

# TOWN OF CAPE VINCENT

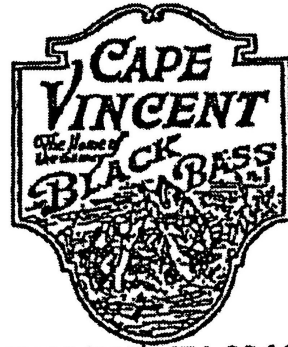
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January 29, 2013

Honorable Jeffrey C. Cohen  
Acting Secretary, NYS Board of Electric Power Generation Siting and Environment  
3 Empire State Plaza  
Albany, NY 12223-1350

## Re: Case12-F-0410 Cape Vincent Wind Power

Dear Acting Secretary Cohen:

On January 22, 2013 Towns of Cape Vincent and Lyme elected and appointed officials met with representatives of BP Alternative Energy to discuss items that were included in BP's revised Public Involvement Plan (PIP). The bulk of the meeting focused on the Town providing a list of issues that we expect will be included in BP's Preliminary Scoping Statement (PSS). Adequacy of environmental studies was also included as part of the listing. The third part of the discussion focused on our zoning law; specifically those sections that BP will request the Siting Board to set aside.

Our list of impacts are attached in the accompanying file to this letter: *Additional Potential Adverse Environmental Impacts & Other Recommended Studies & Issues*. We request that this list become part of the official record for the Town of Cape Vincent. We should like to point out that Town of Cape Vincent officials assembled past reviews and comments by involved agencies during the SEQRA process, including DPS/PSC, and used the recommendations by these agencies as a basis for the preparation of our list of adverse impacts. Because our list of impacts were involved agency recommendations that were previously ignored, we feel our list has special weight and should be included with few if any exceptions in BP's PSS.

During our discussion there were a number of additional points that were made by many of the participants. Those issues and suggestions will hopefully be included in the record by BP.

The discussion of our zoning law was disappointing. Because we prepared an extensive, well documented list of potentially adverse impacts for BP's consideration, we expected some listing or printed document from BP outlining those sections of our law that they considered


problematic. Rather than providing a list, BP's attorney John Harris pulled out his phone and began scrolling down through a copy of our law on his phone calling out sections of the law. In the beginning he mentioned the name and number of the section, but later just quickly called out the section numbers. We had to request BP send us a written copy, but given BP's attitude at the time we would be surprised if we received a hard or digital copy. We were all disappointed in BP by the manner in which they failed to engage us on this critical issue.

Secretary Cohen could you please provide us with answers to some questions we have related to BP's filing their PSS? If BP chooses to ignore a number of items on our list of potential impacts when they submit their PSS and we object during the comment period and argue for their inclusion, can the hearing examiner compel BP to include these impacts in a revised PSS? Can BP be made to revise and resubmit their PSS? If not, then what recourse would the Town have in this case? If BP chose not to revise and consider any suggestions during the PSS comment period, is it possible they could move onto the application phase without responding to the Town and the hearing examiner?

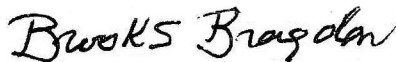
We would appreciate helping us understand what options we might have during these upcoming phases of the Article 10 process.

Respectfully yours,

Urban Hirschey – Town Supervisor



Brooks Bradgon – Deputy Supervisor



John Byrne – Town Council



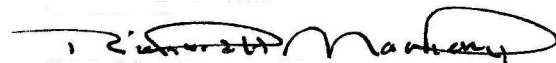
Clifford Schneider – Town Council



Michelle Oswald – Town Council



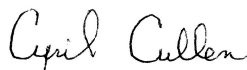
Richard Macsherry – Planning Board Chairman



Robert S. Brown – Planning Board



Cyril Cullen – Planning Board



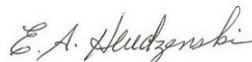
Paul Docteur – Planning Board



Dennis Faulkham – ZBA Chairman



Ed Hludzinski – Zoning Board



## **Additional Potential Adverse Environmental Impacts & Other Recommended Studies & Issues**

### ***BP Article 10 Cape Vincent Wind Farm Proposal – 2012***

#### ***I. Health, Safety and General Welfare***

1. **COMPREHENSIVE PLAN** – Article 10 rules state, “A statement as to whether the municipality has an adopted comprehensive plan and whether the proposed land use (wind project) is consistent with such comprehensive plan.” BP's 124-turbine project proposal is strikingly incompatible with the 2003 and 2012 Joint Comprehensive Plan for the Town and Village of Cape Vincent. BP should provide an explanation as to why they are proposing a project so counter to the values espoused by the Town and Village's Joint Comprehensive Plan.
2. **SLEEP DEPRIVATION** – Sleep deprivation is now a well established health risk associated with the noise produced by industrial wind turbines (B. Berglund et.al. 1999, C. Hanning & Evans 2012, M. Nissenbaum et.al. 2012, E. Pedersen et.a.l 2007, Pedersen & Waye 2004, N. Pierpont 2009, D. Shepherd et.a. 2011 and G. van den Berg et.al. 2008). BP should provide a comprehensive analysis of the scientific literature, including the aforementioned papers, to describe the negative health impacts associated with sleep disturbance regardless of the cause, and then to also assess the potential for sleep disruptions, and other direct and indirect health effects, with BP's proposed 124-turbine project. Assessing the potential for sleep disruption in Cape Vincent from industrial wind development should be keyed to BP's predicted sound levels. The restrictions imposed in Cape Vincent's zoning law were formulated with the expressed purpose of minimizing health impacts, such as sleep deprivation. Alignment with those restrictions should help ensure BP that potential adverse health effects from their proposed development will be minimized.
3. **WIND TURBINE NOISE** – Among all the issues related to industrial wind development, turbine noise is likely the issue that has the greatest potential for annoyance and adverse health impacts on Cape Vincent's population. After a careful review by knowledgeable acoustic professionals, including Town's engineering consultants, Cape Vincent

adopted a zoning law that limits nighttime industrial noise to no more than 35 dBA, 40 dBA and 45 dBA; and 55 dBC, 58 dBC and 63 dBC, for night, evening and daytime periods, respectively. Predictive modeling should furnish octave band sound pressure levels, basing these predictions on a wind turbine model that reflects worst case noise impacts. Modeling should provide an appropriate adjustment for model and turbine variability and with  $G_s = 0$ ,  $G_m = 0$ , and  $G_r = 0.9$ . In the preparation of maps to describe potential noise impacts, property lines should be clearly defined so that land owners, those with leases and good neighbor agreements as well as non-participants, can examine noise impacts on their property. In addition, the predictive analysis should include a tabled format of sound levels for all residences keyed to the the sound level map. The tabled projections should provide predicted A-Weighted and C-Weighted sound levels at each residence and some designation as to whether the resident is a participant, either lessee or good neighbor, or non-participant. The noise impact analysis should include three operational scenarios: 1) noise levels at cut-in speeds, 2) noise levels at  $\frac{1}{2}$  power output and 3) noise levels at full output of the wind turbine. Finally, a summary tally should be completed to estimate the number of Cape Vincent properties where turbine noise levels will exceed 35 dBA.

4. **INFRASOUND & LOW FREQUENCY NOISE (LFN)** - The Wisconsin Public Service Commission just recently released and posted on their website<sup>1</sup> a ground-breaking study of wind turbine infrasound noise impacts at the Shirley Wind project, Brown County, Wisconsin. The study, authored by four independent acoustic consulting firms with experience in assessing wind turbine noise impacts, concluded: *"The four investigating firms are of the opinion that enough evidence and hypotheses have been given herein to classify LFN and infrasound as a serious issue, possibly affecting the future of the industry."* Because infrasound levels were inaudible, but nevertheless problematic for some residents of the Shirley Wind project, the acoustical engineers also recommended conducting a follow-up study: *"A Threshold of Perception test with participating and non-participating Shirley residents."* Until the perception study is completed a conservative recommendation in their report was wind turbine noise levels should not exceed 33.5 dBA.

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<sup>1</sup>A Cooperative Measurement Survey and Analysis of Low Frequency and Infrasound at the Shirley Wind Farm in Brown County, Wisconsin [Wisc. PSC Report Number 122412-1 Issued: December 24, 2012].

Section 1001.19 (k) of the Article 10 rules outline issues to evaluate that may have "potential community noise impacts." Included in the list to evaluate are "industrial or medical activities that are sensitive to vibration or infrasound." The Town wants the following evaluation added to industrial and medical activities referenced in the rules: residences, schools and other facilities where people live, gather or congregate. In addition, BP shall provide an evaluation of low frequency noise annoyance and epidemiological evidence that low frequency sound generated by the turbine model selected for the proposed project is not, and will not be associated with the advent of adverse health effects such as sleep and mood disorders, inability to concentrate, tinnitus, vestibular problems and hypertension in residents living within or in close proximity to the project. Again, the criterion should be 33.5 dBA, as suggested from the Wisconsin PSC report. The predicted levels of infrasound shall then be compared with those referenced in the recent Wisconsin PSC study.

5. **TURBINE FAILURE** - *"By far the biggest number of incidents (turbine accidents) found was due to blade failure. Blade failure can arise from a number of possible sources, and results in either whole blades or pieces of blade being thrown from the turbine."<sup>2</sup>* Pieces of blade have been documented as traveling up to one mile. For this reason some municipalities have adopted setbacks for wind turbines to account for the risk of fragments thrown from the rotor rather than arbitrarily adopting a wind industry standard developed for optimizing a project layout. The wind turbine setbacks described in Cape Vincent's zoning law were designed for safety and are six times (6X) the total height of a turbine from property lines of non-participants, homes, roads and project boundaries. BP should provide a comprehensive assessment of rotor failure and debris scatter for modern industrial scale wind turbine failures as well as a well reasoned explanation for setbacks they may use that are not compliant with the Cape Vincent zoning law. In the Article 10 rules (Exhibit 31) they note, *"Setbacks requirements would have to be considered on a case by case basis by looking at the purpose for their establishment and the circumstances of a specific site or case [p.78]."* Furthermore, also in the Article 10 rules (Exhibit 18) *"...setback considerations for facility components which may present hazards to public*

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<sup>2</sup> <http://www.caithnesswindfarms.co.uk/accidents.pdf>

safety." The town's purpose in establishing turbine setbacks is public safety and these limits are compatible with the intent of Article 10 rules.

6. **SHADOW FLICKER** - BP shall provide epidemiological evidence that shadow flicker caused by wind turbines of the model chosen by BP does not and will not induce photosensitive seizures in individuals with progressive neuro-degenerative disorders living within or in close proximity to the proposed project. Cape Vincent's zoning law provides guidance for evaluating the impacts of shadow flicker: The applicant shall conduct a study on potential shadow flicker. The study shall identify locations where shadow flicker may be caused by wind turbines and the expected durations of the flicker at these locations. For residences, the zone for predicting shadow coverage shall include the area within a 100-foot radius of the center of the residence. The study shall identify areas where shadow flicker may interfere with residences or highways and detail measures that will be taken to mitigate or eliminate such interference. The universal software used to predict shadow flicker impacts calculates shadow effects based on turbines within 1,000 meters of a receptor and a receptor of 1 square meter placed 1.5 meters above ground. The universal standard of shadow impact used by consultants is 30 hrs/yr/receptor. Given that most residents of Cape Vincent do not hover around a one square meter window, but occupy a far greater living space that includes area outside the home itself, the WindPro model should consider an alternative analysis that includes turbines within 2,000 meters of a receptor and assuming that each receptor is 5 m wide by 10 m long.
7. **FIRE PROTECTION & EMERGENCY RESPONSE** - BP should provide a Fire Protection/Emergency Response Plan: A fire protection and emergency response plan, created in consultation with the fire department(s) having jurisdiction over the proposed industrial wind project shall address coordination with local emergency/fire protection providers during any construction or operation phase emergency, hazard, or other event.
8. **COST OF FACILITIES** - Article 10 rules (Exhibit 14) require "that detailed financial data should accompany any request for an application. For example, such information may be relevant to the required consideration of alternatives, the reasonableness of local laws, or whether the proposed

facility is in the public interest." BP has been extremely reluctant to provide any information, let alone relevant, important financial assumptions. As stated in the rules, the Town underscores this requirement of the rules.

9. **STRAY VOLTAGE** - The applicant shall provide epidemiological evidence that stray voltage generated by the turbine model selected and transmission components do not pose adverse risks to the nervous and immune systems of residents living within or in close proximity to the project. Similarly, the applicant must be able to rule out the possibility that stray voltage or electromagnetic fields generated by the turbines or transmission components will not adversely effect the function of pacemakers or similar implanted devices intended to regulate human organ functions. The applicant shall also provide evidence that stray voltage generated by the turbine model and transmission components shall not adversely affect milk production in dairy cows and goats in farms within or in close proximity to the project. Further, Cape Vincent zoning law requires an assessment, pre- and post-installation, of possible stray voltage problems on the site and neighboring properties within one (1) mile of the project boundary to show what properties need upgraded wiring and grounding. The applicant/operator is responsible for assessment and any correction required.

## **2. *Involved Agency SEQRA Reviews of BP and Acciona Projects Submitted to Cape Vincent Planning Board 2007-2009***

1. **KARST GEOGRAPHY** - Conducting a comprehensive assessment of the karst geology in the Town of Cape Vincent was probably the most egregious lapse in oversight by the Lead Agency during the SEQRA review of the BP and Acciona project proposals. The Town's engineering consultant recommended at the time that the applicants include an evaluation of the bedrock geology, in particular the karst geology. They stated, "This work is critical to maintain suitable foundations for future turbines, as well as to protect and maintain any regional geological and hydrogeologic conditions of the karst geology." Regrettably, the karst assessment was never completed, but it nevertheless should be a part of BP's list of issues that require study during the application phase of Article 10.

- (a) BERNIER CARR ASSOCIATES **TOWN CONSULTANT** 6/28/07 SLWF Review - "We recommend that the applicant, St. Lawrence Wind, include an evaluation of the bedrock geology in their definition as well as the Environmental Impact Analysis. This work is critical to maintain suitable foundations for future turbines, as well as to protect and maintain any regional geological and hydrogeologic conditions of the karst geology." "Our challenge during the SEQRA review is to identify the potential impacts which will limit tower locations within sensitive areas of the karst geology."
- (b) USFWS 6/15/07 SLWF Review -Karst landscapes are typified by underground drainages, caverns, and on the surface shallow, linear patterns of vegetation. The dissolution cracks, caves and caverns provide heretofore unknown hibernacula for bats and that these areas should be avoided.
- (c) NYSDEC 2/29/08 CVWPP Review - DEC recommends that a more complete discussion of karst features be included in the SDEIS. The location of bedrock fractures and sinkholes should be shown relative to proposed project activities. Where carbonate rocks are exposed at land surface, solution features create karst topography, characterized by little surface drainage as well as by sinkholes, blind valleys and sinking streams. Because water enters the carbonate rocks rapidly through sinkholes and other large openings, any contaminants in the water can rapidly enter and spread through the aquifers. In addition, a detailed construction plan needs to be developed to incorporate stringent containment of construction materials, particularly concrete slurry. This would include such practices as the use of watertight forms, silt/storm-water fencing, controlled concrete truck washout areas, and covered storage of equipment and construction chemicals. Engineering specifications to describe these proposed practices need to be detailed in this plan.
- (d) NYSDEC 6/15/07 SLWF Review - "DEC recommends that a plan be prepared that specifies procedures for conducting detailed subsurface investigations at turbine site locations and other project components that may interface with limestone/karst features. The plan should specify actions to be taken if karst features are identified or suspected, including further investigation (e.g., dye

testing), turbine relocation, determination of the effects of blasting, or engineering construction controls."

- (e) NYSDEC 5/29/09 SLWF Review - "In comments on the DEIS for this project dated June 15, 2007, DEC recommended that a comprehensive survey of karst features be conducted in the project development area, and a plan be prepared that specifies procedures for conducting a detailed subsurface investigations at turbine locations and other project component that may interface with limestone/karst features. DEC further recommended that an environmental monitor qualified to work in karst environment be on site for all pre-construction surveys and any construction activities that involve excavation to bedrock or are located in proximity to a known karst feature." The SDEIS included an outline of proposed karst investigations, but DEC recommends the studies be completed prior to construction in order to assess the adequacy of proposed mitigation measures.
- (f) MENTOR, RUBIN & TRIVELPIECE 6/13/07 SLWF Review - "The DEIS provides to construction, a geo-technical investigation "would be performed" to identify subsurface conditions necessary for engineering the final design of the Project. - DEIS contains no technical investigation.
- (g) PRESSY & ASSOCIATES 5/29/07 SLWF Review - "The potential to impact receptors, e.g., domestic wells, springs etc., will be increased due to the presence of karst limestone bedrock across the project area and the need to construct large concrete foundations."

2. **CUMULATIVE ANALYSIS** - All resources agencies recommended a comprehensive impact analysis on birds and bats from the potential development of nearly 700 wind turbines within our region. Furthermore, estimates of mortality (which were lacking in the BP SDEIS) should utilize the Wolfe Island Wind Farm experience and a time frame of at least 20 years. In addition to quantifying turbine-induced avian and bat mortality there should also be some consideration for displacement impacts from a regional build-out of industrial wind facilities.

- (a) USFWS 6/15/07 SLWF Review - FWS recommends a cumulative impact analysis of other wind projects under consideration which includes both BP and Acciona projects as well as Horse Creek. The analysis should consider all

- potential projects and effects on avian and bat species over project lifespans of 20 years.
- (b) USFWS 3/19/08 CVWPP Review - Other wind farm proposals added to the mix besides SLWF and CVWPP: Wolfe Island, Galloo Is. Roaring Brook, Maple Ridge for a total of nearly 700 turbines in our region. A cumulative analysis should consider this magnitude of turbine development in the analysis.
- (c) NYSDEC R-6 4/17/07 SLWF Review - "An overall concern from regional staff is the potential cumulative impacts of the numerous proposed wind power projects to be located in the Lake Ontario/St. Lawrence River plains... The St. Lawrence Wind Energy Project is located in a major flyway, important raptor wintering ground, important grassland bird nesting area (not only in New York state, but in Northeast America) and in close proximity to a winter hibernaculum and dispersal area for both federal and state-listed bat species. Since natural resources know no boundaries, it is believed that the study area should be extended to include all of the lake and river coastal areas for a clearer assessment of the potential impacts. "
- (d) NYSDEC 6/15/07 SLWF Review - The SDEIS also needs to consider a cumulative assessment of visual impacts of this project and the two other wind power projects proposed in the general area, the BP proposal for the Towns of Cape Vincent and Lyme, and the PPM Atlantic project in the Town of Clayton. Both of these projects have formally submitted applications for review and data are available sufficient to conduct a cumulative visual assessment.
- (e) NYSDEC 9/14/07 CVWPP Review - "The cumulative impact analysis should include consideration of impacts from all wind projects known to be under development or review in the region, including St. Lawrence Wind Power Project in the Town of Cape Vincent, the Horse Creek Wind Project in the Town of Clayton, and the Wolfe Island Wind Power Project in Wolfe Island, Ontario. Specific resources of primary concern to DEC that warrant cumulative analysis are bird/bat/wildlife impacts (including impacts to endangered, threatened and special concern species), wetland/watershed impacts and visual/historic impacts."
- (f) PSC - 02/28/08 BP - Project must be discussed in

relation to neighboring project(s) and proposed projects.

3. **ALTERNATIVES ANALYSIS** - Alternative project layouts and arrangements in the Acciona FEIS and BP's SDEIS were woefully inadequate in relation to extensive comments made by involved agencies under SEQRA. Aside from BP's proposed project, which is incompatible with the Town of Cape Vincent Comprehensive Plan and Zoning Law, BP should include for consideration a renewable energy development alternative that is compatible with the Town's plan and law. The analysis should also include alternative options (e.g., buried line) for the transmission line bisecting the Town of Lyme.
- (a) USFWS 6/15/07 SLWF Review - The DEIS notes that the developer has a range of turbine sizes under consideration. The developer should be required to also give serious consideration to a range of alternative facility arrangements to enable the advancing of a project design that is responsive to the many significant resources of State interest in the project area.
- (b) USFWS 3/19/08 CVWPP Review - No explanation is provided as to whether a smaller project is feasible. The DEIS should provide an explanation on the minimum number of turbines needed to make a viable project. How can alternatives be considered without knowledge of wind resources and avian concentrations within the project footprint.
- (c) NYSDEC 2/29/08 CVWPP Review - "The lack of any detail in the project scope precludes any meaningful discussion of alternatives, as there is no "project" to compare alternatives to. SEQRA regulations state, "The description and evaluation of each alternative should be as a level of detail sufficient to permit a comparative assessment of the alternatives discussed." The project description in this DEIS fails to do this. Details to include in these evaluations should include the factors that led to the specific turbine layout for each alternative, such as wind resource evaluation, turbine spacing and/or orientation, wind turbine model selection, site constraints (setback requirements, avoidance of wetlands, landowner preference, etc.), access road and interconnect design considerations, and avoidance of identified adverse environmental impacts (e.g., archeological sites). The range of alternatives may also include, as appropriate, alternative sites, technology,

scale or magnitude, design, timing, use, and types of action.”

- (d) PSC - 1/12/07 BP - Should include alternative scales and layouts to avoid significant impacts.
- (e) PSC - 02/28/08 BP - “DEIS does not provide alternatives that avoid or minimize environmental impacts to greatest extent practicable.”
- (f) PSC - 06/13/07 SLWF - “The location of (transmission line) facilities should be specified, and alternatives, including consideration of the costs and benefits of **underground** location for all or part of the line should be addressed in the SDEIS.” The alternatives analysis should address routing alternatives for 115kV transmission line, including facility routes: within the abandon railroad ROW, adjacent to abandon railroad ROW, and other alternative locations.” “Consideration of **underground** placement should address at a minimum, the crossing of the Chaumont River, any regulated wetlands or Wildlife Management Areas, Important bird areas, locations visible from the Seaway Trail Scenic Byway, Historic Districts, and other locations as appropriate.”
- (g) PSC - 06/13/07 SLWF - “The discussion of project alternatives should consider project alternative reduced scale, and alternative layout and project arrangement, which would remove turbines from: the most prominent locations near the Coastal Zone and Local Waterfront Revitalization Areas, the Seaway Trail Scenic Byway, State Parks, Historic Properties listed or eligible for listing on the State or National Register of Historic Places, and other resources of recreational, scenic and aesthetic importance to the State, from designated Significant Coastal Habitat areas, Important Bird Areas, Wildlife Management Areas and NYS regulated wetlands.”
- (h) PSC - 06/13/07 SLWF - “Alternative Scenarios that should be addressed include, at a minimum: Reduced project footprint, Increase setbacks from shoreline areas and the Seaway Trail, Increase setbacks from visual and cultural resources, Increase setbacks from Significant Coastal Fish and Wildlife Habitats, Increase setbacks from WMA and Important Bird Areas, AND Remove facilities from NRHP listed properties.”
- (i) MENTOR, RUBIN & TRIVELPIECE 6/14/07 SLWF Review - “The DEIS should contain a meaningful discussion of

alternatives and not just the conclusory assertions that it presently contains. An Environmental Impact Statement must contain "a description and evaluation of the range of reasonable alternatives to the action that are feasible, considering the objectives and capabilities of the sponsor...at a level of detail sufficient to permit a comparative assessment of the alternatives discussed." NYCRR§617.9(b)(5)(v) Significant further assessment of alternatives is warranted."

4. **MULTIPLE YEARS ENVIRONMENTAL STUDY RECOMMENDED** - Although past baseline studies of bird and bat populations associated with SEQRA efforts may appear extensive and complete, involved resource agencies considered the effort inadequate and recommended three years of study. Therefore, additional work is needed for nocturnal radar studies (1 yr. spring & fall), raptor migration (1 yr. fall), breeding birds (2 yrs.), and winter raptor & waterfowl (1 yr.) studies.

(a) USFWS LAND-BASED WIND ENERGY GUIDELINES - "In order to establish a trend in site use and conditions that incorporates annual and seasonal variation in meteorological conditions, biological factors, and other variables, pre-construction studies need to occur over multiple years. To address this need, and in light of development timelines, three years of pre-construction studies may be appropriate in many circumstances. However, the level of risk and the question of data requirements will be based on site sensitivity, affected species, and the availability of data from other sources."

(b) NYSDEC GUIDELINES CONDUCTING BIRD BAT STUDIES 8/09 - "In particular, a proposal to site a wind energy project in proximity to an Indiana bat hibernaculum (40 miles), wildlife concentration area (2 miles), along a coastline (5 miles), or on a prominent ridgeline may result in a recommendation to conduct expanded pre-construction studies." "If a developer proposes to construct a wind energy project in or near one of the features or resources of concern identified in section 2(b), then two to three years of pre-construction study may be recommended incorporating one or more expanded pre-construction studies to provide in-depth information on the bird and bat resources of the site."

(c) NYSDEC R-6 4/17/07 SLWF Review - "This is only a one

- (1) year protocol and is too short based on the USFWS guidelines and the local knowledge of the migratory birds and bats of the area. This plan should follow the USFWS guidelines of three (3) years as a minimum to establish pre-construction base line data." The single year of data on migrating raptors is also inadequate: "The number of points, amount of time (i.e. 60 minutes) per point, the number of days and duration of sampling period are all inadequate to capture the raptor (Migration) data needed to fully address potential impacts. "
- (d) SAVE THE RIVER 2/29/08 Letter - "The DEIS must include studies of at least three years in duration to account for natural annual variability of bird and wildlife habitat. Currently, the DEIS includes only one year of study and data collection."
- (e) MENTOR, RUBIN & TRIVELPIECE 6/13/07 SLWF Review - "In addition, the proposed one-year avian and bat study is not adequate to determine the value and usage of the Project area by wildlife. According to United States Fish and Wildlife Service a three year pre-construction study should be conducted to assess such impacts."
- (f) SMITH, ECOLOGIST 6/8/07 SLWF Review - "At best the studies to date must be considered pilot efforts requiring 3-5 years of intense further studies of many groups before any conclusions of value may be drawn."
5. **MIGRATION STUDIES** - In the Joint Comprehensive Plan for the Town and Village of Cape Vincent the avian migration corridor was recognized as one of the Town's most important natural resource assets. The spatial context and dynamics of the avian migratory corridor through the Town of Cape Vincent should be described in far greater detail (see below) than the one year of study conducted by BP in 2006-2007. More effort is required to document annual variation in numbers, specie composition, description of the spatial gradient within the corridor, and the vertical distribution of migrants over the project footprint (500 ft turbines are 100 ft higher than those previously considered and therefore require a new assessment).
- (a) USFWS 3/19/08 CVWPP Review - As we have indicated before, starting the radar study in mi-April misses a substantial portion of the spring avian migration and likewise, ending the radar study on October 15 in the fall will underestimate the migration during that season,

- particularly some raptors and passerines and most waterfowl. Further, collecting data in only one year is inadequate.
- (b) USFWS 5/29/09 SLWF - Review - The close proximity of turbines to these (grasslands etc.) habitats as well as Lake Ontario and the St. Lawrence River are cause for great concern, because these habitats are known to attract waterfowl, waterbirds, and shorebirds to the area during the breeding and migratory periods.
- (c) USFWS 5/29/09 CVWPP Review - "We find insufficient data were collected at the project site to determine the spatial and temporal use of the project air space by flying animals. Our recommendation for wildlife studies at wind projects generally specifies that the data should be collected over multiple seasons and years to determine average annual conditions. Because of the variability in migration and weather patterns, collecting data for 1 year likely does not reflect typical wildlife use in the project area. Therefore, we find insufficient data currently exists to adequately conduct a risk assessment and predict wildlife mortality for this project."
- (d) ARTICLE 10 EXHIBIT 31 - " Setbacks requirements would have to be considered on a case by case basis by looking at the purpose for their establishment and the circumstances of a specific site or case. A setback might be unreasonable for the purposes of preventing construction encroachments but reasonable to protect migratory flight-paths." [our emphasis]
- (e) NYSDEC 5/29/09 SLWF Review - SDEIS suggests winter densities were low and that "the relative risks to these species are very low." DEC staff, on the other hand, have documented high numbers. "To overcome this inconsistency in reporting between the DEC and the project consultant, additional survey effort directed towards the short-eared owl is recommended both pre-construction and post-construction, to be sure this species' distribution and abundance is accurately documented as a basis for future project evaluation and planning efforts." It is also known that "the project area lies within one of the most important raptor wintering grounds in New York State. A more thorough analysis of raptor migration within the project area is needed to support the conclusions made in the SDEIS." "It is clear from Table 3-11 that the numbers of birds

- per hour for Cape Vincent are not similar to the other wind facilities, but higher than all of the other sites.”
- (f) NYSDEC 12/31/04 Chautauqua Wind Farm Review (K. Kispert) - “The eastern and southern shore of Lake Ontario and the eastern shore of Lake Erie are documented and well recognized migratory bird pathways, which are important within Eastern North America on a regional scale, particularly during spring migration as birds move north.”
- (g) PSC 2/28/08 CVWPP Review - “A more thorough explanation of the nature of migration through the project area, and consideration of potential impacts of the project on migrating raptors is warranted.”
- (h) SMITH, ECOLOGIST 6/8/07 SLWF Review - “The fact no other waterfowl than Canada Goose and mallard were identified is of particular concern as it suggest at best marginal competence of observers and inadequate sampling time.”
- (i) AUDUBON 6/11/07 SLWF Review - “We have concerns about development of wind power at sites that are known migratory corridors or provide habitat to at-risk species.”
- (j) OLD BIRD, INC. 6/14/07 SLWF Review - “Given that wind turbines are tending to get larger and that this project, as with many wind projects, takes longer to be built than projected, bird/bat migration altitude information should be provided at 25-m resolution up to 200 m above ground level. The West radar report, however, does not provide information on movements along the shoreline, and inland areas of coverage are simply summed together to produce a single passage rate for the whole radar survey area.”
- (k) OLD BIRD, INC. 6/14/07 SLWF Review - “The most significant problems I find with the West Inc. radar study involve the location they chose to carry out their radar study and their lack of analysis of migration density dynamics within the radar study area. The St. Lawrence Wind project area is currently proposed to be located within 800 m of the St. Lawrence River. The radar study site is apparently only about 500 m from the shoreline, in fact outside the wind project area. My interpretation of the NYSDEC and USFWS comments is that the radar site would ideally be located 1500 m from the shoreline. West's placement of the radar unit

approximately one kilometer closer to the shoreline than had apparently been recommended leads to the fact that about one third of the radar detection area was located over the St. Lawrence River and less than half of their radar coverage was actually over the proposed wind project site.

- (1) OLD BIRD, INC. 6/14/07 SLWF Review - "The question of migration corridor along the south shore of the St. Lawrence River is not addressed as was suggested it would be in the study plan. What would be useful to see in evaluating potential impact to night migrants is a 500 m resolution representation of flying target density as one moves away from the St. Lawrence River. In other words, what is the migration density within 500 m of the river? What is the migration density in the zone between 500 m and 1 km from the river? What is the migration density in the zone between 1 km and 1.5 km from the river? What is the migration density in the zone between 1.5 km and 2.0 km from the river? Such data can be obtained from a properly designed marine radar study or with other methodologies."

**6. WIND TURBINE OPERATIONAL MANAGEMENT** - As per the recommendations of the U.S. Fish & Wildlife Service BP should provide an operational plan that includes the increase in cut-in speed and the provision for shut down during the migration season as outlined below.

- (a) USFWS 6/15/07 SLWF Review - "If turbines will be located in blocks of grassland habitat, we recommend that information be gathered on the displacement of grassland nesting birds. To mitigate potential impacts to bats, turbines should not have a cut-in speed of less than 6 m/s, and operation should be curtailed between July 15 and September 15 for 5 hours after sunset."
- (b) USFWS 5/29/09 SLWF - Review - Our previous recommendation to mitigate potential impacts to bats was not included in the SDEIS. The project sponsor should commit to adjusting turbine cut-in speeds during low wind periods to reduce bat fatalities. This is the period when most bats are killed as documented by recent research, e.g., Arnett 2005. Cut-in speed should be 6 m/s or more and operation should be curtailed for 5 hours after sunset from July 15 to September 15.
- (c) NYSDEC 5/29/09 CVWPP Review - "The SDEIS should further

state that based on the results of these studies, adjustments to the project's operational configuration and or time-table may be necessary to affect avoidance or minimization of the take of birds and bats, with listed species receiving the highest consideration."

7. **RISK ASSESSMENT** - Included in the assessments listed below by the USFWS is avian mortality. As indicated in Cumulative Analysis section above, projected avian mortality should use the mortality data coming from the Wolfe Island Wind Power project located 2 miles north of the Village of Cape Vincent. Risk assessments should also include avian avoidance or displacement, i.e., those birds and bats driven away from traditional habitats by the proposed industrial development.
  - (a) USFWS 6/15/07 SLWF Review - Typically, environmental assessments of impacts on wildlife from wind projects should include a risk assessment. None was provided in the DEIS. These assessments should consider population abundance, distribution in the project airspace over multiple years and seasons, avian avoidance, weather impacts as well as information on breeding, wintering and stopover habitat.
  - (b) USFWS 3/19/08 CVWPP Review - "Further, it appears that the site has high avian use as well but these resources were not fully considered in the **fatal-flaw analysis**. Based on the data collected so far, the Cape Vincent area has high concentrations of waterfowl and waterbirds, migrating passerines and year round raptor use."
8. **LONG-TERM ENVIRONMENTAL MANAGEMENT PLAN** - Included in a long-term management plan should be an adaptive management component that would outline steps and actions that would be taken in response to potential adverse impacts that may arise from project operations.
  - (a) NYSDEC 6/15/07 SLWF Review - The SDEIS should include a project-wide long-term environmental management plan that incorporates plans for restoration of environmental impacts during and following project construction (including grading, slope stabilization, re-planting with appropriate indigenous plant species, control of invasives, and restoration of disturbed habitats), environmental considerations to be included in the ongoing maintenance of the facility (including maintenance and repair of roads and transmission

corridors, a contingency plan to assess and minimize environmental impacts during major repairs, and assessment and mitigation of environmental impacts during the decommissioning process. An **adaptive management** component is a necessary feature of an environmental management plan, to respond to environmental impacts that arise during project operation (such as potential impacts to birds and bats, disturbance to Blanding's turtle nest sites).

9. **INADEQUATE ENVIRONMENTAL STUDIES** - The following excerpt from the Cape Vincent zoning law requires a developer shall take to properly evaluate wildlife and other environmental issues" "The scope of such assessment shall be developed in consultation with the New York State Department of Environmental Conservation and the United States Fish and Wildlife Service and shall adhere to the "USFWS Land-Based Wind Energy Guidelines, March 23, 2012" to assess suitability of the site, and, if application is approved, outline post-Operational studies to assess impacts."

(a) NYSDEC 2/29/08 CVWPP Review - "In order to adequately assess the potential impacts to the Project Area's threatened and endangered species, the Project needs to fully characterize seasonal use of the area by these species. As submitted, the SDEIS is inadequate to allow a thorough evaluation of the potential impacts to these species." Regarding breeding bird surveys they state, "Surveying during only one year and two days the entire breeding season is far from adequate. Knowing that both endangered and threatened grassland bird species have the potential to nest in this area should have triggered a more thorough Breeding Bird Survey consisting of more than one year of study."

(b) USFWS 3/19/08 CVWPP Review - "BP stated that the avian and bat study protocols were approved by the Service. We reviewed the study protocols and provided input to the sponsor (BP). We also provided recommendations to the Town of Cape Vincent. However, many of our recommendations have not been implemented, such as conducting surveys over multiple years to account for annual variation in weather and migration."

(c) NYSDEC 5/29/09 SLWF SDEIS Review - "In order to adequately assess the potential impacts to the project area's threatened and endangered species, the project needs to fully characterize seasonal use of the area by

these species. As submitted, the SDEIS is inadequate to allow a thorough evaluation of the potential impacts to these species."

- (d) MENTOR, RUBIN & TRIVELPIECE 6/13/07 SLWF Review - "Based on material omissions described below, we request that the Planning Board, as the Lead Agency under SEQRA, reject the DEIS, reconsider its previous determination that the DEIS is complete and adequate for public review and return the document to the Applicant for significant addition and revision. "

10. **INADEQUATE MAPPING & WETLANDS INFORMATION** - The reviews below by involved agencies were very critical of past attempts at depicting industrial wind project layouts due to the lack of sufficient detail with the underlying maps. BP should use a map similar to that provided in the Town's comprehensive plan that describes state and federal wetlands, archeological and historical resources, natural heritage assets, and the migratory corridor to name a few. Moreover, project maps need better detail than what is currently available to allow landowners to locate their property to better understand wind turbine setbacks from their property lines and potential adverse environmental impacts.

- (a) PSC - 02/28/08 BP - "Project maps should include sensitive environmental features., e.g. wetlands, rare plants, coastal zone protections, cultural and historical features, as well as the project layout."
- (b) PSC - 02/28/08 - DEIS does not have adequate mapping of TX line and resources.
- (c) USFWS 3/19/08 CVWPP Review - Lack of sufficient information to properly assess impacts on wetlands. In fact no estimates are provided. Without an understanding of wetlands extent, it is not possible to evaluate or provide recommendations.
- (d) PSC 2/28/08 CVWPP Review - "The representation of the wetlands...obscures relevant cover type information by use of solid colors for "Field Verified Wetland Area. The scale of the mapping included is too gross to enable discernment of details. More detailed mapping with project layout should be provided in a supplement."
- (e) PRESSY & ASSOCIATES 5/29/07 SLWF Review - DEIS notes "wetland impacts will be avoided if practicable... and

where impacts could occur, if practicable, project components will be moved to avoid or minimize impacts to wetlands." The proposed project, however, has placed many turbines adjacent to wetlands and streams. Therefore, the listed turbines should be moved or eliminated.

- (f) USFWS 3/19/08 CVWPP Review - Without field surveys, the description of reptiles and amphibians may be underestimated. Due to the abundant aquatic habitat found in the area, these animals may represent an important part of the ecosystem. Further, the discussion of affected mammals is inadequate, as no survey data or existing information sources were provided.

**11. PROJECT BENEFIT** - The U.S. Fish & Wildlife Service makes a valuable point in their June 2007 review, that projected benefits should be derived from a realistic analysis and not a sales brochure. For example, estimated electric energy production from the project should be based on realistic production figures rather than maximum rated output which a project never delivers (capacity factor). Real world benefits are important understand in order to accurately assess and weigh potential adverse impacts.

- (a) USFWS 6/15/07 SLWF Review - FWS recommends an analysis of the environmental benefit from the project. Using realistic production data, e.g., capacity factor and seasonal production figures, and other generating facilities operating as backup and to meet demand during intermittent wind periods, analyze the projected air quality benefits.

- (b) USFWS 3/19/08 CVWPP Review - Reiterate comment above from SLWF review. Project benefits cannot justify the unavoidable adverse impacts if all the adverse impacts are unknown or inadequately treated, and if project benefits are insufficiently documented.

- (c) OPRHP - 05/28/08 SLWF - "...the project will have an *ADVERSE IMPACT* on cultural resources."

- (d) SAVE THE RIVER 2/29/08 Letter - "A cost-benefit analysis of the project must be considered so that decision-makers have a thorough understanding of economic and environmental costs and benefits to the region."

**12. MITIGATING VISUAL IMPACTS** - A great deal of effort should be expended in assessing the impact of industrial

wind turbine placement within the sight planes around the Town's historical assets. Mitigation should include removing or moving turbines out of the line of sight. Moreover, traditional screening treatments should also be considered to minimize the visual impact of turbines on these historic homes and structures. In addition, BP should keep any planned development well away from the Scenic Byway and Seaway Trail.

- (a) NYSDEC 6/15/07 SLWF Review - "DEC disagrees that these "traditional" treatments would be infeasible in all cases. DEC recommends that the visual setting of each affected significant resource in the project area and five-mile visual impact area, including newly identified significant historic resources, be analyzed, and where feasible at specific impacted resources, direct mitigation options such as screening or selective turbine re-location should be applied."
- (b) PSC - 1/12/07 BP- Mitigation to include relocation, screening and reduced scale of project.
- (c) PSC - 09/12/07 BP - "Use scale reduction, avoidance of important areas and increased setbacks to mitigate as well as entire set if mitigation measures mentioned in DEC visual policy."
- (d) PSC - 06/13/07 SLWF - "The striking appearance of multiple turbines, with rotors turning, in the foreground distance zone from the Scenic Byway will have the potential to distract drivers attention and careful vehicle operation." "The DEIS does not address in a comprehensive manner the relation of the Seaway Trail Scenic Byway to the landscape and the various resources which contribute to the corridor adjacent to the Trail."

13. **HISTORICAL & CULTURAL** - In addition to the concerns for historic and cultural resources outlined in Section 12, past reviews associated with the Town's SEQRA process recommended warned that industrial wind turbine development had a very substantial visual impact on historic and cultural resources. More attention has to be directed to minimizing these impacts.

- (a) PSC - 06/13/07 SLWF - "The DEIS indicates the location of the Project substation on four acres near Swamp Road. The location indicated on the project facilities layout map is within or directly adjacent to the Warren Wilson House Historic District, which is listed on the National

Register of Historic Places. This location presents a potential conflict with the Historic District, is likely to adversely affect that District. Alternative locations should be explored..."

(b) PSC - 06/13/07 SLWF - "Adverse effects (turbines in view) on the Cape Vincent Village Broadway Historic District will conflict with Coastal Zone Management Policies." "Supplemental surveys should include all component resources and landscapes within listed, eligible or potentially eligible historic properties or districts, as appropriate, to demonstrate the extent of impacts of the project on those resources." "The discussion of Visual Resources and Community Character does not adequately address the scale and scope of potential project impacts on the project area, the affected community, or several resources of regional and statewide significance."

(c) MENTOR, RUBIN & TRIVELPIECE 6/13/07 SLWF Review - "Determine how presence of each turbine affects each building that meets criteria for inclusion in the National Historic Registry"

14. **INVASIVE SPECIES PLAN** - In the recent past the Town has tried to control the invasive plant Swallowwort, but it still remains a invasive that requires careful management during any construction period. An invasive plan should be developed and approved by DEC staff prior to the onset of any construction.

(a) NYSDEC 6/15/07 SLWF Review - "DEC recommends that the SDEIS include an Invasive Species Control Plan (ISCP) to minimize the spread of invasive propagules throughout the project development area, and particularly in regulated wetland and stream areas."

15. **NATURAL HERITAGE VEGETATIVE LANDSCAPES** - Again adequate mapping is needed to document and highlight those areas within the Town and the proposed project footprint that have important plant resources. These data are available from the DEC's mapping section and should be included as an overlay on any project layout mapping.

(a) USFWS 6/15/07 SLWF Review - Project area has many unique plant habitats that are protected and others that should be avoided. SLWF DEIS makes no mention of these areas and therefore when and where they should be avoided.

- (b) USFWS 3/19/08 CVWPP Review - Assessment conducted in fall when most plants were unavailable and/or difficult to observe. Better assessment needed at an appropriate time.
16. **COASTAL ZONE CONSISTENCY REVIEW** - As suggested by the PSC a Coastal Zone Consistency Analysis should be completed and not ignored as was the case in the past.
- (a) PSC - 06/13/07 SLWF - "DPS informed the Lead Agency, by letter of December 8, 2006 that the Coastal Zone Consistency Analysis must be presented for review by the PSC (Lead Agency did not require review in DEIS). The SDEIS should include a complete Coastal Zone Consistency Review and should document and address the full range of Coastal Policies as listed in 19 NYCRR §600.5."
17. **DECOMMISSIONING** - Towns of Cape Vincent and Lyme are uncertain as to who, other than the towns, have responsibility for ensuring that after the life of any industrial wind project has been completed that the communities are restored to their pre-development states. A plan should be provided to ensure that insolvency of either the project LLC or the State does not preclude our towns being made whole at the project's end-of-life.
- (a) DOS - 5/26/09 Review - "It may be useful to require a performance bond or dedicated fund established to ensure the complete decommissioning of the project."
- (b) MENTOR, RUBIN & TRIVELPIECE 6/13/07 SLWF Review - "The Planning board must demand financial assurance to fund decommissioning of all of these towers, in the event that the Applicant is no longer financially viable refuses to properly remove the facility."