 that “Each wind turbine consists of three major components: the tower, the nacelle, and the rotor. The height of the tower, or “hub height” (height from the base of the tower to the center of the rotor hub on top of tower) will be approximately 100 meters (328 feet).” According to GE wind turbine cut sheet, included in Appendix A, this particular wind turbine model is available in 80 meter and 100 meter tower heights. Will the shorter 80 meter tower model be used in any of the proposed tower locations? If yes, provide the total turbine height of this smaller version of the turbine.

7. Transforming Substation and Isolation Switchgear – Section 2.5.3

Section 2.5.3 of the DEIS describes the proposed electrical system for the facility. Provide a diagram showing the proposed transforming substation components, layout and footprint, access and egress and other pertinent details applicable to the proposed transforming substation. Identify the location of any proposed isolation switchgear for the transmission facility (i.e. located at transformer station or at interconnection station). Describe the proposed ownership of the transmission facilities and isolation switchgear (i.e. wind facility owner or the transmission owner).

8. SCADA System Backup – Section 2.5.3

On Page 23, it is stated that the POI station will also have the command center of the Project's Supervisory Control & Data Acquisition (SCADA) system. Please clarify whether there is any back up for the SCADA system in case of an emergency.

9. Decommissioning and Closure Plans – Section 2.8

It is noted on page 37 that the Decommissioning Plan will include “Provisions for the removal of all above-ground structures and debris, but not the removal of anything below a 36-inch depth (e.g., tower foundations, building). Provide an explanation of why the Applicant has not committed to removing tower foundations if decommissioning is initiated.

10. Table 3 – Section 2.9

Based on final configuration and turbine size, Table 3 may need to be revised to include New York State Department of Public Service as an involved agency for issuance of Public Service Law Section 68 – Certificate of Public Convenience and Necessity in case the project's capacity exceeds 80 MW or more.

11. Community Facilities and Services – Section 3.11

In section 3.11.2, the DEIS describes the proposed construction activities for co-location of the 115 kV line in proximity of an existing high-pressure gas transmission line (pg. 210). The discussion of Operation (Section 3.11.2.2) and Mitigation (Section 3.11.3) do not address co-location considerations including induced voltage effects of electric transmission line on the gas transmission facility. In order that operational integrity of that high pressure natural gas transmission line is maintained, the proposed location, design and operating characteristics, including potential electromagnetic field strengths of the electric transmission facility should be reviewed with the engineering right-of-way departments of the pipeline facility owner, Niagara Mohawk Power Corporation – National Grid. Based on that review, appropriate design mitigation should be incorporated into construction and operations plans to avoid conflicts with the safe and reliable operation of the gas transmission pipeline.

Furthermore, the electric transmission line will be co-located in part along the location of an existing Niagara Mohawk Power Corporation – National Grid electric transmission facility. The proposed alignment and design should be coordinated with the electric transmission owner-operator engineering and right-of-way department for review and avoidance of conflicts with the safe and reliable operation of the existing electric transmission line.

The DEIS does not address the consideration of setbacks of wind turbines from electrical transmission facilities. Regarding the protection of electric infrastructure, the PSC has established a policy regarding wind turbine structure locations near electric transmission facilities. In an Order granting Certificate of Public Convenience and Necessity in Case 07-E-0213, issued January 17, 2008, the Commission indicated that in the future, it may, “as conditions warrant require a minimum set back distance of 1.5 times the maximum turbine blade tip height from the edge of the right-of -way of any electric transmission line designed to operate at 115 kV or more.” DPS advises that the location of Turbines 53 and 54 depicted at various project layout maps in the DEIS are proposed to be closer than this setback distance from the proposed 115 kV interconnection substation site, and may be closer than this setback distance from the proposed 115 kV transmission interconnection line. The FEIS should provide a detailed assessment of the precise facility locations, and should provide an analysis demonstrating that compliance with this setback requirement has been achieved for all turbines from all existing and proposed electric transmission facilities.

12. Land Use and Land Use Policies – Section 3.13

The Land Use assessment in section 3.13.1 identifies as a major land use the category “Vacant Land”: vacant land is not a land use in any robust land use assessment methodology; rather it is generally an indication that a parcel has no taxable development or structures. Review of the “Broad Use Categories” in Table 38 indicates that “Vacant Land” is the second-highest listing by number of parcels in every town reported. Actual land uses that may be classified for tax purposes as “Vacant Land” include forest land, unimproved pasture land, old field, wildlife habitat, recreational or hunting land, and other similar uses. The analysis of use impacts should include a more robust analysis of actual uses, functions of and activities occurring on currently undeveloped property that may be affected by project development.

The discussion of impacts and mitigation for lands enrolled in Agricultural Districts (Section 3.13.3, pg. 231) does not address the potential loss of Forest Woodlands as defined in the New York State Agricultural Districts Law. Forest woodlands include natural and ecological resources which provide open space and aesthetic values in addition to being a source of primary wood products and farm income. The EIS discussion should be expanded to provide an analysis of the acreage of all Ag District lands that will be affected by the proposed project, indicating areas of temporary impact and permanent loss of both agricultural and farm woodland areas that are enrolled in the Ag District Program pursuant to Article 25-AA of the Agriculture and Markets Law; or a description of how the project plans will minimize impacts on agricultural district lands to the maximum extent available.

The discussion of the 115 kV transmission line does not indicate the proposed forest land clearing width within the temporary construction or permanent operational right-of-way; or the vegetation clearance requirements for the transmission facilities, including the 115 kV line and the substation facility.

13. Project Area Zoning

Provide the set back distances of the turbines from various receptors such as residences, public roads, schools, play grounds etc. The FEIS should provide an analysis of whether the proposed setbacks conform to both the turbine manufacturer's specifications and local setback requirements.

14. Soils

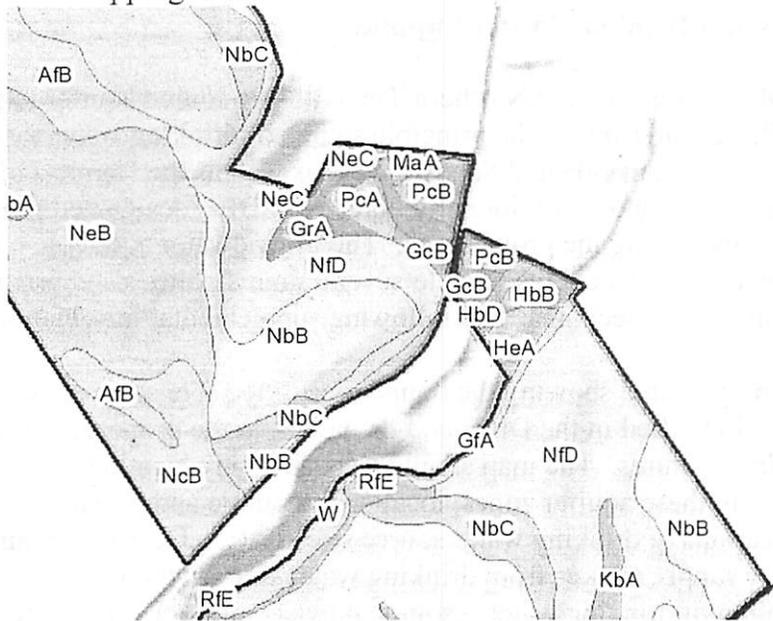
The discussion of soils (DEIS, Section 3.1.2, page 51) includes the following conclusion regarding erosion hazard:

"This is limited to several small areas along the transmission line corridor, the location of Turbine 15 and associated buried interconnect, the access road approaching Turbines 36 through 38, and a small section of buried interconnect between Turbines 43 and 46."

Review of *Figure 4: Project Area Soils* indicates that facility components are not indicated, including turbine sites, transmission line and collection system or access road alignments. Review of several map figures, including Figure 3A: Proposed Project Layout – Generation Site; Figure 5A map of layout of Mapped Wetlands and Streams; Figure 6A: Vegetative Communities – Generation Site; and Figure 8A – Land Use – Generation Site; all reveal that there is no "Turbine 43" site evident. The description is likely in reference to Turbines 42 and 46. The assessment of steep slopes and soils limitations including erosion hazard warrants additional consideration and analysis, and the DEIS should be supplemented.

The electrical collection line(s) for the eastern half of the project line are apparently co-located at one crossing point of the Deer River east of the Deer River Road crossing. At this location, the lines will cross soils labeled as NfD (Rock Outcrop-Farmington Complex, 15 to 35 percent slope): and HbD (indicated as Herkimer Silt Loam, slopes from 15 to 25 percent). These are steep slope conditions adjoining the major water

resource in the area. The figure below is an excerpt from Figure 4, Sheet 3, showing the soils mapping in the area near the Deer River.



This location warrants additional analysis of soils conditions and limitations, and appropriate facility design and construction controls for minimizing environmental impacts to the Deer River and tributary. The DEIS identifies this reach of the Deer River as Class C (DEIS, section 3.2.1.1, page 57); however water quality standards are applicable and appropriate measures to minimize impacts should be developed. This location should be assessed for access needs, since the ECS lines are proposed to cross the Deer River and the adjacent tributary. If the ECS lines will cross the river underground, then evaluation of various construction methods including Horizontal Direction Drilling, conventional boring, and trenching should be provided. These methods may require additional workspace near the river banks, and may require significant clearing, grading and laydown areas for staging the construction activities. Consideration of off-ROW access to the easterly side of the river should be addressed in assessing potential impacts and mitigation needs. If the proposal is for an overhead crossing of the Deer River, than consideration of design and mitigation measures to minimize visual impact in this area near the scenic gorge north of Copenhagen Village should be developed to inform decision-making. An identification of the number of 34.5 kV circuits, and the number, size and type of structures to support aerial crossing should be provided. An assessment of alternative arrangements of overhead and underground facilities is appropriate for a supplemental analysis prior to issuance of the FEIS.

Figure 2 – Soil Map Details

Detailed maps of the project site soil showing the collector line, turbine locations, staging area, point of interconnection, substation, met tower location etc should be submitted. The currently provided maps do not give enough information, and are not sufficient to relate project layout to soils resources and limiting factors that may influence design of facilities and appropriate mitigation measures.

15. Groundwater Aquifers and Drinking Water Supplies

Section 3.2.1.3 of the DEIS states that the Northern Tug Hill sole source aquifer underlies the western half of the Project area and is the principle source of drinking water for the Villages of Adams, Lacona, Mannsville and Sandy Creek, as well as the Hamlets of Adams Center and Pierrepont Manor. Additionally, three NYSDEC designated principle aquifers are identified as underlying the project area. The groundwater aquifers underlying the project area are a critical resource to several municipalities and private well owners in and around the project area. The following supplemental information should be provided:

- a. Mapping of the project area showing the boundaries of the sole source and principle aquifers identified in the DEIS and the layout of the proposed project facilities and infrastructures. The map should also show any locations of springs/seeps within these aquifer zones, locations of public and private water supply wells, locations of drinking water source streams (i.e. Deer River) and locations of water supply intakes from drinking water source streams.;
- b. Detailed description of drinking water resource impacts mitigation measures that will be implemented for the project, including explanations for the selection and proposed siting of facility structures and infrastructure in close proximity to any sources of drinking water; and
- c. Plans for pre-construction groundwater monitoring of the project area to determine the direction of groundwater flow in the overburden and bedrock aquifers and assess water quality conditions in areas where groundwater is expected to be encountered during construction and groundwater contamination is known or suspected. According to Section 3.2.1.3 (pp. 62), the Northern Tug Hill sole source aquifer "is susceptible to contamination due to highly permeable soil characteristics and because the top of the aquifer is at ground surface in places." Describe methods for preventing contamination and/or the spread of existing contaminated materials within the boundaries of this sole source aquifer during project construction and maintenance.

16. Additional Project Plans – Section 4.2

Project Sponsor should provide preliminary emergency response plan, safety plans, and complaint resolution plans in the FEIS along with other mitigation plans.

17. Electric Collection System

The 34.5 kV electrical collection system (ECS) is reported to include up to 24 miles of electrical collector lines (DEIS, Section 2.1.2, pg. 19). The 34.5 kV ECS lines are likely to be arranged in several circuits, given the number of turbines proposed. The reported length of ECS lines is not supported with a routing diagram or analysis that shows the individual circuits. Thus there is no means of assessing the reported number of circuit miles, or the extent of locations where multiple circuits will be co-located in parallel. Multiple circuits will influence the number of passes or trenches needed to install the collection lines underground, the type, number and design of structures to accommodate overhead collection lines, or the width of right-of-way (ROW) needed to accommodate

those circuits, as well as the potential impacts on resources such as protected streams, regulated wetlands, agricultural lands, and forest clearing needs.

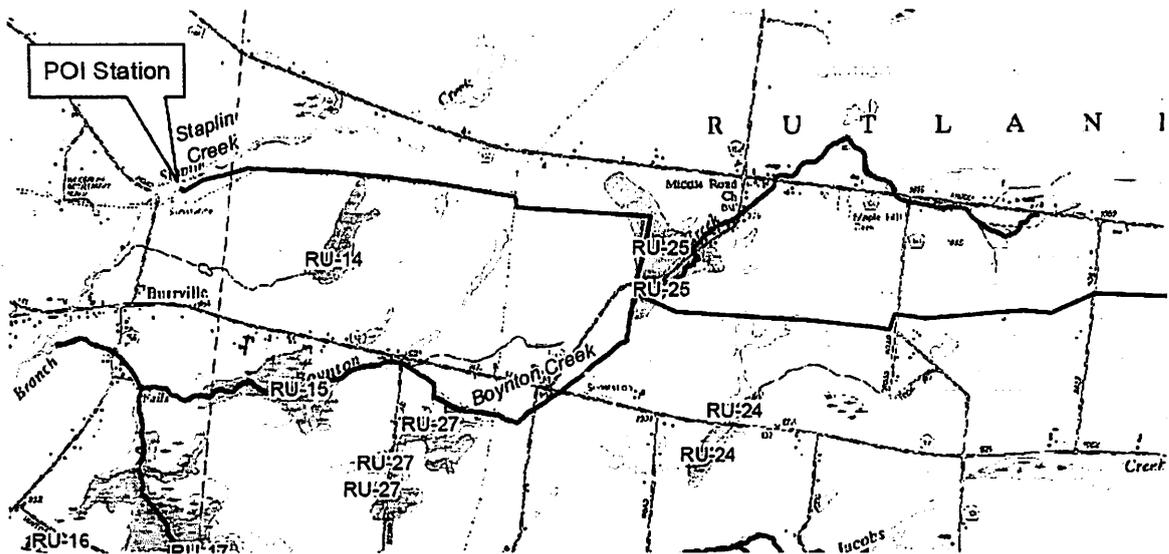
The DEIS assessment of the proposed electrical collection substation does not address the primary impacts that are likely to result from siting and operation of that facility: i.e., noise and visibility and effect on nearby residences. Electrical transformers raising line voltages from 34.5 kV to 115 kV are generally associated with operational noise including sounds that may include tonal characteristics, or distinct “humming” sound under certain load and weather conditions. The Sound Assessment for the project does not mention the substation or provide an assessment of operational noise levels or potential for tonal noise generation. Supplemental information should be provided to characterize impacts and identify appropriate mitigation measures.

The location of the proposed collection substation is near several residences located at NYS Route 12. The precise distance could not be gauged from the layout figures included in project mapping, but the proximity should be anticipated to present potential for concerns including operational noise effects and potential for complaints from nearby residents. Likewise, some consideration of the appearance of the substation and associated transmission lines from these residences should be provided in assessing project impacts.

The discussion of Alternatives at DEIS Section 5.2.5 includes three sentences that do not acknowledge the location of nearby residences or consideration of mitigation such as relocation, increased setback from road frontage, landscaping or screen plantings, or other alternative measures that would reduce impacts. Given the apparent uncertainty of the final location of the 115 kV transmission line, the Lead Agency should require the developer to identify alternative locations for the collection substation, and identify appropriate mitigation based on analysis of both visibility and sound generation potential of the substation and these effects on nearby residences.

18. Proposed 115 kV Transmission Line

The 115 kV line makes a sharp angle turn at a location within NYS Regulated Wetland RU-25, south of Middle Road, as mapped at Figure 5B: Mapped Wetlands and Streams – Transmission Site. This area is indicated in the figure below, an excerpt from Figure 5B.



The angle in the transmission line indicated in this figure is acute and atypical of major transmission facilities, and the location of this excessive turn within a wetland area warrants additional design consideration. Angle turns on lines of this size require significant degrees of anchoring to provide necessary stability of the support structure to counter the tension on the structure from the electrical conductors. Typical anchoring involves structural support, such as either by multiple-pole structures with guy-wires and anchors embedded into firm ground; or steel pole(s) supported by concrete foundation(s). Either option at a wetland location as indicated at this site will require significant accessibility needs, for large equipment such as a concrete delivery vehicle, and wire-pulling rigs.