SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

FOR THE

COHOCTON WIND POWER PROJECT

Town of Cohocton, Steuben County, NY

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COMMONLY USED ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
BBA	Breeding Bird Atlas (New York State)
BBS	North American Breeding Bird Survey
dBA	decibels, A-rated
CPP	Canandaigua Power Partners, LLC
DEIS	Draft Environmental Impact Statement
DPW	Department of Public Works
EAF	Environmental Assessment Form
EDR	Environmental Design & Research, Landscape Architecture, Environmental Services, Engineering and Surveying, P.C.
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
GIS	geographic information system
kV	kilovolt
kW	kilowatt
MW	megawatts
NAAQS	National Ambient Air Quality Standards
NHP	Natural Heritage Program (New York State)
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NYCRR	Official Compilation of Codes, Rules, and Regulations of the State of New York
NYISO	New York Independent Services Operators
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
NYSERDA	New York State Energy Research and Development Authority
NYSA&M	New York State Department of Agriculture and Markets
NYSDPS	New York State Department of Public Service
OPRHP	Office of Parks, Recreation & Historic Preservation (New York State)
OSHA	Occupational Safety and Health Administration
O&M	Operations and Maintenance
PSC	Public Service Commission (New York State)
PILOT	payment in lieu of tax

RIMS	Regional Input-Output Modeling System
RPS	Renewable Portfolio Standard
SEQRA	State Environmental Quality Review Act
SHPO	State Historic Preservation Office (New York)
SPDES	State Pollutant Discharge Elimination System
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
VIA	Visual Impact Assessment

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1.0 EXECUTIVE SUMMARY

This Supplemental Draft Environmental Impact Statement (SDEIS) is for a proposed action known as the Cohocton Wind Power Project (the Project). The Project as originally proposed was described, and its impacts evaluated, in the Draft Environmental Impact Statement (DEIS) accepted by the Town of Cohocton Planning Board on April 20, 2006. Since completion of the DEIS, various public and agency comments have been received, the Project turbines and layout have been revised, and supplemental/revised studies and additional data collection have been conducted. This SDEIS describes the revised Project, presents the results of revised studies and supplemental data collection, and addresses certain issues raised during the public comment period on the DEIS. To minimize duplication and inconsistency, the SDEIS follows the same general format as the DEIS, and incorporates that document by reference. Only information that has changed or been added since preparation of the DEIS is addressed in this document. Where information is the same as described in the DEIS, it is so noted in the SDEIS.

Provided below is a brief description of the revised Project, along with summaries of new information regarding the affected environment, and any changes in potential environmental impacts and proposed mitigation measures resulting from the revised project configuration or the findings of additional studies that have been conducted. Cumulative impacts of the proposed Cohocton Wind Power Project and other proposed wind power projects, are also reviewed.

Project Description

Canandaigua Power Partners, LLC (CPP or the Applicant) a subsidiary of UPC Wind Partners, LLC (UPC Wind or UPC) is proposing to develop a wind-powered generating facility of up to 36 turbines with a capacity of up to 90 megawatts (MW). The Project would meet the electrical needs of approximately 39,500 homes. In addition to the wind turbines, the Project will involve construction of three meteorological towers, 8.9 miles of gravel access roads, 16.6 miles of buried electrical cables (interconnect system), an operations and maintenance building, a collector substation, a 9.0 mile long 115 kV overhead transmission line, and an interconnect substation.

The Project will be developed on leased private land, totaling approximately 5,700 acres, in the Towns of Cohocton and Avoca. It will be constructed in one continuous phase anticipated to commence in April 2007 and to finish in December 2007. Once built, the wind turbines and associated components will operate in almost completely automated fashion. The Project will, however, employ approximately six operations and maintenance personnel. The wind turbine currently proposed is the Clipper Liberty C96, with a minimum cut-in wind speed of approximately 4 meters per second (m/s) (9 mph) required to generate electricity. This turbine's maximum rotational speed is 15.5 rpm, and high-speed shutdown occurs when constant wind velocity exceeds roughly 25 m/s (56 mph). Each wind turbine has a computer to control critical functions, monitor wind conditions, and report data.

Regulatory Process

This SDEIS has been prepared by Environmental Design & Research, Landscape Architecture, Environmental Services, Engineering and Surveying, P.C. (EDR) of Syracuse, New York. The document is intended to facilitate the environmental review process and provide a basis for informed public comment and decision-making. This process is in accordance with the requirements of New York's State Environmental Quality Review Act (SEQRA). The Town of Cohocton Planning Board is acting as the Lead Agency under SEQRA.

Since completion of the DEIS, various revised and supplemental support studies have been prepared. These studies provide additional information on discrete topical areas in furtherance of the SEQRA evaluation. They include the following:

- Phase 1B Archaeological Survey and Architectural Reconnaissance
- Revised Shadow Impact Assessment
- Transportation Assessment Report
- Revised Licensed Microwave Search & Worst Case Fresnel Zone Study
- 2006 Breeding Bird Survey
- Fall 2006 Radar and Anabat Survey
- Supplemental Visual Impact Assessment
- Revised Environmental Sound Survey and Noise Impact Assessment
- Wetland Delineation Report
- Property Value Study

- Economic Impact Analysis

Purpose, Need and Benefit

The purpose, need and benefit of the proposed action is as described in the DEIS.

Summary of Potential Impacts

In accordance with requirements of the SEQRA process, potential impacts arising from the proposed action were evaluated and described in the DEIS. Changes in anticipated impact based on the revised Project layout and/or supplemental studies undertaken since completion of the DEIS are summarized below.

Construction of the Project will result in disturbance of up to 216 acres of soil and 302 acres of vegetation, most of which is in agricultural fields. This includes, approximately 55 acres of forest and 3.83 acres of wetland that could be disturbed by Project construction. This disturbance will result from work associated with construction of all Project components, as well as, the improvement of public roads (primarily intersection widening) to accommodate large construction vehicles. However, most of this disturbance will be temporary. A total of approximately 32 acres of land will be permanently converted to built facilities (e.g., roads, turbines, substations, etc.). This total includes approximately 25 acres of active agricultural land that will be converted to non-agricultural use and a total 5 acres of forest that will be permanently lost. Another 36.5 acres of forest will be converted to early successional (shrub and sapling-dominated) communities, primarily on the transmission line right-of-way. Based on current Project plans and the 2006 Wetland Delineation Report, permanent wetland impacts are limited to approximately 0.032 acre of fill due to the installation of transmission line poles and the access road to Turbine 14. Additionally, approximately 2.3 acres of forested wetland along the transmission line ROW will be converted to scrub-shrub wetland for the life of the Project.

Project operation is expected to result in some level of avian and bat collision mortality. However, avian and bat studies conducted during 2006 do not suggest that these will be significantly different than those described in the DEIS. The Supplemental Visual Impact Assessment (SVIA) indicates that the turbines and transmission line will be visible from many locations within the surrounding area, but will also be fully or partially screened from most visually sensitive resources. Vegetation viewshed mapping within an expanded (10 mile-

radius) visual study area indicates that the proposed Project should be screened by vegetation or topography in approximately 88% of this area. However, views of the turbines will be available from portions of the Village of Naples, the hamlets of Atlanta and North Cohocton and major highways in the area (Interstate Route 390 and State Routes 21, 371 and 415). The transmission line will be visible to the most viewers in the vicinity of the Route 390 and 415 crossings. This line will add new utility structures to the view, but these are not significantly different from existing lines that already exist in the area.

Visual impacts associated with the proposed turbines are not significantly different than those described in the DEIS. The visibility and visual impact of the turbines will be highly variable throughout the study area. Highest impact will occur at foreground and midground distances (under 3.5 miles), in situations where large numbers of turbines are visible across the full expanse of a view, or where the turbines appear out of context with the existing landscape. Visual impacts on some structures potentially eligible for listing on the National Register of Historic Places are anticipated, although the SVIA indicates this impact is likely to be modest. The turbines will result in a perceived change in land use from some locations, but may actually help keep land in active agricultural use by supplementing farmer's income, and thus help maintain community character.

Evaluation of nighttime simulations indicates that the red flashing lights on the proposed turbine will have an impact on rural residents that currently experience dark nighttime skies. However, the impact will be minimized as distance from the Project increases. Transmission line and substation simulations indicate a moderate visual impact where these facilities contrast with an undeveloped rural landscape.

Archeological resources will not be impacted by the Project, as currently proposed. Two sites identified within the Project boundaries as being potentially eligible for listing on the National Register of Historic Places are being completely avoided. Several new simulations included in the SVIA are from areas with a concentration of structures listed or potentially eligible for listing on the National Register of Historic Places. These simulations demonstrate that components of the Project will be visible from certain open sites within these areas. The views used for the development of simulations are the most open available, and therefore are representative of worst case Project visibility from potentially Register-eligible structures in these areas. Evaluation in the SVIA indicates a low to moderate level of perceived visual impact at these representative viewpoints.

Revised communication studies indicate that the Project as currently proposed will not adversely affect microwave communications, and revised sound and shadow flicker studies indicate that predicted noise and shadow flicker impacts will remain minimal. Only three receptors have the potential to experience over 20 hours of shadow flicker annually, and turbine-related sound is not predicted to exceed 50 decibels at any adjacent non-participating property lines. In no instances will sound levels above 45 dBA be experienced at a neighboring residence.

Along with approximately $700,000 per year in average annual PILOT revenues, a project-specific Economic Impact Analysis indicates that the Project will generate approximately 50-75 direct full-time jobs, and on the order of $3.5 million in local earnings during the approximately 6-9 month construction period. Approximately 35% of the $160 million construction budget ($56 million) will be spent for labor, goods, and services. Operation of the Project is projected to generate approximately six jobs with annual wages estimated at $273,000. Leases to landowners will add another $413,000 to the local economy. Total economic impact of the operating Project is expected to be almost $830,000 annually.

A 2006 study of the effect of the Fenner (NY) Wind Power Project on property values, and a study examining likely Project-related impacts on property values in the Cohocton area, both conclude that the presence of a wind farm should not have a significant effect on property values. Local property values will be much more susceptible to the local economy than to changes in the viewshed created by the proposed Project.

A Transportation Assessment Report identified specific off-site and on-site truck routes likely to be used for delivery of materials to the Project Site. It is estimated that over 400 oversized/overweight one-way vehicle trips will utilize these routes during the course of construction. A total of 16 public road intersections will require some level of improvement to accommodate construction traffic.

Summary of Mitigation Measures

Various measures were proposed in the DEIS to avoid, minimize and/or mitigate potential environmental impacts. All of these will still be implemented as originally proposed. These, along with various environmental and economic benefits described in the DEIS also serve to mitigate unavoidable adverse impacts associated with Project construction and operation.

Specific measures designed to mitigate or avoid adverse potential environmental impacts that were not described in the DEIS, or for which additional detail is now available, include the following:

- Additional detail is provided on pre- and post-construction surveys of wells located within 1,000 feet of a turbine site.

- Should post-construction monitoring indicate significant bat mortality, CPP will work with the New York State Department of Environmental Conservation (NYSDEC) and U.S. Fish and Wildlife Service (USFWS) to evaluate the feasibility of deterrents or other viable mitigation measures.

- CPP will explore the feasibility of light shields to help block ground-level views of FAA obstruction warning lights on the turbines.

- Additional investigation of three receptors that could receive more than 20 hours of shadow flicker annually will be undertaken.

- If required by the State Historic Preservation Office (SHPO), a Memorandum of Agreement (MOA) will be negotiated with that prescribes mitigation for adverse visual impacts on Register-eligible historic sites.

- CPP will work with state, county, and local highway departments to develop a final transportation routing plan.

- Design plans will be completed for all public road improvements, and will be made available to the affected local Towns (and other jurisdictions having responsibility for the affected roads) for review prior to the initiation of construction activities.

- Prior to construction, CPP will video document the existing roadways to verify pre-construction roadway conditions. Upon completion of the construction activities, CPP will, at a minimum, return all roadways to their pre-construction conditions (and video document) at no cost to the affected jurisdiction.

- Use of public roads by heavy equipment or oversized vehicles during Project operation and maintenance will be coordinated with state, county, and local Highway Department officials. Any damage to the roads will be repaired at the Project operator's expense.

- Additional detail regarding the proposed complaint resolution procedure is described in Section 4.2 of the SDEIS.

Alternatives

Alternatives to the Project as originally proposed were considered and evaluated in the DEIS.

Alternatives to the currently proposed Project are discussed with additional detail on transmission line alternatives. Alternative transmission line routes that would reduce Project visibility or the extent of forest clearing were either not considered acceptable by the involved landowners or would result in significant wetland impacts. Placing the 115 kV transmission line partially or fully underground was determined to be infeasible due to the high cost. The cost of going overhead for the full 9 mile length of the line is approximately $4 million. The cost of going underground over this same distance would be approximately $16 million. Given the generating capacity of the Project, the cost of placing the entire line underground would make the Project uneconomical. In regard to turbine selection, an 80 meter tower with a 96 meter-diameter rotor, as currently proposed, is among the tallest turbines now commercially available. Because the wind is stronger and less turbulent at higher altitudes, these larger turbines are more efficient at capturing the available energy in the wind. The currently proposed turbine and turbine layout are thus the ones that maximize the generation potential of the site, while utilizing the fewest turbines.

Cumulative Impacts

Cumulative impacts associated with the proposed Cohocton Wind Power Project and other wind power projects proposed in Steuben County are discussed. Potential cumulative avian, visual, transportation, and/or socioeconomic impacts are anticipated if either the WindFarm Prattsburgh or Dutch Hill Wind Farm is built along with the Cohocton Project. These impacts are largely unavoidable, and in the case of socioeconomics, are beneficial. However, analysis included in the SDEIS indicates that cumulative transportation impacts can be

adequately managed, and that cumulative avian and visual impacts are not likely to be significant. Other potential impacts associated with the construction or operation of multiple wind power projects are either additive (e.g., acres of disturbance to soils or agricultural land), or will not occur due to the separation of the proposed projects (e.g., noise and shadow flicker).

Effects on Use and Conservation of Energy Resources

The proposed Project's effect on the use and conservation of energy resources are essentially as described in the DEIS. The SDEIS provides additional support for the conclusion that the Project will generate enough power to support approximately 39,500 homes in New York State and off-set up to 250,000 MW hours of fossil fuel-generated power annually.

2.0 DESCRIPTION OF PROPOSED ACTION

This document is a supplement to the Draft Environmental Impact Statement (DEIS) prepared for the Cohocton Wind Power Project and accepted by the Lead Agency on April 20, 2006. The currently proposed Cohocton Wind Power Project (the Project) is described below in terms of its components, location, construction, and operation. This section of the Supplemental Draft Environmental Impact Statement (SDEIS), describes and addresses all Project changes that have occurred since completion of the DEIS.

2.1 INTRODUCTION

As indicated in the DEIS, Canandaigua Power Partners, LLC (CPP), originally proposed to develop an approximately 82 megawatt (MW) wind-powered generating facility in the Town of Cohocton, Steuben County New York (see Figure 1 in the DEIS). This Project was anticipated to include approximately 41 Gamesa G87 wind turbines, each with a generating capacity of 2.0 MW. The Project as currently proposed will include a maximum of 36 turbines, each with a generating capacity of 2.5 MW (total = up to 90 MW). The total number of turbines, already reduced by five from the number originally proposed and described in the DEIS, may be reduced even further during the permitting and final design process. However, for the propose of this SDEIS, all 36 potential turbine sites have been evaluated. As with the original layout, the primary turbine array will be located on Pine Hill and Lent Hill northeast of the Village of Cohocton. Thirty-two of the potential turbine sites are located in this area. An additional four turbine sites are still proposed on Brown Hill near the point of interconnection with an existing New York State Electric and Gas (NYSEG) 230 kV transmission line. Each wind turbine will include a 96-meter (315 foot) diameter, three-bladed rotor mounted on an 80-meter (262 foot) tall tubular steel tower. The total maximum height of approximately 420 feet is 21 feet taller than the G87 turbines previously evaluated in the DEIS. The Project still includes permanent meteorological towers (now three versus the four proposed in the DEIS), an operations and maintenance (O&M) facility, a system of gravel access roads, buried collection lines (electrical interconnect), one temporary construction laydown/staging area, and an overhead transmission line that will connect a central collection substation to a new interconnection substation adjacent to the existing transmission line.

As in the DEIS, the layout, location, and number of turbines evaluated in this SDEIS represent a “worst case” scenario that may overstate potential environmental impacts on a Project-wide basis. The impacts identified and evaluated in the SDEIS assume all 36 of the potential turbines sites will be utilized. The Project that will ultimately be built could utilize as

few as 33 of the 36 turbine sites. CPP will decide if fewer than 36 turbines are built based on several factors including wind resource optimization, availability of land rights and access routes, landowner preferences, and avoidance and minimization of environmental impacts. All of the potential turbine sites are located a minimum of 520 feet (100 feet plus the maximum height of the wind turbine structure) from the existing roads and at least 1,500 feet from adjacent dwellings, unless consent to a lesser distance has been obtained from neighboring land owners, in accordance with the Town of Cohocton Windmill Local Law (Local Law No. 1 of 2006) and site plan review requirements. Because of landowner preferences and potential unforeseen construction issues, all of the potential turbine locations remain subject to minor adjustments. However, any such adjustments will not change the affected resources, increase environmental impacts, reduce the minimum setbacks, or alter proposed mitigation, as described herein.

Although turbine manufacturer and locations have been revised, thereby reducing the number of turbines from 41 to 36, the Project land area (Site) is roughly the same. It includes approximately 5,700 acres of leased land (owned by 22 individual landowners) located off of Lyon Road, Pine Hill Road, Kirkwood-Lent Hill Road, Mattice Road, Rynders Road, Avery Hollow Road, Craig Road, Edmond Road, Cayward Road, Ryan Hollow Road, State Route 415, Jones Road, Wentworth Road, Brown Hill Road, Fairbrother Road, Van Aucker Road, and Preston Road (see Figure 2 in the DEIS). The currently proposed alignment of the 115 kV transmission line places a small portion of the Site in the Town of Avoca (in the Van Aucker Road area).

2.2 PROJECT DESCRIPTION

The currently proposed Cohocton Wind Power Project will consist of 36 wind turbines, 8.9 miles of 16 foot and 36 foot wide turbine access roads, 16.6 miles of underground electrical lines, a collection substation, a 9.0 mile long overhead 115 kV transmission line, an interconnection substation, a construction staging area, three permanent meteorological towers, and a centrally located O&M facility.

The proposed location and spacing of the wind turbines and support facilities was based on a wind resource assessment and review of the site's current land use and zoning constraints (see Section 3.13, Land Use and Zoning), as described in the DEIS.

The currently proposed layout of all Project components is illustrated in Figure S3. Any components different than those described in the DEIS are described individually below.

2.2.1 Wind Turbines

The wind turbines proposed for this Project are the 2.5 MW Liberty C96 turbine manufactured by Clipper Windpower Technology. Additional information regarding these turbines is included in Appendix A.

The height of the tower, or "hub height" (height from foundation to top of tower) will be approximately 80 meters (m) (262 feet), and total turbine height (i.e., height at the highest blade tip position, when vertical) will be approximately 128 meters (420 feet). This is approximately 21 feet taller than the 399 foot turbine described in the DEIS. All of the turbine components (tower, nacelle, and rotor) are as described in the DEIS, except the tower is approximately 6.5 feet taller (80m vs. 78m) and the rotor diameter is about 29.5 feet larger (96m vs. 87m). Each of the three blades is approximately 153 feet in length. The nacelle on the Clipper is more compact than the nacelle on other turbines because the Clipper power train utilizes a compact two stage helical distributed design. Wind monitoring instrumentation and lighting on the nacelle are described in the DEIS. Similar to the previously proposed Gamesa turbines, the Clipper turbines begin generating energy at wind speeds as low as 4 meters per second (9 mph) and cut out if the wind speed exceeds approximately 25 meters per second (56 mph). The maximum operational rotor speed is approximately 15.5 revolutions per minute (rpm).

2.2.2 Electrical System

The proposed electrical system is as described in the DEIS. Additional details on the components of this system are presented below, and supplemental information has been added to Appendix A.

Underground Collector System:

The components of the collector system are described in the DEIS. The location of the currently proposed collection lines is indicated in Figure S3. The total length of buried cable carrying electricity to the collection station will be approximately 16.6 miles. This has been reduced from the approximately 27 miles of buried cable proposed in the Project addressed in the DEIS. No overhead lines are proposed as part of this system.

Collection Substation:

The collection substation is still proposed to be located off of Rynders Road, near the intersection with McLean Road. The station will be approximately 169 by 95 feet in size. Plans and elevations for this station have been added to Appendix A.

115 kV Transmission Line:

The single circuit 115 kV transmission line that connects the collection station on Lent Hill with the proposed substation on Brown Hill follows approximately the same route illustrated in the DEIS, but has been relocated in several areas due to landowner or environmental concerns (see proposed route in Figure S3). The transmission line will be approximately 9.0 miles in length (as opposed to 9.4 miles as previously proposed) and will be located within an approximate 70 foot wide cleared right-of-way (ROW). The line will be carried on approximately 120 treated wood pole structures that generally range in height from 61 to 92 feet above ground level, and will have span lengths in the range of 300 to 600 feet. Tower structures will be of three general types: unguyed single wood pole, guyed wood pole, and guyed three-pole wood structures. Poles for the section crossing Interstate Route 390 will be comprised of two – 88 foot tall structures. Alternatively, the crossing of Route 390 may be underground. Diagrams showing structure types have been added to Appendix A.

Interconnection Substation:

The interconnection substation off of Preston Road on Brown Hill in the Town of Cohocton, will be approximately 360 by 205 feet in size. Plans and elevations for this station have been added to Appendix A.

2.2.3 Access Roads

The currently proposed location of Project access roads is shown in Figure S3. The total length of access road required to service all proposed wind turbine locations is approximately 8.9 miles, the majority of which will be upgrades to existing farm lanes. These roads will be a mix of 16 foot wide access roads and 36 foot wide crane roads. Following construction the 36 foot wide roads will be reduced to 16 feet of travel surface by either allowing the margins to re-vegetate or removal of this material, at the discretion of the landowner. This compares to a total of approximately 13 miles of access road proposed for the original Project addressed in the DEIS. Typical surface and width will be as described in the DEIS. Additional road details have been added to Appendix A.

2.2.4 Meteorological Towers

Proposed permanent meteorological towers will be as described in the DEIS. Anticipated location of the meteorological towers is indicated in Figure S3.

2.2.5 Staging Area

Although it is anticipated that major turbine components (i.e., tower sections, nacelle, and blades) will be delivered directly to the individual turbine sites, a centrally-located staging area will be required for job trailers, vehicle parking, and storage of tools, equipment, and construction materials. This area is currently anticipated to be approximately 8 acres in size and located in an agricultural field on Lent Hill. UPC is working with landowners to identify a specific site, and will inform the Town as soon as a decision is made.

As described in the DEIS, the design of this staging area will be predicated on its complete removal following the completion of the construction phase of the Project.

2.2.6 Operations and Maintenance Facility

CPP proposes to utilize an existing unoccupied farm house on Cayward Road for its operations center. The center will consist of control rooms, offices, and meeting rooms. CPP will also construct an approximately 25,000 square foot maintenance building in the Cayward Road/Rynders Road area. This structure will have the appearance of a large agricultural building. It will be heated and will be served by a private well and septic system. The structure will house spare turbine components such as blades and generators, and will have a shop for repairs. CPP will present additional details and a building application for this building as soon as its location and final design are determined. As with the staging area, it is assumed that the building will be built on agricultural land.

2.3 PROJECT PURPOSE, NEED AND BENEFIT

The purpose, need and benefits of the proposed Project are as described in Section 2.3 of the DEIS.

2.4 PROJECT CONSTRUCTION

As described in the DEIS, Project construction is anticipated to occur in a single phase, starting in the spring of 2007 and being completed by December 31, 2007. Proposed Project construction sequencing and activities are as described in the DEIS. Additional details

regarding tower foundation, crane path, and transmission line construction have been added below and to Appendix A.

Final design of tower foundations requires geotechnical information to be collected from the individual turbine locations. While this information has not yet been collected, based on preliminary investigations, CPP has determined that a spread footing design will be required for these turbines. A typical design is provided in Appendix A. The spread footing will be approximately 54 feet in diameter and up to 10 feet deep, constructed of poured in place steel reinforced concrete. The turbine attachment point will be approximately 15 feet in diameter, centered on the foundation. The only point that will extend above grade will be the attachment point, by an elevation of approximately 0.5 feet.

As described in the DEIS, little if any blasting is anticipated as being needed for installation of tower foundations. However, if blasting is found to be necessary on a limited basis, a pre-blast survey of all structures including houses, barns, bridges, etc. will be conducted by the blasting contractor. Further, the blasting will be conducted utilizing minimum charges, exploded in a manner to minimize shock wave propagation beyond the immediate area. Accelerometer measurements will be collected to confirm this.

As described in the DEIS, the primary erection crane(s) will move from one tower to another within each group of turbines along a designated crane path. Crane paths as currently envisioned, will typically follow the 16-foot wide access roads and include 10 foot-wide earthen shoulders on either side of the road. These shoulders will be native material, graded level. The only fill material placed within the shoulders will be in those areas where the side slope prevents the grading of the road shoulders to a level surface. Topsoil will be stripped and stockpiled prior to placement of any fill. The fill will be native soils, not crushed stone or gravel, and will remain in place provided it does not impact drainage patters or agricultural restoration. No vibratory compaction will be necessary for these shoulders. Following the crane passage, the shoulders will either be allowed to re-vegetate or will be restored to agricultural use in accordance with New York State Department of Agriculture and Markets (NYSA&M) Agricultural Protection Guidelines (see DEIS Appendix D).

Cranes may at times traverse open fields when moving between individual groups of turbines. For open field travel, a route will be identified that presents minimal side and vertical slope constraints. Some limited physical disturbance is likely along the field crossings, including grading to create a smooth path that will be performed with a bulldozer

or motor grader. The route will be subject to field adjustment in order to minimize the grading necessary or other potential impacts. Disturbed agricultural land along crane paths across fields will be restored in accordance with NYSA&M Guidelines.

Along with the ROW clearing activities described in the DEIS, additional information is now available regarding construction of the 115 kV transmission line. Access roads will be required along the transmission line to provide construction equipment access for initial clearing, the placement of tower structures, all stringing activities, and substation and interconnection facility construction. Equipment commonly used in construction of such a transmission line includes chain saws, diesel powered logging equipment, truck-mounted augers, earth graders, small bulldozers, dump trucks, semi-trailer trucks delivering wood tower structures, steel, and conductor reels, a medium-sized lifting crane, wire pulling and tensioning equipment, pick-up trucks, and assorted small vehicles. Wherever possible, existing roads will be selected for transmission line access routes. Unimproved roads are adequate for wood pole construction where auger trucks will require access. Improved roads are unlikely to be necessary because no steel poles or caisson-type foundations are required. Improved roads would only be installed in areas where significant traffic, poor drainage, or steep slopes require an upgraded or new stable road surface.

In some areas, construction equipment and vehicles will use off right-of-way access roads to reach the transmission line ROW and related facilities. These may be improved or used as-is, depending on the equipment and site conditions. Construction equipment and vehicles will use public roads, private access ways, or Project access roads to reach the transmission line ROW. Because the specific location of on-ROW and off-ROW roads are unknown at this time, temporary disturbance of 20 foot-wide corridor is anticipated along the entire length of the ROW to provide vehicular access to the tower sites. The only known exception to this is where the transmission line parallels the railroad and an existing access road is in place.

All permanent facilities associated with the proposed electric transmission line will be located on parcels leased or owned by CPP or on easements acquired by CPP. The proposed line will be built on entirely new right-of-way. No expansion of existing rights-of-way are anticipated as part of the Project.

The 120 tower structures associated with the transmission facility will be installed approximately 10 feet (average wood pole embedment) underground. An area of up to approximately 100 feet x 50 feet around the base of each tower could be disturbed at the

time of installation. Following installation, the area surrounding the pole locations will be restored to preexisting contours to the maximum extent practicable, resulting in no net change to topography. Permanent tower-related filling/soil disturbance following restoration will be approximately 0.1 acre.

Temporary on-right-of-way and off-right-of-way stringing sites and storage/staging areas will be established for the purposes of accommodating project construction activities. The locations of these temporary areas have not yet been determined, and will be established during the development of the Project's final construction drawings. Any further resource inventory and impact evaluation needed for stringing sites and storage/staging areas will be provided at that time.

Area of disturbance assumptions included in the SDEIS are the same as those used in the DEIS, except that the construction staging area is now assumed to require 8 acres, rather than 3 acres, as assumed in the DEIS. These impact assumptions are listed in Table S1.

Table S1. Impact Assumptions

Project Components	Typical Area of Vegetation Clearing	Area of Total Soil Disturbance (temporary and permanent)	Area of Permanent (fill/structures) Disturbance
Wind Turbines and Workspaces	200' radius per turbine	200' radius per turbine	0.2 acre (pedestal plus crane pad)
Access Roads	75' wide per linear foot of road	40' wide per linear foot of road	20' wide per linear foot of road
Buried Electrical Interconnects	15' wide per linear foot of cable	15' wide per linear foot of cable	none
Meteorological Towers	1 acre per tower	1 acre per tower	0.1 acre per tower
O&M Facility and associated storage yard	2 acres	2 acres	1 acre
Staging Area	8 acres	8 acres	none
Interconnect Substation	5 acres	5 acres	2 acres
Collection Substation	1 acre	1 acre	0.5 acre

Project Components	Typical Area of Vegetation Clearing	Area of Total Soil Disturbance (temporary and permanent)	Area of Permanent (fill/structures) Disturbance
115 kV Transmission Line	70' wide ROW per linear foot, plus danger trees	20' wide per linear foot	0.1 acre

Although the impact assumptions listed above are generally the same as those used in the DEIS, overall construction-related disturbance will be reduced because at least five fewer turbines will be built, thus requiring fewer foundations and reduced linear distance of access roads and underground cables.

2.5 OPERATIONS AND MAINTENANCE

Operation of the wind turbines and associated components is as described in the DEIS. For the Clipper wind turbines, a minimum wind speed of approximately 9 mph (4 meters/second) is required to initiate generation. High-speed shutdown occurs at around 56 mph (25 meters/second). The turbines are equipped with two fully independent braking systems that allow the rotor to be brought to a halt under all foreseeable conditions. The system consists of aerodynamic braking by the rotor blades and by a separate hydraulic-disc brake system. Both braking systems operate independently, such that if there is a fault with one, the other can still bring the turbine to a halt. Each wind turbine has a computer to control critical functions, monitor wind conditions, and report data back to a supervisory control and data acquisition (SCADA) system. As described in the DEIS, there will also be a full time operations and maintenance team hired for this Project. O&M personnel will be responsible for daily operation and maintenance activities, which will require them to visit most turbines on a regular basis.

A detailed and site specific long-term right-of-way maintenance and management program for the transmission line and associated substation facilities will be prepared prior to initiation of long range maintenance. Currently, it is anticipated that the long range maintenance and management will follow the protocols, methodologies, and cycles outlined in a NYS Public Service Commission (PSC) approved ROW management program.

2.6 DECOMMISSIONING

Proposed decommissioning is as described in the DEIS. It should be noted that the local wind power ordinance clearly describes the requirements for Project decommissioning. Conditions that would trigger decommissioning, means of funding the decommissioning, as well as facility removal requirements are specified. As described in the ordinance (Section II (4)):

> "(a) the owner of a windmill, after such application has been approved and before a building permit is issued, shall submit a letter of credit or other acceptable surety sufficient to ensure the removal if the use of the windmill is discontinued."… An Engineer selected by the Town and the Town Attorney shall judge this letter of credit or other surety adequate and satisfactory before a building permit is issued."… c.) Any windmill which has been out of active and continuous service for a period of one (1) year shall be removed from the premises to a place of safe and legal disposal. Any and all structures, guy cables, guy anchors and/or enclosures accessory to such windmill shall also be removed. The site shall be restored to as natural a condition as possible. Such removal shall be completed within (18) eighteen months of the cessation of active and continuous use of such windmill. Any foundation left must be at least 3' below surface land or facilities shall be left at the discretion of the land owner."

All costs of Project decommissioning are the sole responsibility of the Project developer, and will not represent a cost to the Town or landowners participating in the Project.

2.7 PROJECT COST AND FUNDING

Project cost and funding is as described in the DEIS.

2.8 PERMITS AND APPROVALS REQUIRED

Anticipated permits and/or approvals from local, state, and federal agencies are as described in the DEIS. The permits and approvals that are expected to be required are listed in Table 2 of the DEIS.

2.9 PUBLIC AND AGENCY INVOLVEMENT

2.9.1 SEQRA Process

On December 19, 2005 a Full Environmental Assessment Form (EAF) addressing the proposed wind power project was submitted by CPP to the Town of Cohocton Planning Board pursuant to SEQRA. The formal submittal of the EAF initiated the SEQRA process for the subject action. Also in January of 2006, a solicitation of Lead Agency status was forwarded to involved SEQRA agencies by the Cohocton Planning Board, along with a copy of the EAF document. No agency objected to the Planning Board's assuming the role of Lead Agency. On March 2, 2006 the Cohocton Planning Board formally assumed the role of Lead Agency, and, in that role, issued a positive declaration, requiring the preparation of a DEIS (see DEIS Appendix B for a compilation of agency correspondence.)

On March 31, 2006, the DEIS was submitted to the Lead Agency, and accepted as complete on April 20, 2006. Upon Lead Agency acceptance of the DEIS, copies of that document (along with a copy of the public notice) were distributed to all interested and involved agencies (see DEIS Table 1) and made available to the public at the Cohocton Town Clerks Office, the Cohocton Public Library, and CPP's local office in the Village of Cohocton. Additional copies of the document were sent to the Cohocton Zoning Board of Appeals, the U.S. Army Corps of Engineers (USACE), the Town of Wayland, and Cohocton Wind Watch. The entire DEIS was posted to the Project website (www.cohoctonwind.com) to facilitate public review and comment on the document. The public comment period ran from April 20, 2006 to June 9, 2006 and a public hearing was held at the Wayland-Cohocton Central School on May 25, 2006.

Due to Project changes and the availability of new data, CPP prepared this Supplemental Draft Environmental Impact Statement (SDEIS). The purpose of the SDEIS is to reassess the environmental impacts associated with construction of the Project based on the new Project turbines/layout and the results of supplemental/revised studies and additional data that has been collected since completion of the DEIS. As a separate future submittal, or as a part of the Final Environmental Impact Statement (FEIS), CPP shall prepare a response to all substantive comments received on the DEIS. The SEQRA process for the Project will include the following future actions:

- SDEIS accepted by Lead Agency (Cohocton Planning Board).
- File notice of completion of SDEIS and notice of public hearing and comment period.

- Public hearing on SDEIS (must be held at least 14 days after public notice is published).
- Public comment period on the SDEIS.
- Preparation and acceptance of FEIS, including response to comments on the DEIS an SDEIS.
- Notice of completion of Final EIS.
- 10-day public consideration period.
- SEQRA Findings Statement issued by Planning Board as Lead Agency, completing the SEQRA process.
- Involved agencies issue Findings Statements.

This SDEIS, along with a copy of the public notice, will be distributed for review and comment to the public and to the agencies and parties listed in Table S2.

2.9.2 Agency and Public Review

Opportunities for detailed agency and public review will continue to be provided throughout the SEQRA process, as well as in conjunction with the review of applications for the permits and approvals needed for the Project. With respect to the completion of the SEQRA process, the SDEIS will be available for public review and agency comment as outlined above. In addition to a public comment period (during which time written comments will be accepted), a duly noticed public hearing concerning the SDEIS will be organized and held, in accordance with SEQRA requirements.

This SDEIS, along with a copy of the public notice, will be distributed for review and comment to the public and to the parties identified in Table S2.

Table S2. Involved and Interested Agencies and Public SDEIS Repositories

Cohocton	
Town of Cohocton Planning Board Post Office Box 327 Cohocton, New York 14826	Town of Cohocton Highway Department Post Office Box 327 Cohocton, New York 14826
Cohocton Town Clerk Post Office Box 327 Cohocton, New York 14826	Town of Cohocton Public Library 15 South Main Street Cohocton, New York 14826

Neighboring Towns and Villages	
Town of Wayland Attn: Town Supervisor 17 North Main Street Wayland, New York 14572	Town of Avoca Attn: Town Supervisor 3 Chase Street Avoca, New York 14809
Village of Naples Attn: M. Sherwood, Mayor 160 South Main Naples, New York 14512	Town of Howard Attn: Donald Evia, Town Supervisor 3725 Mill Road Avoca, New York 14809
Steuben County	
Steuben Co. Industrial Development Agency Attn: James Sherron Executive Director 7234 Route 54 Bath, New York 14810-0393	Steuben County Planning Department 3 East Pulteney Square Bath, New York 14810
Steuben County Highway Department 3 East Pulteney Square Bath, New York 14810	
New York State	
NYS Dept. of Environmental Conservation Attn: Stephen Tomasik 625 Broadway Albany, New York 12233-1011	NYS Department of Public Service Attn: Norman Morrison Three Empire State Plaza Albany, New York 12223-1350
NYS Dept. of Environmental Conservation Region 8 Attn: Regional Permit Administrator 6274 East Avon-Lima Road Avon, New York 14414	NYS Department of Transportation 50 Wolf Road 6th Floor Albany, New York 12232
NYS Department of Agriculture and Markets Attn: Matthew J. Brower 10 B Airline Drive Albany, New York 12235	NYS Energy Research and Development Authority Attn: Vicki Colello 17 Columbia Circle Albany, New York 12203-6399
NYS Department of Transportation Region 6 Attn: James E. Clements 107 Broadway Hornell, New York 14843	NYS Office of Parks, Recreation and Historic Preservation Attn: John Bonafide Field Services Unit Peebles Island Waterford, New York 12118
Federal Government	
Federal Highway Administration 400 Seventh Street, SW Washington, DC 20590	U.S. Army Corps of Engineers Attn: Diane Kozlowski 1776 Niagara Street Buffalo, New York 14207-3199

3.0 ENVIRONMENTAL SETTING, POTENTIAL IMPACTS, AND PROPOSED MITIGATION

3.1 GEOLOGY, SOILS, AND TOPOGRAPHY

3.1.1 Existing Conditions

Information regarding topography, geology, and soils is as described in the DEIS.

As was described in the Water Resources section of the DEIS, the Project Site contains areas of hydric soils, as determined by the USDA Natural Resources Conservation Service (NRCS, 2005). Hydric soils are poorly drained, and their presence is also indicative of the likely occurrence of wetlands. Hydric soils found in the Project Site include Atherton silt loam, Chippewa channery silt loam, Fluvaquents and ochrepts (not a soil type, but a soil subgroup), and Wayland silt loam. These soils occur primarily in the Cohocton River Valley and along Kirkwood Creek.

3.1.2 Potential Impacts

3.1.2.1 Construction

As with the original Project layout described in the DEIS, Project components have been sited to avoid or minimize either temporary or permanent impacts to physiography, geology and soils. Construction on steep slopes (i.e., in excess of 15%) still occurs only along the overhead transmission line route and at the substation sites. Steep slopes along the transmission line occur as it descends into the Cohocton River Valley north of Route 415, and again where it rises out of the valley on either side of Route 390. Other areas of steep slope occur along this line in the vicinity of the Brown Hill road crossing, where the line runs parallel to Fairbrother Road (steep cross slope), and at the Van Aucker Road crossing.

As stated in the DEIS, only temporary, minor impacts to physiography and geology are expected as a result of construction activities. The primary impact to the physical features of the Project Site will be the disturbance of soils during installation of foundations, underground 34.5 kV cable, and access roads. Based on the assumptions outlined in Section 2.0 (see Table S1), and the current Project design, potential total impacts resulting from these activities could be approximately 174 acres of ground. This compares to a total of 245 acres of soil disturbance for the original Project, as reported in the DEIS. As stated in the DEIS, the actual impact of this work will be significantly less than these calculations indicate, due to the fact that proposed roads utilize existing farm lanes to access turbines

sites, to the extent possible. Construction of temporary construction staging areas will disturb approximately 8 acres of soil. Construction of meteorological towers, the O&M facility, the collection station and interconnect substation will disturb approximately 11 acres of soil. Construction of the overhead 115 kV transmission line could result in approximately 20 acres of soil disturbance. As indicated in the DEIS, crane paths on this Project are anticipated to follow access roads and existing Town roads, and thus will not add to the acreage of soil disturbance. As indicated in the Transportation Assessment Report included as Appendix J, delivery of turbine components along proposed construction routes will require some level of improvement to 16 public road intersections (see Table S8 in Section 3.8). These improvements would typically involve minor gravel widening, side slope regarding, and resetting of guard rails, utility poles and signs. On any agricultural lands affected by these improvements, topsoil will be stripped and stockpiled in accordance with New York State Department of Agriculture and Markets (NYSA&M) Agricultural Protection Guidelines (se DEIS Appendix D). These improvements will result in no more than an additional 5 acres of Project-related soil disturbance. Soil disturbance from all anticipated construction activities will total approximately 219 acres. Of this total, approximately 32 will be converted to built facilities (roads, crane pads, structures), while the remaining disturbed areas will be restored and stabilized following completion of construction.

Impacts to hydric soils along the transmission line route will be minimized by spanning most areas of wetland, and placing poles in the railroad embankment where the line crosses the largest sections of Wetland AV-1 in the Cohocton River Valley. Based on current plans, eight poles and their associated access roads will be placed in wetlands. Additionally, 10 poles will be sited in the existing railroad grade, possibly resulting in minor impacts to adjacent wetlands. These activities will result in up to 1.4 acres of temporary impacts to hydric soils.

The area of disturbance calculations presented above assume that significant soil disturbance will occur in all areas in which construction occurs. This assumption is very conservative. As described in the DEIS, actual disturbance will be highly variable based on the specific construction activity, the construction techniques employed, and soil/weather conditions at the time of construction.

3.1.2.2 Operation

As mentioned previously, the Project will result in permanent conversion of approximately 32 acres of land into built facilities (0.2 acre of crane pad and foundation at each tower site, 0.1 acre pad at each met tower, maximum 20-foot-wide permanent access roads, a 1.0-acre O&M building, a 0.5-acre collection substation, and a 2.0-acre interconnect substation). This compares to 44 acres for the original Project, as described in the DEIS. Beyond occasional soil disturbance associated with Project maintenance and repair, the impacts of Project operation on physiology, geography, and soils are expected to be minimal.

3.1.3 Proposed Mitigation

Proposed measures to avoid, minimize, and mitigate impacts to topography and soils are as described in the DEIS. Additional measures and details include the following:

- Unless requested to do otherwise by the highway department having jurisdiction, all temporary widenings of public road intersections will be restored to their preconstruction condition. This will involve removal of gravel fill, reestablishment of preconstruction contours, and stabilization by seeding and mulching. Any agricultural areas affected by such activity will be restored in accordance with NYSA&M Guidelines.

- Erosion and sedimentation impacts during construction will be minimized by the implementation of an erosion and sedimentation control plan.

Approximately 184 acres of temporarily disturbed soils will be restored following construction, including approximately 138 acres of agricultural land. As stated in the DEIS, mitigation measures to protect and restore agricultural soils include full restoration of temporarily disturbed agricultural land in accordance with NYSA&M Guidelines (see DEIS Appendix D).

3.2 WATER RESOURCES

3.2.1 Existing Conditions

3.2.1.1 Surface Waters

Surface waters on and adjacent to the Project Site are as described in the DEIS, and illustrated in Figure S6.

3.2.1.2 Wetlands

A wetland delineation report has been prepared for the Project Site, and is included as Appendix B. This report includes existing wetland mapping and the results of an on-site wetland delineation conducted by EDR during 2006. The results of this delineation effort are described below.

3.2.1.2.1 Existing Information

As described in the DEIS, NYSDEC freshwater wetlands mapping indicate that there are a number of wetlands located in the valleys within and adjacent to the Project Site that are regulated under Article 24 of the Environmental Conservation Law. The state-regulated wetlands are identified in Figure S8. These are associated with Twelve Mile Creek (located immediately east of the Project Site) and the Cohocton River. State-regulated wetland AV-1, associated with the Cohocton River, is designated as a Class I wetland by the NYSDEC.

Review of National Wetland Inventory (NWI) mapping indicates that there are also a number of federally-mapped wetlands located within and adjacent to the Project Site. The federally mapped wetlands are identified in Figure S9. As stated in the DEIS, the majority of these wetlands occur in floodplains and areas of mapped hydric soils associated with Twelve Mile Creek and the Cohocton River (i.e., the same wetlands mapped by the NYSDEC), but a few of these mapped wetlands are located within the upland portions of the Project Site.

3.2.1.2.2 Field Delineation Results

Wetlands within the Project Site were delineated by EDR biologists during the fall of 2005 and the spring and summer of 2006. EDR performed field surveys only on those wetlands that are adjacent to, or may be impacted by, the proposed Project components (including the turbines, turbine workspaces, access roads, transmission line, collection substation, interconnect substation, and buried electrical interconnect) and along the portions of public roads that may be subject to improvements (i.e., increased turning radius). In general, an area within 200 feet of all turbines, and 100 feet of all turbine access roads, interconnects, and other Project components was identified and delineated. The determination of wetland boundaries was made by EDR personnel according to the three parameter methodology described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987). Attention was also given to the identification of potential hydrologic connections between wetlands areas that could influence their jurisdictional status.

Wetland boundaries were defined in the field with sequentially-numbered pink surveyor's flagging, and were subsequently mapped using a Trimble Pathfinder® Pro GPS unit with reported sub-meter accuracy. Data were collected from one or more sample plots in each delineated wetland (depending on the size of the delineated area), and were recorded on USACE *Routine Wetland Determination* forms. The data collected for each of the wetlands delineated by EDR personnel included vegetation, hydrology indicators, and soils characteristics, in accordance with the requirements of 1987 USACE Wetland Delineation Manual. This methodology was applied to all wetlands delineated on the Project Site.

Following the procedure described above, EDR personnel delineated a total of 32 wetlands/waters within the Project Site. These include 12 wetlands, 16 streams/drainages, and four farm ponds. Where a river or stream occurred within a delineated wetland, the open water channel was not separately delineated. The location of these wetlands is indicated in Figure S12 of the SDEIS and in Figure 5 of the Wetland Delineation Report (Appendix B). Information pertaining to individual on-site wetlands is summarized in Table S3, below.

Table S3. Delineated Wetlands and Streams

Wetland/ Stream ID	Community Type[1]	Federal Jurisdiction (Yes/No/ Undetermined)[2]	State Jurisdiction (Yes/No) [3]	Potential Impact (Yes/No)[4]
I15A	Stream	Yes	No	Yes
I15B	Stream (dry) drainage	Yes	No	Yes
I19A	WM drainage	Yes	No	No
I19B	Pond with EM edge	Yes	No	No
I29A	Pond with SS/ WM edge	No	No	No
I29B	FO	No	No	No
ERA	WM/Stream	Yes	No	No
LHA	Pond with EM edge	Yes	No	Yes
VAA	Stream	Yes	No	Yes
VAB	Ditch/ Intermittent Stream	Undetermined	No	Yes
WRA	SS/WM	Yes	Yes	Yes
R17A	EM	No	No	No
R19A	WM	Yes	No	Yes
R33A	FO/WM	Yes	No	No
R5A	EM/WM	Yes	No	No
TLA	WM	Yes	No	Yes
TLB	Intermittent Stream	Yes	No	No
TLC/TLD	FO/SS/WM/Stream	Yes	Yes	Yes
TLE	SS/WM/EM	Yes	Yes	Yes

Wetland/ Stream ID	Community Type[1]	Federal Jurisdiction (Yes/No/ Undetermined)[2]	State Jurisdiction (Yes/No) [3]	Potential Impact (Yes/No)[4]
TLF	SS/EM/WM	Yes	Yes	Yes
TLG	SS/WM/FO	Yes	Yes	No
TLH	FO/SS/Stream	Yes	Yes	Yes
TLI	SS/WM/EM	Yes	Yes	No
TLJ	EM/WM/SS	Yes	No	No
TLQ	FO/EM/SS/Stream	Yes	Yes	Yes
TLR	Stream	Yes	No	Yes
TLS	WM/Dry drainage	Undetermined	No	No
TLT	Pond, WM edge	Yes	No	No
TLU	Stream/WM/EM/SS	Yes	No	Yes
TLV	Stream/Seep/Ditch	Yes	No	No
TLW	SS/Stream	Yes	No	Yes
TLX	Stream/Ditch	Undetermined	No	No

[1]Wetland community types are represented by the following abbreviations: "EM" = Emergent, "FO" = Forested, "SS" = Scrub-shrub, "WM" = Wet meadow.
[2] Based on existing mapping and visual observation of hydrologic connectivity in the field. Final jurisdictional determination to be made by USACE.
[3]Based on existing NYSDEC mapping of freshwater wetlands and/or protected streams.
[4]Based on preliminary assessment of impact avoidability.

The on-site delineation effort revealed that wetlands within and adjacent to the turbine arrays (on Pine Hill, Lent Hill, and Brown Hill) are very limited, and generally consist of isolated depressions and swales, farm ponds/emergent wetlands, intermittent headwater streams, and small forested wetlands. The functions and values of many of these wetlands are limited due to 1) their small size, 2) location within or adjacent to agricultural fields, 3) lack of structural diversity, and 4) past or on-going physical disturbance (e.g., agriculture). Delineated wetlands/waters in valley settings along the proposed transmission line route include headwater and mid-reach streams, roadside drainages, and large wetland complexes associated with the Cohocton River and an unnamed tributary that runs along Fairbrother Road. The primary functions provided by these streams and wetlands, collectively, appear to include maintaining surface water flows, groundwater recharge/discharge, storm water detention, flood abatement, water quality improvement, fish and wildlife habitat, and nutrient cycling. The large wetland complexes delineated along the transmission line route are portions of even larger systems (such as NYSDEC Wetland AV-1), which have sizable watersheds and provide significant flood storage, fish and wildlife habitat, water quality, and groundwater benefits. Detailed descriptions of the delineated wetlands on Site are included in the Wetland Delineation Report in Appendix B.

As indicated in Table S3, EDR's analysis suggests that three of the 32 wetlands and streams delineated on-site (Wetlands I29A, I29B, and R17A) will not be considered jurisdictional by the USACE due to their lack of adjacency to jurisdictional (non-navigable) waters and/or the lack of a "significant nexus" between these wetlands and adjacent wetlands/waters. The jurisdictional status of an additional three wetlands is uncertain due to their occurrence within man-made ditches (Wetlands VAB and TLX) or their unclear connection with downstream waters (Wetland TLS). Eighteen of the remaining wetlands and streams are assumed to be under federal jurisdiction, with an additional eight wetlands having joint federal and state jurisdiction. The state jurisdiction is pursuant to Article 24 or Article 15 (see Table S3). However, final determination of jurisdictional status must be made by the USACE and NYSDEC.

3.2.1.3 Groundwater

Haley & Aldrich of New York revised their study of groundwater resources within the Project area based on the revised Project layout and currently proposed turbine model (see report in Appendix C). Because the proposed location of Project components changed only slightly, existing groundwater resources are as described in the DEIS.

3.2.2 Potential Impacts

3.2.2.1 Construction

3.2.2.1.1 Surface Waters and Wetlands

Due to the general lack of wetlands and surface water resources within and adjacent to the turbine arrays on Pine, Lent and Brown Hills, construction-related impacts are anticipated to be very minor. Measures that have been taken during the siting of Project components to avoid or minimize impacts on streams and wetlands, are as described in the DEIS.

Wetlands that could be impacted during construction were delineated by EDR and are shown in Figure 5 of the Wetland Delineation Report (Appendix B). As indicated in Table S3, based upon the surveyed location of these wetlands relative to the currently proposed location of Project components, half of the delineated wetland (16) appear to be completely avoidable, and will not be impacted by Project construction. The wetlands that are avoidable included the large complex along Fairbrother Road, which was assumed to be impacted in the DEIS. Therefore, the area of impacted wetlands has been reduced dramatically by avoidance

activities and revisions to the Project layout. Most unavoidable impacts are associated with the overhead transmission line in the Cohocton River valley.

The currently proposed overhead transmission line route ROW includes approximately 5.9 acres of Wetland AV-1 in the Cohocton River valley and approximately 6.3 acres of state regulated adjacent area (100 foot buffer). Temporary impacts associated with this crossing include selective tree clearing in a 70 foot-wide ROW, installation of towers (temporarily impacting an area up to 50 x 100 feet at each tower location), and installation of a temporary 20 foot wide access road to tower locations that are otherwise inaccessible. The Cohocton River will be spanned, in three locations, but will not be disturbed during construction.

The currently proposed overhead transmission line route in this area continues to utilize the existing railroad ROW through Wetland AV-1 to minimize wetland impacts. The currently proposed alignment along the railroad will involve placing poles within the railroad embankment (not the adjacent wetland). Consequently, no more than half (35 feet) of the 70 foot-wide ROW will extend into the wetland. Therefore, construction impacts will be limited to selective tree clearing within the 35-foot wide portion of the ROW that extends into the wetland. Placement of treated wood poles (by augering) within the embankment of the elevated railroad grade will minimize temporary disturbance of wetland vegetation and soils, and will avoid the need to place fill in the wetlands along the railroad. It is anticipated that all tree clearing will be conducted by hand and that material delivery will be performed from the railroad grade. A reduced area of wetland impact is anticipated around the base of each tower installed in this area (maximum of 50 x 35 feet as opposed to 50 x 100 feet). Approximately 67% of the linear distance of transmission line route through Wetland AV-1 utilizes the existing railroad ROW, thereby significantly reducing wetland impacts.

Other unavoidable impacts to wetlands/surface waters will occur along one turbine access road, in a few locations along the buried interconnect line, and along Van Aucker Road where anticipated road improvements could impact adjacent streams. These impacts will involve excavation or placement of fill during construction, and with the exception of the turbine access road, will be temporary in nature.

During construction, direct impact to wetlands/streams is anticipated to total no more than 3.83 acres. This impact will be limited to minor and temporary vegetation and soil disturbance associated with clearing of vegetation, installation of buried cable, placement of gravel fill or installation of transmission poles. Indirect impacts such as

sedimentation/siltation and incidental spills are also possible. Placement of gravel fill in wetlands and streams along public roads will be minor (approximately 1,700 s.f.) and temporary, as all fill will be removed and preconstruction contours reestablished following construction. Buried cable installation will involve excavation and backfilling that could impact up to 1,875 s.f. (0.04 acre) of wetlands and streams. This impact will also be temporary, as preconstruction conditions will be restored following installation. Temporary tower-related wetland disturbance along the transmission line is estimated to total less than 1.4 acres over the entire line. Permanent wetland impacts will be limited to minor filling of wetland R19 A (a small wet meadow off of Kirkwood-Lent Hill Road) during the construction of the proposed access road to Turbine 14 (maximum of 1,400 s.f. of impact), and placement of transmission poles in Wetland AV-1. The eight poles that fall within the delineated wetland boundaries will total less than 32 s.f. of permanent wetland loss. In addition, an estimated 2.3 acres of forested wetland within the transmission line ROW will be converted to a scrub-shrub community for the operational life of the line. These impacts to wetlands (and in the case of AV-1, its regulated adjacent area) will require an Article 24 permit from the NYSDEC and a Section 404 permit from the U.S. Army Corps of Engineers (USACOE). The transmission line crossing of the Cohocton River and one unnamed tributary may also require an Article 15 permit from the NYSDEC. The construction of turbines and buried interconnect are not anticipated to result in any permanent impacts to wetlands and streams.

3.2.2.1.2 Groundwater

Haley & Aldrich reexamined their assessment of the potential impacts the Project could have on groundwater resources based on the currently proposed Project design. Because the type and size of tower foundations and transmission line structures have not changed, the conclusion presented in the DEIS that expected impacts on groundwater resources are inconsequential, remains accurate.

3.2.2.2 Operation

3.2.2.2.1 Surface Waters and Wetlands

As stated in the DEIS, other than ROW maintenance activities on the transmission line (i.e., selective removal of tall-growing trees) operation and maintenance of the constructed facility is not anticipated to have significant adverse impacts to wetlands, streams, or ponds within the Project Site.

As with the original Project, the revised Project will not result in wide-scale conversion of land to built/impervious surfaces. Tower bases, crane pads, access roads, the O&M facility and the substations in total will add approximately 32 acres of impervious surface to the 5,700-acre Project Site (i.e., conversion of less than 1%).

3.2.2.2.2 Groundwater

Potential operational impacts to groundwater are as described in the DEIS. There are no significant changes to the conclusions presented in the DEIS in regards to groundwater issues.

3.2.3 Proposed Mitigation

The Wetland Delineation Report prepared for the Project has been submitted to the USACE and NYSDEC along with a request for a jurisdictional determination. Upon completion of Project engineering, a Joint Application for Permit will be submitted to the NYSDEC and the USACE. Because permanent wetland and stream impacts (beyond placement of transmission line poles) are not anticipated, no compensatory wetland mitigation is currently anticipated. However, if wetland mitigation is required by the agencies, a mitigation plan will be developed in consultation with the NYSDEC and USACE during the wetland permitting process.

No mitigation for indirect or temporary impacts to wetlands or streams is proposed, given the fact that these impacts will not result in any loss of wetland acreage. However, temporary impacts to wetlands/streams will be minimized during construction, as described in the DEIS.

Measures proposed to minimize construction-related impacts to water resources are as described in the DEIS. However, additional detail regarding the previously-proposed pre-construction and post-construction surveys of residential wells within 1,000 feet of a proposed turbine site are provided. These surveys will involve contacting the well owners to obtain any information on the well that they may have, such as well diameter, depth, casing depth, and data on typical water levels, well yield and potential seasonal variations, and water quality (hardness, etc.). In the absence of such information, and if feasible and practicable, water level readings may be obtained in the wells. This will require gaining physical access to the wellhead and inserting an electronic measuring device into the well. In addition, pre-construction water samples could be obtained for baseline water quality testing that could be compared to post-construction sample data to assess potential impacts.

Should construction related impacts to wells be documented, CPP will undertake appropriate measures to restore pre-construction water quality and volume, including the drilling of new on-site wells if necessary.

3.3 BIOLOGICAL RESOURCES

3.3.1 Existing Conditions

3.3.1.1 Vegetation

Plant species found within the Project Site are as described in the DEIS. An updated plant species list is included in Appendix D, which includes any new species identified during supplemental field work performed since completion of the DEIS. A total of 117 plant species have been documented within the Project Site to date (as compared to 61 species referenced in the DEIS). All of the plant species identified during the course of field surveys are common to the region and the state.

3.3.1.1.1 Ecological Communities

Vegetative communities within the Project Site are as mapped and described in the DEIS. Due to a slight change in Project Site boundaries (resulting primarily from realignment of the transmission line route), the acreage of these communities has changed slightly. Agricultural land now comprises approximately 3,565 acres (62.5%) of the site, successional old field constitutes 35 acres (0.6%), successional shrubland occurs on 132 acres, (2.3%), forest land totals 1,890 acres (33.2%), and open water accounts for approximately 3 acres (0.1%) of the Project Site.

3.3.1.1.2 Significant Natural Communities/Rare Plant Species

As stated in the DEIS, written requests for information regarding listed threatened and endangered plant species and unique or significant natural communities were sent to the United States Fish and Wildlife Service (USFWS) and the NYS Natural Heritage Program (NHP) on September 19, 2005. Results of the NHP enquiry are reported in the DEIS. To date, no response to the written request for information has been received from the USFWS.

Supplemental field surveys were conducted by EDR during the spring and summer of 2006 looking specifically for the presence of rare plant species and unique natural communities. This effort involved field evaluation of areas where such species and communities were most likely to occur, including wetlands and steep rocky slopes along the transmission line route.

These sites were visited in the spring, summer, and early fall of 2006, and observations were recorded with photos and field notes. These surveys confirmed that the Project Site is characterized by common ecological communities such as Appalachian oak-hickory forest, Hemlock-northern hardwood forest, successional shrubland, shrub swamp, and headwater stream communities (Reschke, 1990). No listed threatened or endangered plant species, or unique/significant natural communities were observed on the Project Site during these surveys.

3.3.1.2 Fish and Wildlife

Fish and wildlife resources within the Project Site were described in the DEIS. Since completion of that document, supplemental ecological field surveys have been conduced by EDR and a breeding bird survey and fall radar study have been conducted by Woodlot Alternatives, Inc. (Woodlot, 2006, Appendix E).

A total of 82 wildlife species (or sign of these species, such as identifiable tracks, features, scat, etc.) have been observed within the Project Site during EDR's on-site field surveys. All species of wildlife, either observed or considered likely to occur within the Project Site are listed in the revised wildlife species list included in Appendix D. More specific information regarding birds, mammals, herptofauna (reptiles and amphibians), listed threatened and endangered species, and wildlife habitat within the Project area is presented below.

3.3.1.2.1 Birds

In addition to the information provided in the DEIS regarding the type and number of bird species present within the Project area, an on-site breeding bird survey was conducted during 2006. In addition, a fall 2006 radar study was conducted on near-by Dutch Hill, in accordance with recommendations provided by the NYSDEC.

Breeding Birds

Woodlot conducted field surveys of breeding birds at the Project Site during June 2006. The overall goal of this investigation was to document the relative abundance and species richness of breeding birds in the Project area. The survey included two 2-day point count surveys to determine the number of individuals of each species located at a series of survey points. All birds seen or heard at each of the 20 survey points (during 3-minute observation periods conducted between 5:30 and 9:30 a.m.) were documented. During the two survey periods, a total of 35 species were observed at the 20 points. Species richness at individual

survey points ranged from two to 14 species. Species richness was greater in field habitats (31 species) than in field-woodland edge habitats (24 species).

The most abundant species, after averaging across all survey points and habitat types, were savannah sparrow (2.55 individuals/survey point), bobolink (1.85), red-winged blackbird (1.1), European starling (0.85), horned lark (0.60), and American robin (0.53). Different groups of species were observed to be local to specified habitat types. Within field habitats, the most abundant species were savannah sparrow (2.74 individuals/survey point), bobolink (1.97), red-winged blackbird (1.09), European starling (0.97), horned lark (0.68), and American robin (0.41). Within field-woodland edge, the most abundant species were savannah sparrow (1.5 individuals/survey point), red-winged blackbird (1.17), American robin (1.17), chestnut-sided warbler (0.83), cedar waxwing (0.50), red-eyed vireo (0.33), yellow warbler (0.33), blue-headed vireo (0.33), and American crow (0.33).

Additional data is included in the Spring 2006 Breeding Bird Survey report included in Appendix E.

Migrating Raptors

Migrating raptors are as described in the DEIS. No supplemental studies have been conducted, because three seasons of raptor migration surveys have already been completed in the Project area. This is in excess of what is typically requested by the NYSDEC as part of pre-construction assessment studies at proposed wind energy developments.

The raptor surveys targeted days with generally suitable raptor migration conditions. The eight survey days during the fall 2004 survey occurred from late September to late October, the 10 survey days during the spring 2005 survey occurred from mid-March to early May, and the seven survey days during the fall 2005 survey occurred from early September to mid-October. This distribution of effort brackets the bulk of the raptor migration periods through this region of New York. The data from these surveys were not intended to be a census of all individuals that pass through the Project area, but rather are an index of abundance and documentation of flight characteristics through the area. Comparison of the rate at which raptors were observed in the Project area with rates of occurrence at other sites with available hawk watch data indicates that this part of New York receives relatively low use by migrating raptors relative to other parts of the State.

The raptor surveys conducted on the Cohocton Wind Power Project site, along with surveys conducted at the two Prattsburgh sites adequately describe the raptor species and migration characteristics of the area. There are no raptor concentration sites (i.e., hawk watches) documented in the area, and observed species and migratory behavior are typical of what would be expected throughout the broader region.

Migrating Songbirds

Migrating songbirds are as described in the DEIS. However, as requested by the NYSDEC, a radar study was conducted on Dutch Hill, approximately 1.6 miles west of the Project Site, during the fall of 2006 to provide additional data on night-migrating songbirds. Preliminary results of this study are summarized in a memo from Woodlot Alternatives included in Appendix E. As this memo indicates, analysis of the recorded radar data is not final, however, nightly passage rates ranged from 88 targets per kilometer per hour (t/km/hr) to 1,158 t/km/hr, with a seasonal mean of 535 t/km/hr. The mean seasonal flight direction was to the southwest, which is typical of fall migration in the Northeast. The mean seasonal flight height of night-migrants was 358 meters (m) above the radar site, and ranged from 263 m to 494 m. The nightly percent of targets flying below the approximate maximum turbine height (125 m) ranged from less than 1% to nearly 27%, with an overall seasonal mean of 11%.

The flight characteristics documented at Dutch Hill are generally very similar to surveys conducted in 2004 and 2005 at the Cohocton Wind Power Project site, the WindFarm Prattsburgh site, and the Italy-Prattsburgh Wind Power Project site. The 2006 passage rate was higher than observed during the previous years of survey at the nearby sites. This is likely due to annual variation in the number and regional location of migrating bird fronts. Although while the data sets are not yet available, Woodlot has observed an overall greater number of nighttime migrants at all sites surveyed with radar during the fall 2006 (12 radar studies total) than during the previous two fall migration periods.

Flight height is the most important nocturnal flight characteristic at this site for two reasons. First, vertical data provides the nightly and seasonal mean flight altitude of targets passing over the site, along with the percentage of targets flying within the rotor swept zone of the proposed turbines. This essentially equates to the potential exposure of night migrants to the structures with which they may collide. Second, the NYSDEC has expressed concerns that night migrants may fly low in the valley northwest of the Project Site, which could result in overall low flight altitude (and therefore increased collision risk) through the Project area.

The nightly and seasonal mean flight heights at Dutch Hill were very similar to those observed at Cohocton and Prattsburgh in 2004 and 2005. This indicates that, while the overall magnitude of migration may vary across years and even across sites, flight mechanics are not as variable. This is further supported by the similarity in flight heights documented at a large number of sites in varying landscape settings in New York and throughout the Eastern United States.

The radar studies conducted at the Dutch Hill and Cohocton sites, in addition to those conducted at the two Prattsburgh sites, provide an abundance of radar data over a relatively small area that encompasses four proposed wind power developments. This is more than has been conducted at other proposed wind power sites in New York State, (some of which cover more area than these projects, combined, and rely on a single spring/fall radar study). The consistency in results between all of the nearby radar surveys provides convincing evidence that nighttime bird migration in the area is broad-front in nature. The radar surveys provide no evidence of concentrated bird movements over the higher plateau areas proposed for wind power development, despite some limited evidence indicating that channeling of night migrants in valleys may occur under certain circumstances.

A final report documenting the results of the fall 2006 radar study will be included in the Project FEIS.

Wintering Birds

Use of the Project Site by wildlife during the winter months is limited due to severe winter weather and lack of cover in the agricultural fields that accommodate the majority of the Project components. Those bird species that can be expected to consistently occur within the Project area (i.e. occur during most winters), such as snow buntings, are generally common and abundant both on a regional (in winter) and continental (year-round) scale. Irruptive species, such as short-eared or snowy owls, generally have smaller populations but their presence in the area is inconsistent and often brief. This limits the overall exposure of such species to any risk presented by the wind turbines. Additionally, the typical activity periods for most of the these species is during the day, which allows visibility of the turbines, and thus further reduces overall collision risks.

Waterbirds

Waterfowl and wading birds are as described in the DEIS. None were observed on-site during the 2006 breeding bird survey, and no additional site specific surveys of waterbirds

were conducted. EDR field surveys conducted during the summer and early fall of 2006 resulted in the observation of five species of waterbirds on the Project Site. These species included Canada goose, wood duck, mallard, great blue heron, and green heron. No other waterbirds were noted, and all of the observed species are considered common and widely distributed throughout New York State. With respect to wintering waterfowl, large populations of wintering ducks and geese do occur in the Finger Lakes region of New York. However, but these concentration areas are well removed from the Project Site.

3.3.1.2.2 Mammals

The occurrence of mammalian species of the Project Site is as described in the DEIS. Supplemental ecological surveys conducted by EDR during 2006 increased the number of observed species on-site from eight (as reported in the DEIS) to 14. The additional species included striped skunk, mink, beaver, deer mouse, muskrat, and meadow vole, and have been added to the wildlife species list included in Appendix D. All of the observed species are common and widely distributed throughout New York State.

As described in the DEIS, information on occurrence of bats was based on acoustic and mist net surveys conducted for the two Prattsburgh projects, located within 5 miles of the Cohocton Site. Extensive on-site bat surveys, involving mist netting, were not requested by the NYSDEC during the development of study plans for the Cohocton Project. Mist-netting surveys were not considered because the presence of the Indiana bat (a myotid species that cannot be differentiated from other myotids using acoustic detectors, thereby necessitating mist-netting) is not anticipated to occur in the area, (based on consultation with NYSDEC and the known range of this species in the State). The acoustic data collected in the Project area should not be construed as documentation of all bat species that occur in the area. Some species not documented during the acoustic surveys likely do occur in the Project area and were simply not documented. An important result of the acoustic surveys was the indication that bat activity in the open fields, where most turbines are being proposed, appears to be very low.

To supplement information on bat activity within the Project Site, and in response to requests from the NYSDEC, Woodlot conducted acoustic bat surveys on Dutch Hill using Anabat II detectors during the summer and fall of 2006. As indicated in the interim memo included in Appendix E, a total of 103 bat call sequences were recorded during the survey period. Detection rates varied from 0.79 to 0.92 call sequences per detector-night, with an overall

detection rate of 0.86 call sequences per detector-night. Call files were classified to four distinct species guilds: Big Brown Bat Guild (including big brown bat, hoary bat, and silver-haired bat); Red Bat-Pipistrelle Guild; Myotid; and Unknown. The guild/species composition of call sequences recorded by each detector were similar, with 50 to 60% of sequences identified as unknown and approximately 40% classified as within the Big Brown Bat Guild.

Overall, the detection rates and species composition documented at Dutch Hill during the 2006 survey were similar to those documented at Cohocton and Prattsburgh in 2004 and 2005, and reported in the DEIS. Those surveys, documented detection rates ranging from 0.28 to 2.2 recorded call sequences per detector-night. Results from Dutch Hill in 2006 were within the range of those survey results. This is not surprising considering the similarity in location, predominant habitats, and land uses between the Dutch Hill site and the other sites.

A final report documenting the results of the 2006 Anabat study will be included in the Project FEIS.

3.3.1.2.3 Reptiles and Amphibians

Additional information on reptile and amphibian presence within the Project Site was determined through supplemental field surveys conducted by EDR during the spring and summer of 2006. EDR documented the presence 11 herptofauna species during the 2006 field surveys on the Project Site (including three previously reported in the DEIS). These species included slimy salamander, red-backed salamander, northern two-lined salamander, Jefferson salamander, spring peeper, painted turtle, snapping turtle, bullfrog, green frog, American toad, and eastern garter snake. With the exception of Jefferson salamander, which is a state-listed species of special concern, all of these species are common and widely distributed throughout New York State.

3.3.1.2.4 Fish

To supplement data on fish species included in the DEIS, fish survey data for the Cohocton River were obtained from the Region 8 office of the NYSDEC. These data, from electro-shocking surveys conducted in July 2000 and July 2001, documented the presence of 35 different fish species in the Cohocton River in the Towns of Avoca, Cohocton, Naples, and Wayland. The most common species include sculpins, brown trout, cutlip minor, eastern blacknose, long nose dace, white sucker, and Johnny darter. All of the fish species documented in these surveys have been added to the species list included in Appendix D.

3.3.1.2.5 Wildlife Habitat

Wildlife habitat within the Project Site is as described in the DEIS.

3.3.1.2.6 Threatened and Endangered Species

Listed threatened and endangered species are as described in the DEIS. No additional listed species were observed during field surveys conducted during the spring, summer, and fall of 2006.

3.3.2 Potential Impacts

3.3.2.1 Construction

3.3.2.1.1 Vegetation

The anticipated types of Project-related impact to vegetation are as described in the DEIS. However, based on the revised Project layout, additional information on potential impacts (along the transmission line and public roads), and the revised area of impact assumptions described in Section 2.5 (Project Construction), the currently proposed Project will result in disturbance to approximately 220 acres of agricultural land, 6 acres of successional old field, 10 acres of successional shrubland, and 55 acres of deciduous forest. This compares to disturbance estimates of 285 acres of agricultural land, 10 acres of successional old field, 16 acres of successional shrubland, and 67 acres of forest for the original Project, as described in the DEIS. As stated previously, impacts to agricultural land are likely to be significantly smaller than these disturbance calculations would indicate, due to the proposed use of existing farm lanes for most turbine access roads. As indicated in Table S4, the majority of the calculated impacts will be temporary, and native vegetation will be allowed to regenerate following restoration of areas disturbed during construction. Construction-related impacts to wetlands were previously discussed in Section 3.2.

Table S4. Impacts to Vegetative Communities

Community[1]	Total Disturbance	Temporary Disturbance	Permanent Loss
Agricultural Land	220	195	25
Successional Old Field	6	4	2
Successional Shrubland	10	10	0
Forest	55	50	5
Disturbed/Developed	11	11	0
TOTAL	**302**	**270**	**32**

[1]Excludes wetland and open water communities

3.3.2.1.2 Fish and Wildlife

Construction-related impacts to wildlife will be as described in the DEIS.

3.3.2.1.3 Threatened and Endangered Species

No rare plant species or unique natural communities are known to occur within the Project Site. Therefore, impacts to listed threatened and endangered plant species are not anticipated. Potential impacts to listed wildlife species are as described in the DEIS.

3.3.2.2 Operation

3.3.2.2.1 Vegetation

As indicated in Table S4, Project construction will result in permanent conversion of 32 acres of vegetated land to unvegetated/built facilities (access roads, turbines, crane pads, substation, O&M building, etc.) within the Project Site. This total will include approximately 25 acres of agricultural land, 2 acres of successional old-field, and 5 acres of forest. Permanent impacts to wetlands were previously discussed in Section 3.2.2. In addition, the current alignment of the 115 kV transmission line will result in the conversion of 19 acres of forestland to successional communities within the ROW for the duration of Project operation. Total conversion of forest to successional shrubland or old field (including forested turbine sites as well as the transmission line ROW) will be approximately 36.5 acres. This compares to 42 acres for the original Project, as described in the DEIS. Other than minor disturbance associated with routine maintenance and occasional repair activities, disturbance to plants and vegetative communities are not anticipated as a result of Project operation.

3.3.2.2.2 Wildlife

Operational impacts to wildlife are as described in the DEIS.

Habitat Loss

Based on the current Project layout, a total of 32 acres of wildlife habitat will be permanently lost from the Project Site (i.e., converted to built facilities). As mentioned in the previous section, the majority of this loss (approximately 25 acres) will occur in active agricultural fields, which have limited wildlife habitat value. In addition, approximately 36.5 acres of forest will be maintained as a successional community (old field, shrubland, or saplings) for the life of the Project.

Forest Fragmentation

Although the number of proposed turbine sites in forest land has been reduced from eight to five in the currently-proposed layout, the proposed Project will result in permanent loss or conversion of 41.5 acres of forest habitat. As stated in the DEIS the forested habitat being impacted by the Project generally occurs as relatively small blocks or woodlots. In most places the proposed turbines and access roads are not far from a forest edge.

Most forest impacts occur along the proposed 115 kV transmission line. However, in accordance with landowner wishes, the revised transmission line route described in the SDEIS utilizes existing forest roads and previously disturbed (logged) areas to minimize the need for new forest clearing. In addition, in areas along the line where impacts to forest land could not be avoided (due to landowner preferences, wetlands or other environmental or logistical constraints), the affected woodlots are typically young and/or relatively small. The currently proposed route also completely avoids some larger areas of forest that would have been impacted by the original route described in the DEIS (although it still impacts others). Because the transmission line route is largely dictated by landowner preference, means of further reducing forest impacts are limited. Thus potential forest fragmentation impacts have been reduced to the maximum extent practicable.

Disturbance/Displacement

Anticipated disturbance/displacement impacts on wildlife are described in the DEIS.

Collision

Collision impacts to wildlife are as discussed in the DEIS. It should also be noted that since the preparation of the Cohocton DEIS, several additional radar studies from New York sites (beyond the WindFarm Prattsburgh studies cited in the DEIS) have been made available to the public. These include studies conducted by Woodlot Alternatives for the Marble River, Top Notch, and Jordanville Wind Power Projects (Woodlot, 2005a and b, 2005c and d,

2005e and f), studies conducted by WEST at the Dairy Hills Wind Power Project (WEST, 2005), and studies conducted by ABR at the Noble Altona, Clinton and Ellenburg Project (Mabee, et. al. 2006). The results of these studies, conducted in various areas across New York State, show a high degree of consistency and support the conclusion that the majority of night-migrating songbirds fly at high altitude, and are not significantly or consistently influenced by local physiographic features (ridges, valley, lakes, etc.).

As stated previously, preliminary data on avian migration from the fall radar study on near-by Dutch Hill appear similar to data from other sites in the Northeast in terms of flight altitudes and flight directions. Perhaps most important, in terms of the potential for collision impacts, is the flight altitude of migratory birds. Data from radar studies at proposed and existing wind power project sites across the Eastern United States consistently show mean flight altitudes well above the height of the proposed wind turbines. Radar data from Northeastern sites typically show mean songbird flight altitudes in the range of 1,200 to 2,000 feet, with between 1% and 13% flying below the 125-meter (410 foot) altitude. Data collected at the Dutch Hill site are consistent with these observations, indicated that overall exposure of night migrants to wind turbines will be low. More importantly, analysis of the vertical data set, which included views into the valley and below the radar elevation, indicate that flights over the valley northwest of the Project Site do not appear to translate to low level flights over the Project Site. Based on the information included in Woodlot's interim memo (Appendix E) the overall conclusions provided in the risk assessment included in the DEIS will not change.

As stated in the DEIS, because there currently is no predictive model available to quantify expected avian collision mortality as a result of wind power project operation, risk assessments must be based on pre-construction indices and indicators of risk (e.g., breeding bird survey and radar data) at the proposed Project site, along with empirical data from operating projects (e.g., avian mortality surveys). Because pre-construction surveys at the Cohocton site revealed no indicators of elevated risk (e.g., abundance of rare species, unusually high numbers, unusually low flight altitude, habitat that would act as an ecological magnet), it appears that avian collision mortality rates at the site should be similar to the relatively low rates seen at other Eastern sites (i.e., 0 to 6 fatalities per turbine per year), as predicted in the DEIS. Even if as many as 6 birds per turbine per year are killed (i.e., the high end of what has been observed at other projects), total annual collision mortality for a 36 turbine project would be approximately 266 birds, which is not considered a biologically significant impact.

It should be reiterated that, adequate pre-construction avian and bat data have been collected for this Project. Because there is no agency accepted standard or protocol for utilizing pre-construction data to predict post-construction risk, the only valid approach is to look for any anomalies in the data, and if none exist, use post-construction monitoring data from constructed projects to predict the range of possible impacts. The number of potential fatalities predicted in the risk assessment included in the DEIS simply uses the best available data and in no way represents the exact number of fatalities that will occur. The use of multiple years of pre-construction data would not provide a more quantitative or definitive estimate of mortality because a method to use that pre-construction data to precisely predict post-construction mortality does not exist. The relative consistency in radar survey data from across New York State over the last several years provides evidence that migration activity is not all that variable. In addition, the one site that has been studied with both post-construction radar and mortality monitoring efforts (the Stateline Project in Washington and Oregon) documented very low mortality rates relative to the number of migrants passing over and through the Project area.

Estimates of the number of bats that may collide with wind turbines at the Cohocton Wind Power Project are as reported in the DEIS. The fatality rates of bats documented at some mid-Appalachian wind power facilities do provide cause of concern regarding the potential impact of wind power developments on bat populations. However, considerable variability in documented fatality rates for bats has been observed across the country and across the landscapes on which wind energy developments have been constructed. As described in the DEIS, the Cohocton Project area does not contain landscape features or habitats similar to those that occur in areas where documented bat fatalities could result in local population-level effects. However, it is also not identical to those facilities where documented bat fatality rates are extremely low.

3.3.2.2.3 Threatened and Endangered Species

Potential operational impacts to listed threatened and endangered species are as described in the DEIS.

3.3.3 Proposed Mitigation

Proposed mitigation for potential impacts to ecological resources are as described in the DEIS. Should post-construction monitoring indicate significant bat mortality, CPP will work

with the NYSDEC and USFWS to evaluate the feasibility of deterrents or other viable mitigation measures.

3.4 CLIMATE AND AIR QUALITY

3.4.1 Existing Conditions

3.4.1.1 Climatic Conditions

Climatic conditions in the Project area are as described in the DEIS.

3.4.1.2 Air Quality

Air quality in the Project area is as described in the DEIS.

3.4.2 Potential Impacts

3.4.2.1 Construction

Potential construction-related impacts on air quality are as described in the DEIS.

3.4.2.2 Operation

As stated in the DEIS, the operation of this Project is anticipated to have a positive impact on air quality, and according to the U.S. Energy Information Administration, the Project is anticipated to produce approximately 236,500 Megawatt hours (MWh) of electricity with zero emissions (http://www.eia.doe.gov/emeu/reps/enduse/er01_ny_tab1.html). Power delivered to the grid from this Project will directly off-set the generation of energy at existing convention power plants. In response to statements by wind power opponents that such projects will not address global warning and our dependence of fossil fuels, Charles Komanoff, in a recent article in the on-line publication Orion (Komanoff, 2006) offers the following response:

> "This notion is mistaken. It is true that since wind is variable, individual wind turbines can't be counted on to produce on demand, so the power grid can't necessarily retire fossil fuel generators at the same rate as it takes on windmills. The coal- and oil-fired generators will still need to be there, waiting for a windless day. But when the wind blows, those generators can spin down. That's how the grid works: it allocates electrons. Supply more electrons from one source, and other sources can supply fewer. And since system operators program the grid to draw from the lowest-cost generators first, and wind power's "fuel", moving air, is free, wind-generated

electrons are given priority. It follows that more electrons from wind power mean proportionately fewer from fossil fuel burning."

The region is subject to emissions transported from fossil-fuel burning sources. Resource Systems Group, Inc. (RSG) conducted a study for the Flat Rock Wind Power Project (now known as Maple Ridge Wind Power Project) in Lewis County, NY, to assess the effects of that project in reducing air emissions (RSG, 2003). The analysis projected potential reductions in contaminants resulting from that project's power generation. Since both projects are located in the central portion of New York State (approximately 140 miles apart), the emission factors determined by RSG based on the regional average fuel mix are considered representative for the proposed Project. Therefore, this 236,500 MWh wind farm is estimated to displace approximately:

- 322,300 pounds of NO_x
- 417,400 pounds of SO_2
- 301,326,400 pounds of CO_2
- 9,600 pounds PM - 10
- 8,200 pounds of VOCs
- 0.5 pounds of mercury

3.4.3 Proposed Mitigation

As stated in the DEIS, a dust control plan will be developed and implemented to minimize the amount of dust generated by construction activities. Dust management activities will include the application of water to Town roads, turbine access roads, and other disturbed areas via a water truck. The frequency of the application of water will be the responsibility of CPP's construction manager, and will be dependent on the amount of disturbed soils, the absence of rainfall, and the like. Dust control activity could also be triggered by a complaint from the Town or an affected landowner.

General benefits of the Project in terms of air quality and climate are as described in the DEIS. In the same Orion article cited previously, the following discussion regarding the Madison and Fenner Wind Power projects helps puts this benefit in context:

"The Madison County turbines have an average capacity factor, or annual output rate, of 34 percent, meaning that over the course of a year they generate about a

third of the electricity they would produce if they always ran at full capacity. But that still means an average three thousand hours a year of full output for each turbine. Multiply those hours by the twenty-seven turbines at Fenner and Madison, and a good 200,000 barrels of a oil or 50,000 tons of coal were being kept underground by the two wind farms each year".

The Project will have a long-term beneficial impact on climate and air quality. This benefit can be viewed as mitigation for other environmental impacts associated with the Project.

3.5 AESTHETIC/VISUAL RESOURCES

Since completion of the DEIS, a supplemental Visual Impact Assessment (SVIA) was prepared by EDR (see Appendix F). The SVIA expands the visual study area to 10 miles, and identifies additional sensitive resources within this area. It evaluates potential visibility of the currently proposed turbines and their visual impact relative to the originally proposed Project. The SVIA also addresses the visibility and visual impact of the proposed 115 kV transmission line and the substations, and includes supplemental simulations to address visual impact on historic resources and other concerns.

3.5.1 Existing Conditions

Based on established visual assessment methodology (NYSDEC, not dated) the original visual study area for the Project was defined as the area within a 5-mile radius of each of the proposed turbines. Existing visual and aesthetic resources within the visual study area were identified as part of the original VIA conducted by EDR (DEIS Appendix F). To address agency concerns regarding the adequacy of this study area, it was increased to a 10-mile radius for the identification of visually sensitive resources and viewshed analysis. This area includes 403 square miles in Steuben County, 42 square miles in Livingston County, and 70 square miles in Ontario County, and 47 square miles in Yates County (see Figure S15). Existing visual/aesthetic components of the expanded visual study area are described below.

3.5.1.1 Landscape Similarity Zones

Land use within the expanded visual study area is dominated by active agricultural land, but also includes, rural residential development, forest land, and several small villages and hamlets. Four distinct landscape similarity zones were defined in the original 5-mile radius study area. These included the Upland Agricultural Zone, Valley Agricultural Zone, Village/Hamlet Zone, and Forestland Zone. These same zones dominate the expanded 10-

mile radius visual study area. The general landscape character of these zones is as described in the DEIS.

With the inclusion of Canandaigua Lake in the expanded study area, a Water/Waterfront Zone was also identified. This landscape similarity zone includes areas of open water, and shorelines within the study area, primarily on Canandaigua Lake, but also including Loon Lake. These water bodies have shoreline residences and are used for water-based recreational activities including boating and fishing. The character-defining component of this landscape similarity zone is the presence of open water as a dominant foreground element in the view. The open water also provides opportunities for unobstructed views of midground and background features of the surrounding landscape. The recreational use these water bodies receive makes sensitivity to visual quality and visual changes in this zone generally high. However, views of the proposed Project will generally be limited from these areas due to their valley location, the screening provided by surrounding hills and trees, and/or their distance from the Project.

Because the original VIA concluded that Project visual impact will be largely concentrated in areas with foreground and midground views of the turbines, landscape similarity zones were not specifically defined or mapped beyond the original 5 mile study area. Within 5 miles of the proposed Project, the approximate location of landscape similarity zones has been mapped, and is presented in Figure 4 of the SVIA (Appendix F).

3.5.1.2 Viewer/User Groups

Viewer/user groups identified and described in the original VIA and DEIS included Local Residents, Through Travelers/Commuters, and Tourists/Recreational users. These same viewer groups occur within the expanded visual study area. Because the expanded visual study area includes the southern end of Canandaigua Lake, and additional parks and recreational sites, recreational users/tourists are perhaps a more significant group within the expanded visual study area.

3.5.1.3 Visually Sensitive Resources

Visually sensitive resources within and adjacent to the 5-mile radius visual study area are as described in the DEIS. Additional sites that the New York State Department of Environmental Conservation (NYSDEC) Visual Policy (DEP-00-2) considers scenic

resources of statewide significance (NYSDEC, 2000) occur within the expanded visual study area). These sites, located from 5 to 10 miles of the Project, are outlined below.

Sites listed on the State and National Register of Historic Places:
The expanded study area includes four additional sites and districts that are currently listed on the National Register of Historic Places (NYSOPRHP Website). These sites include the following:

1. South Bristol Grange 1107 – Town of South Bristol, Ontario County
2. Italy Valley Methodist Church – Town of Italy, Yates County
3. James Fox House – Town of Italy, Yates County
4. Smith-McLoud House – Town of Italy, Yates, County

The Phase 1B Archaeological/Architectural Reconnaissance Survey conducted for the Project (Appendix G) also indicated that 110 structures/sites within the original 5-mile radius visual study area may be eligible for listing on the State and National Register. The majority of these are located in and around the Villages of Cohocton, Naples, and Avoca, and the hamlets of Atlanta and North Cohocton.

State Parks:
The expanded visual study area also includes two state parks which are:

1. Stony Brook State Park, Dansville Vicinity, Steuben County
2. Harriet Hollister Spencer State Recreation Area – Canadice Township, Ontario County

State Wildlife Management Areas:
High Tor Fish and Wildlife Management Area - This wildlife management area (WMA) was described in the DEIS. Approximately half of the WMA is located within the original 5-mile study area, and the other half is located within the expanded visual study area.

State or Federal Designated Trails:
Additional portions of the Finger Lakes Trail are located within the expanded visual study area. These trails occur in Ontario and Yates Counties, in the northern portion of the study area, and in Steuben County in the southern and southwestern portions of the expanded

study area. The nearest trail is still the Bristol Hills Branch Trail, located approximately 4 miles from the nearest proposed turbine.

Other scenic resources of statewide significance do not occur within the expanded visual study area. There are no Adirondack Park lands, State Forest Preserve, Urban Cultural Parks, National Wildlife Refuges, National Natural Landmarks, National Park System lands, State Nature and Historic Preserve Areas, Palisades Park land, or Bond Act properties acquired under the scenic beauty/open space category. There are also no designated scenic roads/byways, designated scenic sites/overlooks, rivers protected under the State's Wild, Scenic or Recreational Rivers Act, or designated Scenic Areas of Statewide Significance. However, the area between 5 and 10 miles from the turbines does include several resources considered visually sensitive from a local perspective. These resources, include the following:

State Forests:
The expanded visual study area includes all or portions of four state forests which are listed below:

1. Burt Hill State Forest
2. Italy Hill State Forest
3. Pigtail Hollow State Forest
4. Urbana State Forest

Parks and Recreational Areas:
The expanded visual study area includes several additional parks and recreational areas, including the following:

1. Canandaigua Lake - Canandaigua, Ontario and Yates Counties
2. Demons Pond – Howard Vicinity
3. Hill & Valley Riders Snowmobile Trails
4. Holiday Hill Campground - 7818 Marvin Hill Road, Springwater
5. Hunt Hollow Ski Resort - 7532 Hunt Hollow Road, Naples
6. Loucks Pond - Bauter Road, Avoca
7. Reservoir Creek Golf Course - State Route 21S, Naples
8. Smith Pond - Smith Pond Road, Avoca
9. Widmers Wine Cellars - 1 Lake Niagara Lane, Naples

As mentioned in the DEIS, the most significant regional recreational resource is Canandaigua Lake, which lies approximately 7.2 miles north from the nearest proposed turbine.

Areas of Intensive Land Use:
Several communities within the expanded study area are considered visually sensitive due to the concentration of residential development in these areas and intensity of land use they receive. These include the following:

1. City of Hornell - Steuben County
2. Hamlet of Wallace - Steuben County
3. Village of Arkport - Steuben County
4. Village of Avoca - Steuben County
5. Village of Naples - Ontario County
6. Village of North Hornell - Steuben County
7. Village of Prattsburgh - Steuben County

Transportation Corridors:
The expanded visual study area includes longer portions of the highways described in the original VIA and DEIS (i.e., Interstate Routes 390 and 86, and State Routes 17, 21, 53, 371, and 415). As stated in the DEIS, these highways that could be considered visually sensitive due to the number of drivers that travel these roads on a daily basis. The only other state highway that has been added as a result of expanding the visual study area is State Route 15. This highway runs from the junction with State Route 415, through the Village of Wayland, to the Livingston County line, and averages 3,150 to 6,930 vehicles per day.

The locations of visually sensitive resources within the expanded visual study area are illustrated in Figure S15, and in a large-scale viewshed map included as Appendix B to the SVIA (Appendix F).

3.5.2 Potential Impacts

3.5.2.1 Construction

Visual impacts during construction will be as described in the DEIS. Forest clearing for the 115 kV transmission line ROW will be visible on the wooded slopes north of Route 415, and running parallel to Fairbrother Road.

3.5.2.2 Operation

Impacts to visual resources resulting from Project operation were evaluated primarily through the SVIA prepared by EDR (see Appendix F).

The VIA procedures utilized in this study were similar to those used in the original VIA and described in the DEIS. The only differences in methodology were 1) expansion of the viewshed analysis to address the 10 mile radius study area, 2) additional viewshed analysis (including preparation of a transmission line viewshed, turbine count viewshed, vegetation viewshed, and cumulative wind power project viewshed), 3) preparation of nighttime turbine simulations 4) the addition of animation to show the appearance of the turning rotor in one simulation, and 5) preparation of transmission line and substation simulations. Descriptions of the techniques used in the preparation of these components of the study are summarized in the discussion below and presented in detail in the SVIA included as Appendix F.

3.5.2.2.1 Viewshed Analysis

Revised topographic viewshed maps for the Project were prepared based on the revised turbine layout and the expanded visual study area boundary. Two 10-mile radius topographic viewsheds were mapped, one to illustrate “worst case” daytime visibility (based on a maximum blade tip height of 420 feet above existing grade) and the other to illustrate potential visibility of turbine lights (based on a nacelle height of 262 feet above existing grade).

A turbine count analysis was performed to better identify how many wind turbines are visible from a given point within the viewshed study area. This analysis was based on blade tip height and utilizes the same topographic viewshed analysis methodology described in the original VIA.

In addition, a vegetation viewshed map (also based on blade tip height) was prepared to better illustrate the potential screening effect of forest vegetation. The vegetation viewshed analysis involved adding a base vegetation layer, (with an assumed elevation of 40 feet) to the digital elevation model and re-running the analysis as described above.

To address concerns regarding the potential cumulative visual impact of multiple wind power projects, a cumulative viewshed analysis was prepared. To accomplish this, the 10-mile radius Cohocton topographic and vegetation analyses (based on maximum blade tip height) were overlaid on the same viewshed analyses prepared for the proposed Dutch Hill Wind Farm in the Town of Cohocton, and the WindFarm Prattsburgh project in the Towns of Prattsburgh and Italy. The viewsheds for the three projects were then plotted on a base map and areas of viewshed overlap identified.

A separate viewshed analysis of the proposed 115 kV transmission line was also prepared (based on topography only) using the proposed heights and locations of poles as provided by the Project electrical engineers (MSE Power Systems, Inc.). These structures range in height from 61 to 79 feet. Visibility within a one mile radius of the transmission line was evaluated using the same techniques described above.

Within a 5-mile radius, topographic viewshed analysis of the revised Project turbines/layout indicates that potential visibility is almost identical to that described in the DEIS. Most of the visually sensitive sites in the expanded study area fall within the viewshed, including the Villages of Cohocton and Naples, the Hamlets of Wallace, North Cohocton, Atlanta, and Ingleside, the scenic overlook on Route 390, and the Register-listed historic sites and heavily-traveled state highways. As in the original analysis, only those areas that are in deep valleys or on the backside of hills will be fully screened from view by topography alone. The turbine count viewshed analysis (also based on blade tip height) suggests that views to multiple turbines could be available in most areas. The largest number of turbines will be generally visible from higher elevation hilltops where heavily used roads and areas of concentrated settlement do not occur. Areas of potential nighttime visibility cover approximately 40% of the study area, and generally occur in the same areas where potential daytime visibility is indicated.

Topographic viewshed analysis revealed that the proposed Project has the potential to be visible in approximately 47% of the expanded visual study area (disregarding the screening effect of vegetation and structures). This analysis indicates that potential turbine visibility

decreases significantly within the 5-10 mile ring. Within this ring, the proposed turbines will be fully screened by topography alone in 67% of the area. These screened areas include large valley areas along Five Mile Creek and South of Hemlock and Honeoye Lakes, the backsides of hills and numerous small ravines. Sensitive receptors/sites in these areas, such as the Villages of Prattsburgh and Avoca, numerous small hamlets, State Route 53, and Interstate Routes 390 and 86, will not have views of the proposed Project. Visually sensitive sites that occur within the extended viewshed include the Village of Wayland, Canandaigua Lake, and much of the High Tor WMA.

Factoring vegetation into the viewshed analysis further reduces potential Project visibility. Within a 10 mile radius, vegetation, in combination with topography, will serve to screen the Project from approximately 88% of the area (i.e., potential visibility is indicated in 12% of the area). Visibility will essentially be restricted to open agricultural areas that are concentrated on ridgetops and the Cohocton River Valley within the central portion of the study area. More heavily forested sites in the northern portion of the area fall outside the vegetation viewshed, as do wooded slopes and the backsides of hills throughout the study area. Other than Canandaigua Lake, the vegetation viewshed demonstrates the very limited potential for Project visibility in the 5-10 mile study area ring (i.e., 94% of this area is indicated as being screened). However, limited Project visibility is indicated in the Naples Valley, west of the Village of Wayland, and along small sections of the major roads that traverse this area, including Route 390, Route 63, and Route 245.

Areas of actual visibility within the expanded study area are anticipated to be much more limited than indicated by the viewshed analyses. This is due to the slender profile of the turbines (especially the blades, which make up the top 150 feet of the turbine), their light color (white, in accordance with FAA requirements), and screening provided by structures, street trees, and hedgerows, which are not considered in the viewshed analyses.

Viewshed analysis of the proposed transmission line structures indicate potential visibility of some portion of these poles within approximately 79% of the one-mile corridor surrounding the line. The only areas indicated as being screened from view are the back sides of hills and within narrow valleys along the periphery of the one mile-wide corridor. Actual visibility of the line will be much more limited due to the screening effects of vegetation, which was not taken into consideration in the topographic viewshed analysis.

3.5.2.2.2 Cross Section Analysis

Four representative line-of-sight cross sections were cut through the study area to further evaluate potential visibility of the revised layout and currently proposed turbines. Three of the cross section locations were essentially the same as those used in the original VIA. The fourth was relocated to better illustrate potential visibility of the revised Project layout from the Village of Cohocton and Route 53. The cross sections were prepared as described in the original DEIS.

Cross section analysis revealed that, along selected lines of sight, vegetation and structures will decrease potential Project visibility, when compared to the results of the viewshed analysis. Consistent with conclusions presented in the original DEIS, the sections indicate a lack of visibility from Loon Lake, the Village of Cohocton, various valley roads, and most area streams, including the Cohocton River. Buildings will at least partially screen ground-level views from villages and hamlets such as Naples and Atlanta. In regard to other visually sensitive sites, the sections suggest that views of the turbines are likely to be available from the Naples Valley, Reservoir Creek Golf Course, Interstate Route 390, State Routes 415, 21, and 371, many of the hilltop roads, and the upper floors of some homes in the villages and hamlets.

3.5.2.2.3 Field Review

No additional ballooning was conducted for the revised Project. Results of the original ballooning exercise remain valid since the turbines are in roughly the same locations, and only 10 feet taller than the height to which the balloons were raised. Because they included a known location and scale reference (the balloons) the photographs obtained during the original ballooning exercise were suitable for use in the development of revised visual simulations.

Supplemental field review was conducted on September 27 and October 9, 2006 to obtain photographs and GPS coordinates from areas with potential views of the overhead transmission line and substation, as well as from additional sites of concern identified during the public comment period or by the Project cultural resource consultants. The purpose of this exercise was to evaluate potential Project visibility from these sites, and obtain data necessary for the subsequent development of photo simulations/renderings. The techniques utilized to obtain this data were described in the original VIA and DEIS.

Supplemental field review resulted in the following observations/conclusions regarding potential Project visibility:

- The proposed transmission line will be most visible from heavily traveled roads within the Cohocton River Valley, including Interstate Route 390 and State Route 415.

- The proposed interconnection substation is located in a remote area that is well screened from pubic vantage points. Its visibility and visual impact should be negligible.

- The Project cultural resource consultants identified several areas where potentially Register-eligible historic sites were concentrated within the 5-mile radius study area. Field review suggests that views of the Project from these sites will be highly variable. See additional discussion in Section 3.6.2.2.

3.5.2.2.4 Visual Simulations

The 10 viewpoints selected to show representative views of the Project in the original VIA were also used to illustrate the revised Project. In addition, several new viewpoints were selected to address concerns regarding the original VIA, to allow for assessment of visual impact on historic structures, and to illustrate and evaluate the proposed transmission line and collection substation. Locational information for these new viewpoints, and the reasons for their selection, are described below.

Viewpoint 71A - View from West Hollow Road, Town of Naples. Provides an open view of both the proposed Cohocton and Dutch Hill Wind Farm Projects.

Viewpoint 114 - View from the intersection Pine Hill and Lyon Roads Town of Cohocton. Representative of the Forestland landscape similarity zone, as requested by the NYS Department of Public Service (DPS).

Viewpoint 133 - View from Burke Road, Town of Prattsburgh. Provides a cumulative view of the WindFarm Prattsburgh and Cohocton projects. Also provides an additional view of foreground turbines, as requested by the NYS DPS.

Viewpoint 194 - View from potential National Register-eligible historic structure location on Burke Road in the Town of Prattsburgh. Recommended by Project cultural resource consultant.

Viewpoint 195 - View from Kirkwood-Lent Road. Provides a cumulative view of the Cohocton and Dutch Hill projects. Also provides an additional view of foreground turbines, as requested by the NYS DPS.

Viewpoint 203 - View from Wentworth Road, Town of Cohocton looking north toward the proposed transmission line. Viewpoint is adjacent to a potentially Register-eligible historic structure.

Viewpoint 205 - View to from a potentially Register-eligible historic structure located on Route 371 in the Town of Cohocton.

Viewpoint 207 - View from the center of the hamlet of Atlanta, an area with a concentration of potentially Register-eligible historic structures identified by the Project cultural resource consultant.

Viewpoint 209 - View from a potentially Register-eligible historic structure on Route 21 outside the hamlets of Atlanta and North Cohocton.

Viewpoint 210 - Photograph with better exposure to replace Viewpoint 154 in the Village of Naples, as requested by the NYS DPS. Also in an area with a concentration of Register-listed and potentially eligible historic structures.

Viewpoint 228 - View of the transmission line from Route 415 in the Town of Cohocton.

Viewpoint 231 - View of the transmission line from the southbound lanes of Route 390.

Viewpoint 241 - View of the collection substation site from Rynders Road.

The techniques used in preparing the simulations are as described in the DEIS, except that the modeled turbine is the Clipper C96, rather than the Gamesa G87. Simulations of other Project components that have been defined since completion of the original VIA (i.e., transmission line and collection substation) were prepared using photographs and GPS coordinates collected in the field, along with locational and dimensional data/specifications provided by the Project developer. Specific assumptions, techniques and computer software used, are as described in the original VIA.

Two nighttime simulations were developed by obtaining nighttime photos from original Viewpoints 68 and 178 within the study area. The turbine lighting plan for the Project (which was developed in accordance with FAA guidelines) was then obtained from the Project developer, and lights were added to the modeled turbine array in accordance with this plan. The size and intensity of these modeled lights are based on specifications of the proposed light fixture (L-864) and observations/photos of operating FAA warning lights on existing wind turbines (at the Fenner and Maple Ridge projects). The proposed lights, as well as existing

lights visible in the nighttime photos, were digitally altered to reduce the amount of "light-bleed" commonly found in long exposure photographs of lights. To create an animation of the flashing lights at night, three computer-generated renderings were brought into Adobe After Effects® compositing software, and the final product was rendered out as a high definition video.

Revised simulations from each of the original 10 viewpoints as well as the supplemental viewpoints described above are shown as Figures 11-33 in Appendix F. A representative subset of these images is illustrated in Figure S16.

3.5.2.2.5 Visual Impact Evaluation

The same in-house panel of three landscape architects that evaluated the Project in the original VIA was asked to evaluate the revised and supplemental simulations prepared for the SVIA. For the 10 viewpoints that were evaluated in the original VIA, the panel was asked to compare the revised simulations with those prepared for the VIA to determine if Project changes altered their previous conclusions. For new viewpoints that were not addressed in the original VIA, the panel compared simulations of the currently proposed facilities (turbines, transmission line and substation) with photos showing the existing view for each viewpoint. The purpose of this evaluation was 1) to determine if the revised turbine layout changed their previous assessment of impact from viewpoints evaluated in the VIA, 2) describe the type and extent of visual impact likely to result from construction of the proposed transmission line and substations, and 3) evaluate the type and extent of visual impact that will occur at newly identified sites within the expanded visual study area. Details of the visual impact assessment procedures and results are included in Appendix F.

Composite scores for the revised simulations ranged from 1.25 to 3.0, with seven of the 10 original viewpoints (70%) having a composite score less than 2.0 on the scale of 1 to 5. With the exception of Viewpoints 57 and 110, where contrast ratings went down significantly due to removal of turbines from the view, and Viewpoint 74, where the cleared transmission line ROW increased contrast ratings, scores for the revised simulations are very similar to those from the original VIA, and generally indicated a continued low level of visual contrast.

Most of the new turbine simulations were prepared to address concerns regarding potential cumulative visual impact and visual impacts on historic structures potentially eligible for

listing on the National Register of Historic Places. Cumulative visual impacts are discussed in Section 8.0 of the SDEIS.

The Villages of Cohocton and Naples and the hamlets of North Cohocton and Atlanta were identified by the Project cultural resource consultants as areas where structures listed or potentially eligible for listing on the National Register are concentrated. As simulations from these areas demonstrate, components of the Project will be visible from certain open sites. The views used for the development of simulations are the most open available, and generally do not reflect what could actually be seen from historic structures, which are often oriented away from the Project site and/or screened by adjacent structures and trees. However, given the abundance of potentially Register-eligible structures in these areas, the simulations are representative of worst case Project visibility from historic structures in these areas. Although evaluation by the rating panel indicated a high degree of variability in perceived visual impact, composite scores from four of these sites were under 2.0 on the scale of 1 to 5. The remaining site (Viewpoint 194) received a composite score of 2.83. Scores in this range indicate a low to moderate level of visual contrast. Rating panel comments indicate that visual impact at these sites was generally limited due to a small number of visible turbines or the effects of screening.

The contrast ratings for the transmission line and substation simulations indicate that in most settings these facilities will have limited visual impact. This is due primarily to the fact that where the proposed line is most visible (and visible to the most viewers) it is compatible with other man-made features in the view. However, as indicated in the rating panel's review of the revised simulation from Viewpoint 74, where the line or cleared ROW are highly visible and in clear contrast with existing natural features of the landscape, it will likely have an adverse visual impact. As noted in the discussion of Viewpoint 74, this impact is most likely during the winter, when snow cover heightens the visibility of the cleared ROW through forested areas. A similar reaction was seen for Viewpoint 241, where the proposed collection substation presented moderate to strong contrast with the existing undeveloped site.

The panel's review of the nighttime simulations indicate that the FAA warning lights could have an adverse effect on viewer activity. Due to the lack of other light sources, it was felt that the blinking red lights would alter the night sky and could be somewhat distracting to area residents. Impact was limited by the number of lighted turbines visible and their wide spacing.

3.5.2.2.6 Assessment of Shadow Flicker

In addition to the SVIA prepared by EDR, a revised assessment of shadow flicker was conducted by Wind Engineers, Inc. (WEI) (see Appendix H). As in the original analysis, WEI used the following data to evaluate potential impacts related to shadow flicker:

- Turbine locations (coordinates)
- Shadow flicker receptor (residence) locations (coordinates)
- USGA 1:24,000 topographic and USGS DEM (height contours)
- Turbine rotor diameter
- Turbine hub height
- Joint wind speed and direction frequency distribution
- Sunshine hours (long term monthly reference data)

The model calculated shadow-flicker time at each assessed receptor location and the amount of shadow-flicker time (hours/year) everywhere surrounding the Project (on an iso-line plot).

WEI's modeling indicated that of 204 potential receptors within 1,100 meters (3,608 feet), 82 will experience no effect. Only three receptors could experience over 20 hours of shadow flicker (typically around sunrise or sunset) annually, and none will experience over 25 hours throughout a year. As in the original analysis, WEI indicates that this number is significantly lower than that calculated for other wind power projects in New York and throughout the U.S. Model assumptions and factors that would further reduce/mitigate potential shadow flicker impacts at receptor sites are as described in the DEIS.

3.5.3 Mitigation

Visual mitigation measures that have been incorporated into the Project, or otherwise committed to, are as described in the DEIS.

As described in the original VIA, mitigation options are limited, given the nature of the Project and its siting criteria. In accordance with DEC Program Policy, (NYSDEC, 2000) various mitigation measures were evaluated in the original VIA. Beyond those, other potential mitigation measures recommended as a result of the SVIA include the following:

A. Color. Based on rating panel comments, the use of naturally weathering Corten steel take-off structures should be considered for the collection substation. These would better match the proposed transmission line poles and blend with the wooded hill that provides a backdrop in most views of the substation.

B. Screening. If necessary to mitigate visual impacts on historic structures, CPP will negotiate a Memorandum of Agreement (MOA) with the SHPO, which could address plantings to screen views of the Project from National Register eligible structures that would otherwise be affected by views of the Project. In addition, a planting plan should be developed and implemented to minimize visibility and visual impact associated with this component of the Project. Screen plantings to block views of the cleared transmission line ROW could also have benefit at the Route 390 scenic overlook.

C. Relocation. Turbines originally proposed at the south end of Lent Hill were deleted/relocated in the revised Project layout. As indicated in rating panel review of revised simulations, this change in Project layout reduced visual impact from several viewpoints. Relocation of the transmission line to reduce visual impacts resulting from forest clearing are limited by landowner preferences and other environmental constraints that have resulted in the currently proposed alignment.

D. Downsizing. The total number of turbines proposed has been reduced by five (from 41 to 36). The turbines' wider spacing was generally perceived positively, by the rating panel while their increase height was barely noticed. As stated in the original VIA, several studies have concluded that people tend to prefer fewer larger turbines to a greater number of smaller turbines.

E. Lighting. CPP has requested to use the minimum number of FAA obstruction lights possible. This decision will ultimately be made by the FAA based on their determination of potential hazard to aviation. CPP has committed to investigate the feasibility of a shading device for the FAA warning lights on the turbines.

F. Off-sets. If the SHPO determines that the Project will have an adverse visual effect on any Register-listed or eligible properties, off-set mitigation of visual impacts on historic structures may be explored.

Additional investigation of the three receptors that could receive more than 20 hours of shadow flicker annually will also be undertaken. This investigation will determine if site-specific conditions (building/window orientation, tree screening, etc.) will prevent or minimize the predicted impact.

3.6 HISTORIC AND ARCHAEOLOGICAL RESOURCES

As described in the DEIS, the Public Archaeology Facility (PAF) at Binghamton University conducted a Phase 1A Archaeological/Architectural Assessment of the Project Site. This study provided a preliminary assessment of the potential impacts of the Project on cultural and architectural resources in the area, in compliance with the New York Standards for Professional Survey (NYAC, 1994). The results of this study were presented in the DEIS, along with recommendations for additional study.

In accordance with the proposed mitigation measures outlined in the DEIS, UPC contracted PAF to conduct a Phase IB Archeological/Architectural Reconnaissance Survey. The purpose of this report, presented in Appendix G, is to build on the information presented in the Phase IA assessment included in the DEIS, and determine the Project's potential impact to cultural and architectural resources in the Project area. PAF's efforts consisted of archival and historic map research, a site file and literature search, a review of the prehistoric and historic background of the Project area, examination of properties listed in the New York State and National Registers of Historic Places, assessment of cultural resource sensitivity and past disturbances within the Project Site, field investigations with shovel tests and surface inspection, and photographic documentation.

As part of the Phase IB investigation, an architectural reconnaissance survey was undertaken for the Project to identify and locate buildings, structures, districts, cemeteries, and landscapes that appear to be eligible for the National Register of Historic Places. Architectural surveys locate and identify historic properties eligible for inclusion in the National Register of Historic places so that their protection can be considered during the design and planning of new projects.

The Phase IB Archeological/Architectural Reconnaissance Survey for the Cohocton Wind Power Project was conducted in compliance with the requirements of the National Environmental Policy Act, the New York State Environmental Quality Review Act, the National Historic Preservation Act, the State Historic Preservation Act, and all relevant state

and federal legislation. The investigation also was conducted according to the New York Archaeological Council's Standards for Archaeological Investigations (NYAC, 1994), and in accordance with the New York State Historic Preservation Office (SHPO) *Guidelines for Wind Farm Development Cultural Resources Survey Work* issued in 2005.

3.6.1 Existing Conditions

As a part of the Phase 1A Assessment, PAF conducted background research on the environment, prehistory, and history of the area surrounding the Project Site within Steuben and Yates Counties. This research addressed the types of cultural resource sites likely to be located in the Project Site based on the results of site file checks, historic maps, county histories, archival documents, and settlement patterns in and around the Town of Cohocton. A description of the prehistoric and historic sensitivity and context of the study area is as described in the DEIS and in the Phase IA Archeological Sensitivity Assessment appended to the DEIS.

3.6.1.1 Sensitivity Modeling

Reconnaissance testing for the Project was structured using the *Guidelines for Wind Farm Development Cultural Resources Survey Work* issued by the SHPO in 2005. The first step in the guidelines involves a process of determining landform sensitivity based upon landform type and landscape position. PAF used Funk's 1993 study of the Upper Susquehanna drainage to categorize landform components/types, which include landforms at the summits of knolls/ridges, rockshelters in various landform conditions, wetlands at stream headwaters, stream headwaters in valleys, etc. PAF determined that two local habitats defined by Funk were considered appropriate given the regional topography: summit knolls/ridges (with no associated streams), and summit knolls overlooking stream headwaters. A summary of all turbine locations by the landform classifications is presented in the Phase IB Archeological and Architectural Reconnaissance Survey in Appendix G.

Once landform sensitivity is defined, the guidelines indicate a follow-up step to devise a suitable testing strategy to provide a representative sample of cultural resources for different landform types. These include a combination of subsurface and surface surveys.

3.6.1.2 Archeological Field Survey

The sensitivity models were used to structure the testing recommendations for areas that could be impacted by construction of various Project components. A combination of

subsurface (shovel test pits in unplowed parcels) and surface surveys (visual inspection for plowed agricultural fields) was applied. This combination of testing resulted in surveys of approximately 222 acres in the Pine/Lent Hill area and 19.6 acres in the Brown Hill area (total surveyed area 241.6 acres), which included representative samples of access roads, buried electrical interconnect, turbine foundations and the substations. PAF's archeologists excavated 1,319 shovel test pits and conducted 34 surface surveys within the Project Site.

PAF field surveys identified five prehistoric occupation sites within the Pine/Lent Hill section of the Project Site (no prehistoric artifacts were found on Brown Hill). Four of the five prehistoric occupations were found in headwater locations. In addition, two historic sites were identified, (one that was also a prehistoric site) including one headwater and one non-headwater location. All reconnaissance survey results are provided in Appendix G, and areas involving recovered artifacts are summarized as follows:

- Pine Hill 1 (SUBI-2612); Located within an agricultural field northeast of Pine Hill Road (Town of Cohocton) in the impact area of Turbine 2; one artifact recovered; site has very limited research potential based on the recovery of only one prehistoric artifact during systematic surface surveys; additional work will likely yield no additional artifacts, and the site has been designated as a stray find.
- Pine Hill 2 (SUBI-2613); Located within an agricultural field south of Pine Hill Road (Town of Cohocton) adjacent to the access road leading to Turbines 5-6; one artifact recovered; site has very limited research potential based on the recovery of only one prehistoric artifact during systematic surface surveys; additional work will likely yield no additional artifacts, and the site has been designated as a stray find.
- Lent Hill 1 (SUBI-2614); Located within an agricultural field north of County Route 35 within the impact area of Turbine 23; one artifact recovered; site has very limited research potential based on the recovery of only one prehistoric artifact during systematic surface surveys; additional work will likely yield no additional artifacts, and the site has been designated as a stray find.
- Lent Hill 2 (SUBI-2615); Located within an agricultural field west of Mattice Road immediately north of the impact area for Turbine 34; one artifact recovered; site has very limited research potential based on the recovery of only one prehistoric artifact during systematic surface surveys; additional work will likely yield no additional artifacts, and the site has been designated as a stray find.
- Wheaton Site (SUBI-2616); Located within a plowed agricultural field east of County Route 35 approximately 2,000 feet north of the intersection with Beecher Road; 660

historic artifacts recovered; dominant artifact types include undifferentiated types (fragments and shards), and food related artifacts; artifacts form a very dense cluster in the southeastern corner of the site within the disturbance area for Turbine 18; this site has high research potential and should be regarded as potentially eligible for the National Register.

- Edmond Road Site (SUBI-2617); Located within a plowed agricultural field north of Edmond Road; 153 historic artifacts recovered; dominant artifacts include undifferentiated types, food related artifacts, and architectural materials (nails, window glass, etc.); artifacts form a very dense cluster in the center of the site east of the disturbance area for the access road leading to Turbine 27; this site has high research potential and should be regarded as potentially eligible for the National Register.

3.6.1.3 Architectural Field Survey

The Architectural Field Survey study area encompasses a 5-mile radius around each of the proposed wind turbines. The area spans portions of 10 Towns (Cohocton, Naples, Italy, Prattsburgh, Springwater, Avoca, Fremont, Dansville, Wayland and Wheeler) in four counties (Ontario, Yates, Livingston and Steuben). Within the study area, PAF investigated three villages (Cohocton, Naples and Wayland) seven hamlets, and miles of rural roads and agricultural land. The survey documented a number of properties already listed on the National Register, a potentially eligible historic district, and a number of potentially eligible individual properties, including at least one working farm, within the 5-mile radius study area.

Churches and cemeteries are other common historic resources in the visual study area. PAF identified nearly a dozen churches, however, most have been altered with replacement siding, additions, and in some cases loss of their steeples. Cemeteries inventoried in the study area range from small family plots to large community facilities. Of the more than two dozen cemeteries in the visual study area, five appear to be potentially eligible for listing on the National Register, including Mapleview Cemetery (Village of Cohocton); Clearview Cemetery (hamlet of North Cohocton); Mt. Pleasant Cemetery (Town of Howard); Fairview Cemetery (Village of Naples); and the Waggoner Family Cemetery (Town of Wheeler).

In all, the architectural survey documented 114 potentially National Register eligible structures within the 5-mile radius study area, in addition to one potentially eligible historic district (Village of Naples). The survey also documented four National Register listed structures (located within the Villages of Naples and Cohocton) within the study area. The

listed structures were identified in the DEIS, and include the Cleveland Ephraim House (#95000047), the Morgan Hook and Ladder Company (#95000668), the Naples Memorial Town Hall (#96000482), and the Larrowe House (#NR89002088). A complete listing of structures/properties by township and village is presented in the Phase IB Archeological and Architectural Reconnaissance Survey in Appendix G.

3.6.2 Potential Impacts

3.6.2.1 Impacts to Archaeological Resources

As stated previously, PAF, archaeologists identified five prehistoric and two historic archaeological sites within the Pine/Lent Hill area of the Project Site (total of six sites because one site included both historic and prehistoric artifacts). The Pine Hill 1 (SUBI-2612), Pine Hill 2 (SUBI-2613), Lent Hill 1 (SUBI-2614), and Lent Hill 2 (SUBI-2615) sites all have very limited research potential based on the recovery of only one prehistoric artifact at each site during systematic surface surveys. PAF reports that additional fieldwork will likely yield no additional artifacts, and these sites have been designated as a stray finds. Overall, the sites have very limited research potential and no further archaeological work is recommended.

Both of the historic sites, the Wheaton Site (SUBI-2616) and the Edmond Road Site (SUBI-2617), appear to have high research potential based on the data recovered from the sites. At present, the sites should be regarded as potentially eligible for the National Register. Given their high research potential, further archaeological work (a Phase 2 site examination consisting of 8-10 test units and deed/census research) was recommended by PAF if either site could not be avoided. The Wheaton Site is located within an area that was to be disturbed by the construction of Turbine 18. However, this turbine and associate access road and interconnect line have been relocated in the current Project layout, and this Site thus will be avoided. Therefore no impacts to the Wheaton site are anticipated. However, the Edmond Road site is located within an area that could be impacted by the proposed construction for the access road to Turbine 27. CPP has committed to realigning the road to avoid impacts to cultural resources in this area. Therefore no impacts to the Edmond Road site are anticipated.

3.6.2.2 Impacts to Historic Architectural Resources

No structures will be demolished or physically altered in connection with construction of the Project. However, the viewshed maps prepared as part of the Project Visual Impact

Assessment (VIA) indicate that the Project has the potential to be visible from a large portion of the study area (see Figure S15).

Of the total of 114 potentially National Register eligible structures surveyed within the 5-mile radius study area, topographic viewshed mapping indicates that 110 could potentially have views of at least one wind turbine. A summary of all 114 structures inventoried is presented in the report in Appendix G. In addition to the potentially National Register eligible structures surveyed, four National Register listed structures (one in the Village of Cohocton and four in the Village of Naples), occur within the 5-mile radius study area. In reviewing this list, PAF determined that visual impact on National Register listed or potentially eligible sites/structures could be evaluated by looking at areas where the bulk of these structures are concentrated. These areas, and representative historic sites they include are listed in Table S5 below.

Table S5. Areas with Concentrations of Historic Structures

Town/Village/Hamlet	Location Description	Comments
Village of Naples	Intersection of NY 12 and NY 245	North end of village; near NRL E. Cleveland House
	Intersection of NY 12 and Monier Street	Center of village downtown; Near NRL Town Hall
	Intersection of NY 12 and East Avenue	South end of village
	7959 County Route 36	Structure Location
	Intersection of NY 53 and NY 21	Between 8862 and 8945 NY 53
Hamlet of North Cohocton/Atlanta	Intersection of NY 21 and 39	Center of North Cohocton
	Intersection of NY 39 and Church Street	Center of Atlanta
	3991 NY 21	Structure Location
	3939 County Route 36	Structure Location
Village of Cohocton	Intersection of NY 415 and Shultz Street	West End of Village
	Intersection of 415 and Wheeler Street	Center of Village
	Intersection of NY 371 and Warner Street	North End of Village
	1916 Birkett Mills	Structure Location
	South Edge of Maple View Cemetery	Near NRL Larrowe House
Town of Avoca	61122 NY 415	Center of Hamlet
Town of Prattsburgh	5579 Horn Road	Structure Location
	5302 Blodgett Road	Structure Location
Town of Cohocton	11190 NY 371	Structure Location
	10849 NY 371	Structure Location
	4079 Wentworth Road	Structure Location

As indicated in Section 3.5, supplemental field review was conducted as part of the SVIA on September 27, 2006 to evaluate potential Project visibility from these sites, and obtain data necessary for the subsequent development of photo simulations. Of the 20 sites visited, it was determined that seven will be completely screened from views of the Project by existing vegetation, topography, and/or structures. These included five representative sites in the Village of Cohocton and one site each in the Town of Naples and the Town of Avoca. Four representative sites visited in the Village of Naples had potential views toward the Project site from the adjacent street. However, these structures were typically either oriented away from the Site or enclosed within tree foliage. Open views toward the Project were also identified at sites in the hamlets of North Cohocton and Atlanta, and the Towns of Cohocton and Prattsburgh. As in Naples, these views were typically available from the adjacent road rather than the houses, which were often screened by trees. The most open views available from areas where potentially Register-eligible sites are located were documented with photos. Photos that offered open views to the Project Site (Viewpoints 194, 205, 207, 209, and 210) were used in the subsequent development of representative visual simulations. As these simulations demonstrate, components of the Project will be visible from certain open sites in areas where potentially Register-eligible properties are concentrated. Although the simulation generally indicate greater Project visibility than what could actually be seen from historic structures, they are representative of worst case Project visibility from historic structures in these areas. Although evaluation by the rating panel indicated a high degree of variability in perceived visual impact, composite scores from four of the five sites were under 2.0 on the scale of 1 to 5. The remaining site (Viewpoint 194) received a composite score of 2.83. Scores in this range indicate a low to moderate level of visual contrast. Rating panel comments indicate that visual impact at these sites was generally limited due to a small number of visible turbines or the effects of screening.

The PAF architectural survey and visual simulations from the SVIA have been sent to the State Historic Preservation Office (SHPO) for their concurrence on Register eligibility, and to assist in their determination of potential effect.

3.6.3 Mitigation

CPP has minimized or avoided impacts to identified subsurface cultural resources by relocating or committing to relocate Project components from the vicinity of the Wheaton Site and the Edmond Road Site. However, for the duration of construction, temporary visible

fencing will be placed along the Wheaton site limits during construction of Turbines 18 and 19, and along the limits of the Edmond Road site to help minimize accidental impacts during construction of the access road associated with Turbine 27.

The VIA has assessed the Project's impacts on historic properties. As discussed above, Project visibility at or adjacent to some potentially Register-eligible sites is anticipated. The impact of Project visibility will be highly variable, based on distance from the Project, number of visible turbines, extent of existing screening, and viewer/landscape context. Based upon the results of the VIA, visual contrast of the Project with the existing landscape was considered low to moderate in worst case views from areas where historic structures are concentrated. However, for purposes of the historic resources consultations required under State law, the Project's effects on historic properties will ultimately be determined by the SHPO. Because visual mitigation options for wind turbines are limited, a number of measures could be taken to offset or compensate for impacts that cannot be eliminated. Possible measures include:

- Identifying an existing historic building within the area that does not presently meet National Register eligibility criteria and restore it for use as a Project office or visitor's center.
- Assisting with the preservation/restoration of local historic sites, structures or streetscapes.
- Directly undertaking or providing financial support for the restoration/maintenance of local historic cemeteries.
- Preparing local history/archeology curriculum modules for use by local school districts.
- Preparing local history exhibits for display in libraries or other public buildings.
- Funding development, preparation, publication, and distribution of a local history tour guide.
- Establishing a visual mitigation planting fund to subsidize owners of affected properties.

CPP will develop a plan to mitigate for unavoidable visual impacts to Register-listed or eligible historic structures inventoried within the Project area incorporating components of the above outlined measures or others identified by the SHPO. This plan will be developed in consultation with OPRHP staff and will be designed to meet the needs of the local

communities and focus on those resources, communities, and individuals that may be impacted by the Project. If necessary, it is anticipated that a Memorandum of Agreement (MOA) will be developed between the OPRHP and CPP that outlines the requirements of the mitigation plan.

3.7 SOUND

To evaluate potential sound impacts from the revised Project, a revised Environmental Sound Survey and Noise Impact Assessment (Sound Study) was prepared by Hessler Associates (Appendix I). The Sound Study includes the same background sound level survey described in the DEIS, along with updated computer modeling analysis of future turbine sound levels based on the currently proposed turbine model and locations.

3.7.1 Existing Conditions

The sound level survey methodology and existing sound conditions within the Project area are as described in the DEIS. To help put sound levels in better perspective, a table of common sounds and associated sound pressure levels has been added to Appendix I.

As stated in the DEIS, based on on-site measurements, 37 dBA is assumed to be the background sound level consistently available to mask Project sound at all locations. This is the ambient sound level that can reasonably be expected when the turbines are operating at maximum speed and producing the most sound.

3.7.2 Potential Impacts

The potential sound-related impacts resulting from the construction and operation of the currently proposed Project are described below.

3.7.2.1 Construction

Construction-related noise impacts are described in the DEIS. Unavoidable but mild noise impacts may occur during the construction phase of the Project. Construction noise, sounding similar to that of distant farming equipment, is expected to be sporadically audible at most homes within the immediate Project vicinity throughout the duration of construction. The maximum magnitude of construction noise at the nearest homes to individual turbine locations is not expected to exceed 51 to 58 dBA, depending on the particular activity.

3.7.2.2 Operation

As in the DEIS, Hessler's revised assessment modeled predicted operational sound from the revised Project to evaluate potential impacts on adjacent residential receptors. The study's methodology followed guidelines included in the NYSDEC program policy regarding noise (NYSDEC, 2001). Hessler also considered the unique attributes of sound from wind power generating facilities, where wind conditions change background sound levels, as well as the sound levels produced by the turbines themselves.

The sound output in Hessler's revised assessment was based upon a Clipper 96 wind turbine, which is the model currently proposed for use on the Cohocton Project. The sound power level of the production version of the Clipper C96 wind turbine is not definitively known at this time because this model is still in development. A prototype, with a slightly smaller rotor diameter of 93 m, has been built for testing and design refinement purposes and preliminary sound power level measurements have been taken on this unit. The power level spectrum measured during this sound test, which was carried out in May and June of 2006, was used in the modeling portion of the assessment. This measured power level is considered conservative because several noise abatement features or improvements had not yet been implemented at the time of the testing. The final sound power level is expected to be lower than that used in Hessler's modeling. Following the completion of the sound abatement modifications, updated sound power level information will be provided by the manufacturer. The sound evaluation conducted for this Project will be amended accordingly.

Using the sound power level spectrum for the C96 wind turbine, a worst-case, maximum sound level contour plot for the site was calculated using the "Cadna/A", ver. 3.5 sound modeling program developed by DataKustik, GmbH (Munich). This software enables the Project and its surroundings, including terrain features, to be realistically modeled in three-dimensions. The hill and valley topography of this site was digitized into the sound model from USGS maps. Each turbine is represented as a point sound source at a height of 80 m above the local ground surface (design hub height). As in the original analysis, the model uses conservative assumptions regarding ground absorption of sound and wind speed, and predicts downwind sound levels from all directions simultaneously, to evaluate the "worst case" sound scenario.

The results of the revised assessment performed by Hessler are the same as those of the original assessment reported in the DEIS, with the following exceptions:

- A few homes might see Project-related sound levels approaching 45 dBA when the wind is blowing directly from a nearby turbine towards the house (see Figure S18, Sheet 1). All homes which are identified just inside the 45 dBA line shown in this figure are participating landowners. No non-participating land owners are within the 45 dBA line. This compares to a maximum predicted level of 46 dBA for the original Project (i.e., a slight reduction).

- The modeling in the revised study is even more conservative than that used in the original study, because the sound power level used for the Clipper C96 wind turbine is the preliminary value measured on a prototype that has not yet been fitted with a number of noise mitigation measures. The actual sound level of the production model is expected to be less than the value used in the noise modeling.

- The maximum sound level of 45 dBA projected for several (participating) residences is a level that would normally be considered an acceptable design limit (i.e., numerous regulatory standards and guidelines commonly use a nighttime sound limit of 45 dBA for new projects).

- Because it has not yet been possible to measure the sound power level of the Clipper C96 turbine as a function of wind speed (see discussion in the Sound Study, Appendix I), the rate of decrease in turbine noise level with diminishing wind speeds is not known. Consequently, it is not possible at this time to quantitatively evaluate possible Project impacts under low wind conditions. However, it is commonly the case with similar turbines that sound levels increase by about 5 dBA from a point just after they begin to operate (in a wind of about 4 m/s measured at 10 m) to their maximum noise point at a wind speed of about 8 m/s. At high and exposed locations turbine noise levels and the amount of background noise available to mask them are likely to remain *generally* proportional at wind speeds below the 8 m/s maximum, but there is a possibility that turbine noise might be somewhat more prominent (relative to the model case) at very low wind speeds just after the blades begin to turn. In more sheltered locations, background masking noise diminishes only slightly in low wind conditions – from 38 dBA down to 36 dBA at turbine cut in – meaning that

turbine noise would be much less perceptible in these areas during low wind conditions that it is on the hilltops.

- The Town of Cohocton Sound Ordinance limits sound produced during wind turbine operation to 50 dBA at the property line of any parcels of land belonging to non-participating landowners. Apart from two corners of non-participating properties near the southernmost turbines on Brown Hill, where CPP has obtained setback releases, sound levels of 50 dBA or more will essentially be confined to participating properties although the 50 dBA contour line does extend just over property lines in a few places (see Figure S18, Sheet 2). Figure S18, Sheet 3 illustrates where the 50 dBA contour, might fall if small improvements associated with Clipper's planned noise abatement measures are realized (i.e., reduction by 2 dBA). As this figure illustrates, such mitigation will assure that turbine-related sound does not exceed 50 dBA at adjacent property lines.

- The local Ordinance also limits Project noise to 45 dBA measured at (but outside) any non-participating residences. As illustrated in Figure S18, Sheet 1, the maximum predicted sound level at any non-participating residence is under 45 dBA, so compliance is anticipated at all residences under all wind conditions.

- The Ordinance also limits tonal noise to a set of specific 1/3 octave band exceedances applicable in different regions of the frequency spectrum. As discussed in Hessler's report, at the present time the C96 sound power level spectrum does exhibit some tonal content – although actions are planned by the manufacturer to significantly reduce or eliminate these tones before this turbine model is put into commercial production. The table below lists the specific frequencies and values of the existing tonal peaks in the power level spectrum and compares them to the Ordinance limits.

Table S6. Existing Tones in Clipper C96 Sound Power Level Spectrum Relative to Ordinance Tonal Limitations.

Nominal Tone Frequency, Hz	1/3 Octave Band Sound Power Level of Tone and Two Adjacent Bands, dB re 1 pW	Exceedance of Tone above Average of Adjacent Bands, dB	Applicable Cohocton Ordinance Limit, dB (as Observed at a Prop. Line or Residence)
160	103.0	2.2	8
	105.0		
	102.6		
400	100.3	4.3	8
	103.6		
	98.3		
800	93.2	1.4	5
	96.3		
	95.6		

As this table indicates, the current tonal peaks in the power level spectrum are already well within the permissible limits. With, or without, the planned C96 turbine sound mitigation in place it is anticipated that the Project will comply with the tonal restrictions contained in the Cohocton Noise Ordinance.

- Concerns about excessive levels of low frequency noise are always raised with respect to wind energy projects; however, fears about this are unfounded. Older model wind turbines which had the blades located downwind of the tower sections were identified as having low frequency noise issues that resulted from interference of the blades passing the tower section. Modern wind turbines with the rotor located in front of the tower, have eliminated this issue. Further, it takes a specific amount of low frequency noise, best measured in terms of the C-weighted sound level, to cause perceptible vibrations, or sounds that are felt rather than heard. The noise modeling done for the SDEIS uses the full spectrum in its calculations, rather than just the A-weighted sound level, and calculates the C-weighted sound level at the nearest houses to any turbines. All of these levels are significantly below the absolute minimum threshold for the onset of perceptible vibrations (about 70 dBC), so no adverse impact from low frequency noise is expected (see additional information in Appendix I).

3.7.3 Proposed Mitigation

As described above, the revised Project lay-out results in minimal sound impacts to adjacent and nearby receptors. Additional details regarding the proposed complaint resolution procedure are included in Section 4.2.

3.8 TRANSPORTATION

As discussed in the DEIS, the Project Site is served by an existing network of interstate, state, county, and local highways. Roads range from four lane divided highways (Interstate Route 390) to seasonally maintained, dirt/gravel roads. The primary transportation corridor through the Project area is Interstate Route 390. Other major routes through the area include NYS Routes 21, 371, and 415 and other road systems as described in the DEIS. A roadway evaluation conducted by Fisher Associates (Fisher) examined roadway safety, traffic capacity, drainage structures, and roadway geometry along all state, county, and local roads that could be used during Project construction. This evaluation was presented in the DEIS and included in the DEIS as Appendix J.

Measures of proposed mitigation outlined in the DEIS include the preparation of a more detailed Project component delivery and construction routing plan to evaluate the potential roadways that may be used to access Project construction areas. Since the completion of the DEIS, UPC contracted ESS Group, Inc. (ESS) to prepare a Transportation Assessment Report. This report, included as Appendix J, describes and evaluates potential routing for delivery of wind turbine components and identifies potential route deficiencies, additional tasks, and permits needed to complete the Project.

3.8.1 Existing Conditions

As a part of the Transportation Assessment, ESS examined the potential oversized and overweight equipment configurations typically used on wind power construction projects, prepared an inventory of the local area road network including condition evaluation, and conducted an assessment of the preferred truck routes for delivering wind turbine components.

The study area evaluated by ESS includes the proposed Project site and the immediate vicinity, assuming delivery via Interstate Route 390 (I-390). The Transportation Assessment evaluated both off-site and on-site routing. Off-site routes are used to deliver wind turbine components from points of origins to interstate highways near the Project Site. Off site route

planning commenced at I-390 between Exit 1 (Avoca) and Exit 3 (Wayland). On-site routes will serve the local Project Site and wind turbine components will travel over these smaller, local roads to reach their final destinations. On-site route planning included the local area road network identified in the inventory. The comprehensive inventory is presented in the Transportation Assessment Report in Appendix J.

Oversized and overweight tractor-trailers are used for transporting wind turbine components and have various lengths, widths and weights. Often, the configurations of the tractor-trailers are customized based upon the wind turbine part being transported. ESS incorporated this variability into the planning parameters used to evaluate potential routes. These parameters include: 1) traffic safety; 2) traffic capacity; 3) structural capacity; and 4) overhead electrical wires (vertical clearance). Traffic safety was determined based upon accident data obtained from the New York State Department of Transportation (NYSDOT) Region 6 Traffic and Safety Office for the reporting period of January 2000 to January 2002, as reported in the NYSDOT Safety Information Management System (SIMS) database. Traffic capacity was evaluated by reviewing Highway Sufficiency Ratings data through November 2005. Structural capacity factors evaluated include highway width and condition, drainage structures, railroad crossings, and bridges. Finally, the location and height of overhead electrical wires were observed by ESS during field evaluations.

3.8.1.1 Off-site Route Planning

I-390 was identified as the off-site truck route for this Project assuming that wind turbine components would be delivered from points of origin to this interstate highway. I-390 is a multi-lane divided interstate highway with two 12-foot travel lanes, a 4-foot paved left shoulder and a 10-foot paved right shoulder in each direction. A section of I-390 (from Exit 1 to Exit 3) along both the northbound and southbound routes was identified and evaluated.

3.8.1.1.1 I-390 Northbound (17 mile segment)

In general, the northbound lanes of I-390 are 38 feet wide with a paved shoulder. At the time of the study (May 2006), the highway was being resurfaced and multiple bridges were under repair. The NYSDOT reports the improvement project will be completed in 2006. According to ESS, there are no existing pipe culverts with shallow cover that would require extensive improvement. Fifteen overpass bridges (including one railroad bridge) and two underpasses occur in this route segment. According to the SIMS database there were 77 accidents reported including 14 animal collisions, one fatality and 19 personal injuries that occurred

during the two-year reporting period. Highway Sufficiency Ratings data indicate that there are approximately 9,950 annual average daily trips along this section of roadway. No low overhead wires were observed on this route.

3.8.1.1.2 I-390 Southbound (15.9 mile segment)

In general, surface width and condition, drainage structures, overpasses, and underpasses for the southbound lanes of I-390 are as described for I-390 Northbound. According to the SIMS database, there were 46 accidents reported including 10 animal collisions, three fatalities and 28 personal injuries which occurred during the two-year reporting period. Highway Sufficiency Ratings data indicates that there are approximately 9,710 annual average daily trips along this section of roadway. No low overhead wires were observed on this route.

3.8.1.2 On-site Route Planning

For the purposes of on-site route planning, local roads (including county and Town roads) and State Routes 415 and 371 were evaluated. The comprehensive list of roads evaluated for onsite route planning is presented in the Transportation Assessment Report in Appendix J.

In general the paved and unpaved roads were in good conditions and capable of supporting heavy construction equipment with the exception of Edmond Road, Pine Hill Road and Van Aucker Road. Possible roadway deficiencies observed by ESS Group include insufficient intersection geometry, steep grades, and sharp curves. The most common constraint observed by ESS in the field was tight radius intersections with obstacles present on the inside corners such as traffic signs, utility poles, and drainage culverts. Roadways with steep sections and sharp curves included Newcomb Hollow Road, Pine Hill Road, Brown Hill Road and Van Aucker Road.

ESS made field observations and gathered data regarding pipe, culvert and bridge characteristics to assess the potential deficiencies for overweight vehicles. ESS identified 76 culverts along local roadways, which were typically metal pipes ranging in size from 12 inches to 48 inches in diameter. For the purposes of the study, culverts with cover totaling 12 inches or less were considered susceptible to pipe failure under extreme loads. As a part of the inventory, ESS identified 14 bridges spanning roads, waterways, and railroads and three

at-grade railroad crossings. A comprehensive list of inventoried culverts and bridges is included as Tables 10a-10d in the Transportation Assessment Report in Appendix J.

Traffic volume in the area is very low and mostly consists of local residential traffic and farm vehicles. Nearly all of the local intersections are 90-degrees and have good visibility for stopping sight distance.

ESS considered any overhead electrical wire less than 17 feet above the roadway to be a potential obstruction for clearance purposes during truck transport. During the study of local roads, ESS identified three wires that have the potential for clearance obstruction, each being located along State Route 415.

3.8.2 Potential Impacts

Potential traffic impacts may occur as a result of short-term construction activities (temporary impacts) and as a result of long-term operation and maintenance of the Project (on-going or permanent impacts). These are discussed individually below.

3.8.2.1 Construction

Although roads within and adjacent to the Project Site are operating well under capacity, some temporary impacts to transportation in and around the Project Site will result from the movement of vehicles involved in Project construction. These vehicles and their role in the Project are described in the DEIS. ESS estimates that up to 324 oversized/overweight one-way vehicle trips to the turbine locations nine per turbine will be required during the course of construction, in addition to cranes, cement trucks, and general construction vehicles, which according to UPC, could total over 3,250 trips (Carpenter, pers. comm.)

Based upon the planning parameters chosen to evaluate potential on-site and off-site construction routes (traffic safety, traffic capacity, structural capacity, and overhead electrical wires), ESS identified specific roadway deficiencies that would require upgrades or improvements in order to be used for Project construction activities. These improvements, outlined in Table S7, would result in temporary impacts to local roadway capacity, condition and use prior to the commencement of Project construction.

Table S7. Roadway Deficiency Improvement Measures

Observed Roadway Deficiency	Potential Upgrade/Improvement Measure
Insufficient Roadway Width	Widen roadway for oversized transport trucks
Poor Roadway Condition	Roadway reconstruction and/or regrading
Insufficient Cover over Structure	Add cover or steel plates over structure
Poor Structure Condition	Replace structure
Inadequate Bridge Capacity	Use bridge plates or jumpers or find an alternative route
Insufficient Roadway Geometry	Construct large radius intersection geometry or find and alternative route

ESS conducted a comparison of the evaluated off-site northbound and southbound sections of I-390 (Exits 1 to 3) to determine which are best suited as overweight and oversized vehicle routes. Deficiencies identified include low clearances, insufficient roadway geometry (tight turning radius), and inadequate bridge capacity, which would require temporary improvements to be used for Project access. ESS determined the use of I-390 southbound at Exit 1 would be best suited to access proposed wind turbine sites located off Wentworth Road and Newcomb Hollow Road. Additionally, ESS identified I-390 northbound at Exit 3 as the preferred access to proposed wind turbine sites located off Pine Hill Road. Use of these routes does not require any temporary intersection improvements, avoids turning radii constraints, and avoids the business district and residential neighborhoods of the Village of Cohocton. ESS specifically recommends avoidance of I-390 at Exit 2 as an off-site construction access route for oversized and overweight vehicles because the route would pass through the Village of Cohocton and includes two low clearance bridges.

Once beyond I-390 Exits 1 and 3, the local roadway network would require improvements to accommodate delivery and construction vehicles. A major objective of route selection was to eliminate roads that required traveling through the Village of Cohocton and residential neighborhoods where local traffic would be inconvenienced. ESS identified three main truck routes, and an alternative truck route (as a possible route to the Van Aucker Road area of the Project), described as follows:

Truck Route 1: Via I-390 Exit 1; Michigan Hollow Road, State Route 415, Newcomb Hollow Road, Cayward Road, Rynders Road, Avery Hollow Road, Lent Hill Road, Mattice Road, Wheaton Road, Edmond Road.

Truck Route 2: Via I-390 Exit 3; State Route 21/15, State Route 415, County Route 36, McKay Road, State Route 371 northbound, and Pine Hill Road.

Truck Route 3: Wentworth Road, Brown Hill Road, Fairbrother Road, Van Aucker Road.

Alternate Route: County Route 6 westbound, Stever Road, Clymo Road, Greenville Road, County Road 6 westbound, and Pauling Road.

The location of these routes is indicated in Figure S19. Generally, proposed improvements to accommodate construction vehicle use on these routes are as described in Table S7. According to ESS, Truck Route 3 contains several locations with insufficient roadway width which may require major reconstruction to provide acceptable standards for oversized and/or overweight vehicles. Additionally, Truck Route 3 contains an at grade railroad crossing which may need structural pavement reinforcement. If these improvements are not feasible, the less direct Alternate Route may be considered. Specific intersection assessments and proposed improvements are outlined in Table S8 and illustrated in the Transportation Assessment Report in Appendix J.

Table S8. Required Public Road Improvements

Planning Area	Intersection	Description of Proposed Improvement
Off-site	I-390 Northbound Off Ramp and Michigan Hollow Road	• Retaining wall • Gravel widening • Reset metal guard rail • Reset signs
On-site	SR 415 and Wentworth Road	• General Widening • Reset metal guard rail • Reset sign
On-site	Brown Hill Road and Wentworth Road	• New gravel road through corn field at southeast corner of intersection
On-site	Brown Hill Road and Fairbrother Road	• 15' gravel widening of Brown Hill Road on north side. • Intersection gravel widening • Reset signs and fence • Reset utility pole
On-site	Van Aucker Road at Fairbrother Road	• Gravel widening • Extend Drainage
On-site	Van Aucker Road – Sharp Curve	• Gravel widening on interior of curve • Extend drainage • Sideslope regrading
On-site	Newcomb Hollow Road and Jones Road at SR 416	• Gravel widening on interior of curve • Reset street sign
On-site	Avery Hollow Road at Rynders Road	• Gravel widening both sides of roadway
On-site	Avery Hollow Road at Lent Hill Road	• Gravel widening • Sideslope regrading
On-site	Edmond Road at Lent Hill Road	• Gravel widening on east side interior curve
On-site	Lent Hill Road at Beechner Road	• Gravel widening
On-site	Lent Hill Road Curve	• Gravel widening on inside and outside of curve
On-site	Wheaton Road at Kirkwood and Lent Hill	• Gravel widening on inside and outside of curve • Extend drainage • Reset signs
On-site	Route 371 at McKay Street	• New gravel road through corn field on northwest corner of intersection.
On-site	Pine Hill Road at Route 371	• Gravel widening on inside and outside of curve • Reset signs • Extend drainage • Fill ditch
On-site	Pine Hill Road at Lyon Road	• 6' gravel widening of Pine Hill Road • 30' new gravel road area

3.8.2.2 Operation

Potential impacts to transportation routes resulting from Project operation are as described in the DEIS.

3.8.3 Proposed Mitigation

As a part of the Transportation Assessment Report, ESS prepared an action plan which outlines steps required to finalize both on-site and off-site oversized and/or overweight vehicle access to the Project Site. Prior to construction, CPP and/or the contractor will implement the on-site and off-site route action plan recommended by ESS, which includes the following measures:

1. Coordinate with NYSDOT Special Hauling Permits Division as soon as possible in the process.
2. Contract with an experienced Route Surveyor to prepare and submit a final routing plan to the NYSDOT.
3. Prepare more detailed engineering solutions for problem intersections.
4. Identify vertical clearance problems as they relate to overhead electric wires and coordinate with the appropriate utility companies in advance of Project activity.
5. Select an experienced heavy hauling transportation contractor and obtain information on truck/trailer configurations for use in final route planning.
6. Obtain all necessary state, county and local permits.

The Transportation Assessment Report prepared by ESS identified off-site and on-site routes that are designed to avoid/minimize safety issues associated with the use of the approved haul routes, which will confine the heavy truck travel to a few select roads. Delivery/haul routes may change during the design and construction preparation process; however, the municipalities will be notified of the changes throughout the continued development of the Project. Additionally, design plans will be completed for all public road improvements, and will be made available to the affected local Towns (and other jurisdictions having responsibility for the affected roads) for review prior to the initiation construction activities.

Prior to construction, CPP will video document the existing roadways to verify pre-construction roadway conditions. Upon completion of the construction activities, CPP will, at a minimum, return all roadways to their pre-construction conditions (and video document) at

no cost to the affected jurisdiction. Use of public roads by heavy equipment or oversized vehicles during Project operation and maintenance will be coordinated with state, county, and local Highway Department officials. Any damage to the roads will be repaired at the Project operator's expense.

3.9 SOCIOECONOMICS

Specific information regarding the labor force, including population and housing, the economy, and municipal budgets and taxes (including the local school budgets and taxes) are as described in the DEIS. Supplemental data has been added to this section based on the results of a project-specific Economic Impact Analysis and evaluation of potential project-related impact on property values.

3.9.1 Existing Conditions

Existing population and housing, employment and income, and municipal budgets and taxes in the Town of Cohocton are described in the DEIS.

3.9.1.1 Population and Housing Characteristics

Area population and housing characteristics and trends are as described in the DEIS.

3.9.1.2 Economy and Employment

The area's economic and employment conditions remain more-or-less as described in the DEIS.

3.9.1.3 Municipal Budgets and Taxes

Municipal budgets and taxes remain more-or-less as described in the DEIS. The Town, county and school districts continue to face the yearly challenge of meeting their service obligations, or expenditures, through the collection of sales and/or real property taxes. As with most taxing jurisdictions in upstate New York, loss of, or lack of, commercial and industrial tax base, in combination with rising labor and material costs, make it increasingly difficult to meet their budgets without raising taxes.

3.9.2 Potential Impacts

As described in the DEIS, the Project will have both direct and indirect positive economic effects on the Town, county, and school districts, as well as the individual landowners

participating in the Project. These effects will commence during construction and continue throughout the operating life of the Project.

3.9.2.1 Construction

3.9.2.1.1 Population and Housing

Construction impacts on local population and housing are as described in the DEIS.

3.9.2.1.2 Economy and Employment

To supplement the information provided in the DEIS, UPC retained Saratoga Associates to prepare an Economic Impact Analysis of the Project (Appendix K). This analysis utilized the RIMS II (Regional Input-Output Modeling System) to determine the economic impacts of the proposed Project. The RIMS II Modeling System was developed by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA) as a method for estimating regional multipliers for impact analysis in output, earnings, and employment associated with a program or project under study. Using the RIMS II multipliers, an analysis of the economic impact of the proposed Cohocton Wind Power Project was conducted for both the construction phase, as well as the operation of the proposed Project.

The Economic Impact Analysis performed by Saratoga Associates utilized a conservative assumption that the Cohocton Wind Power Project will be an 82.5 MW (33 turbines) project, the smallest anticipated by CPP. An 82.5 MW Project would represent approximately $160 million in investment, and the construction phase of the Project will generate approximately 63 full-time direct jobs over a 7.5 month period. It is anticipated that the one-half to two-thirds of employment will be drawn from the Southern Tier and Fingers Lakes labor markets. Local construction employment will be primarily equipment operators, truck drivers, laborers and electricians. The balance of construction employment will include workers with special skills imported from outside the region for the duration of construction.

Utilizing the RIMS II model, it was calculated that the construction phase of the Project will have an indirect and induced impact of approximately 553 jobs, bringing the total economic impact of construction to approximately 616 jobs. The $160 million in original construction investment will generate an indirect and induced output of approximately $225.36 million, bringing the total construction cost to approximately $385.36 million. Household earnings estimated at $1.811 million for 63 construction jobs, will have a spin-off of approximately $0.658 million in earnings, bringing the total impact range of the construction to $2.469

million in earnings. Approximately 65% of the $160 million total Project budget is estimated as purchase and installation of the towers, turbines, and equipment. The remaining 35% represent expenditures for business services, labor and materials.

3.9.2.1.3 Municipal Budgets and Taxes

The impact of Project construction on municipal budgets and taxes are as described in the DEIS.

3.9.2.2 Operation

3.9.2.2.1 Population and Housing

Impact of the operating Project on local population and housing is as described in the DEIS. However, since completion of the DEIS, additional data have become available to address concerns regarding the potential for local property values to depreciate as a result of the proposed Project.

A Master of Science thesis prepared by Benjamin Hoen of Bard College in 2006 examined the transaction value of homes within 5 miles of the existing Fenner (New York) Wind Farm to determine if property values were significantly effected by views of the wind farm. The study additionally investigated how this effect varied with distance, time, and house value.

In this study, data concerning transaction values and assessor information were collected from the Madison County Real Property Tax Office. Review and analysis of data from January 1, 1996 through June 1, 2005, indicated that 280 "arms-length" home sales took place within 5 miles of the Fenner Wind Farm. Of these, 140 occurred after construction of the Fenner Wind Farm began (2001). A field analysis was also conducted to ensure complete accuracy of the "view" variables used in the model. Visits were made to those homes sold after January 1, 2001 (138 homes visited) to assess the degree to which the home had a view of the wind farm. This assessment was based on the degree to which viewers could see each of the 20 turbines in the Fenner Wind Farm.

All collected information was input into computer models for analysis. Following computation it was determined that the analysis of 280 home sales within 5 miles of the Fenner Wind Farm did not reveal a statistically significant relationship between either proximity to, or visibility of, the wind farm and the sale price of homes. Additionally, the analysis failed to uncover a relationship even when concentrating on homes within one mile of the wind farm

that sold immediately following the announcement and construction of the project. This study concluded that in Fenner, a view of the wind farm did not produce either a universal or localized effect on home values. To the degree that other communities resemble the Fenner rural farming community, similar conclusions are anticipated (Hoen, 2006).

To address local concerns regarding the potential for property values in Cohocton to depreciate as a result of the proposed Project, UPC retained Cushman & Wakefield to prepare an assessment of potential impacts on local property values. The Technical Memorandum addressing these potential impacts is presented in Appendix L. Cushman & Wakefield undertook a variety of data collection tasks to assess the potential affect of the Project on local property values including:

- Interview with the Town of Cohocton Assessor.
- Review of the Town of Cohocton Zoning Ordinance
- Review of topographical overlays and viewshed analysis of the Project area.
- Field inspections of similarly affected rural areas in neighboring Wyoming County.
- Site visits to the Fenner (1999, Madison County, NY), Maple Ridge (2005, Lewis County, NY), Wethersfield (2000, Wyoming County, NY), and Searsburg (1997, Bennington County, VT) Wind Power Projects.
- Direct experience from wind projects in Kittias County, Washington.
- Review of demographic profiles and housing sales data for each of the above-referenced study areas.
- Current literature review of relevant published information.

As a result of the above mentioned site visits and data collection, the following general findings were reported by Cushman & Wakefield:

- The patterns of settlement in the area are considered sparse, with little growth for over 30 years.
- Median values for owner-occupied homes near Cohocton are lower than the median within Steuben County, and considerably lower than the statewide median value.
- Since 2000, actual sales data showed that homes in the Cohocton area sold for well below the median values.
- Similar to owner-occupied homes, agricultural/rural land sold for well below average values.

- The most sensitive properties in the Project area are rural homesites.
- The Cohocton Wind Power Project may yield net economic benefits which could in turn spur demand for housing and increase local property values over time.
- Dairy farms and vacant agricultural land are unlikely to be affected since the value of such property lies in the relative productivity of the soil and the age and functional utility of farm and dairy related structures.

Cushman & Wakefield concluded that the Project should have negligible impact on property values for undeveloped properties or existing farms. They found that local property values will be much more susceptible to the local economy than to changes in the viewshed created by the Project. They concluded that the Project should have no impact upon future sales or values of developed properties given the prevailing conditions.

Given the results of the REPP report (Sterzinger, 2003) discussed in the DEIS, the Hoen study (2006) described above, and the similarity of the Madison County sites to the Cohocton Project area, it is reasonable to conclude that the proposed Project will not have an adverse impact on local property value. This conclusion is supported by the results of the site-specific Cushman & Wakefield analysis.

Also worth noting is a June 28, 2005 press release from the Madison County Public Information and Services Department. This press release discussed a recent study published in *Progressive Farmer* (a national publication), which ranked Madison County (the home of two operating commercial wind power projects) as the fourth best place to live in the Northeast in their list of Best Places to Live in Rural America. The rankings for each county were based upon healthcare, education, climate, pollution, crime, and tax burden (Madison County, 2005).

3.9.2.2.2 Economy and Employment

According to the Economic Impact Analysis prepared by Saratoga Associates, full operation of an 82.5 MW Cohocton Wind Power Project is projected to generate approximately six jobs, including one Operations Manager, one Quality Control Engineer, one Bookkeeper/Secretary and three Wind Turbine Technicians. Total direct earnings comprising of direct wages and leases paid to landlords are estimated at $0.723 million annually. Annual wages for the Cohocton Wind Power Project's share of staff are estimated

at $310,000. Leases are projected at approximately $413,000, comprising 2.5% of annual gross receipt (output) per year.

The six jobs, generated by operating the Project will result to a spin-off of approximately 19 jobs, bringing the total impact of operations to 25 jobs. These full-time jobs create other jobs in other sectors of the economy through expenditures derived from household wages. Earnings are projected to have an indirect and induced impact of approximately $0.151 million, bringing the total economic impact on earnings to approximately $0.874 million per year. Revenues are projected to generate approximately an additional $20.31 million in output, bringing the total economic impact on output (i.e., annual revenues derived from operation of the Project) to approximately $36.81 million per year.

3.9.2.2.3 Municipal Budgets and Taxes

Impacts of the operating Project on municipal budgets and taxes are as described in the DEIS.

3.9.3 Mitigation

3.9.3.1 Construction

As described in the Impacts discussion, construction of the proposed Project will not have a significant impact on local population and housing, and will have a short-term beneficial impact on the local economy and employment. Consequently, no mitigation is necessary to address these impacts. The only potential adverse impact to municipal budgets and taxes is the impact of Project construction on local roads, and the need to repair or upgrade these roads to accommodate construction vehicles/activity. To mitigate this impact, construction-related damage or improvements to state, county, or Town roads will be the responsibility of the Project developer, and will be undertaken at no expense to the Town or county (see additional detail in the discussion of transportation mitigation in Section 3.8.2.1).

3.9.3.2 Operation

3.9.3.2.1 Population and Housing

As discussed in the DEIS, the operating Project is not anticipated to adversely affect population or housing availability in the Town of Cohocton or the surrounding area. As described in Section 3.9.2.2.1, it is also not expected to have a depressing effect on local

property values. Consequently, mitigation measures to address population and housing impacts are not necessary.

3.9.3.2.2 Economy and Employment

As described previously in the DEIS and SDEIS, the operating Project's potential impact on the local economy and employment will be positive, and adverse impact on property values are not anticipated. Thus, mitigation measures to address economic impacts are not necessary.

3.9.3.2.3 Municipal Budgets and Taxes

CPP's intent to enter into a PILOT agreement with the Steuben County Industrial Development Agency, along with the anticipated term of that agreement are as described in the DEIS. Although still under negotiation, average annual payments under this agreement are estimated to be approximately $700,000 over the life of the agreement.

As stated in the DEIS, because the wind farm facility will generate a predictable source of additional revenue for all of the affected municipalities and school districts over the next 20+ years, the Project will positively impact municipal and school district revenues. This will enhance the type and level of services these jurisdictions can provide to local residents for the duration of the Project's operational life.

3.10 PUBLIC SAFETY

3.10.1 Background Information

Public safety concerns associated with the construction and operation of a wind power project, including ice shedding, tower collapse, blade throw, stray voltage lightning strikes, electromagnetic fields and fire, are fully described in the DEIS. Some additional information regarding ice shed and a discussion regarding potential health effects has been added to the following section.

3.10.2 Potential Impacts

3.10.2.1 Construction

Public safety concerns associated with Project construction, including 1) the movement of large construction vehicles, equipment and materials, 2) falling overhead objects, 3) falls into open excavations, and 4) electrocution, are described in the DEIS.

3.10.2.2 Operation

3.10.2.2.1 Ice Shedding

Operation impacts associated with ice shedding and ice throw are as described in the DEIS. To provide additional information on this topic, a study of the potential for icing and ice shedding at UPC's proposed Sheffield, Vermont Wind Energy Project prepared by AWS Truewind, has been added as Appendix M to the SDEIS. This study reviews the mechanisms by which ice forms on wind turbines, and by which it may be shed. As described in that study, the principal mechanisms of ice removal from wind turbines following an icing event include melting, shedding, and sublimation. The removal mechanism for any given icing event will vary with weather conditions (temperature, wind speed, solar radiation, humidity) and with the operation status of the turbines. Industry experience indicates that, for the large majority of icing events, ice removal will result from melting and gravitational shedding due to partial melting, whereby the ice falls off the tower and blades directly to the ground below. Only in rare cases is there the potential for accumulated ice to be thrown a significant distance from a turbine by a rotating blade. This is because 1) icing deposits will rarely be heavy enough to be thrown; 2) significant icing will cause the blades to be inefficient airfoils, reducing their ability to operate, and may cause the wind turbine to automatically shutdown; and 3) ice deposited in thin sheets (as on broad blade surfaces) is usually brittle, easily shattered, and has poor trajectory properties.

The risk of an ice throw is therefore a function of multiple variables, including:

- The probability of ice build-up on the blades.
- The probability of ice fragments being detached from a blade during operation.
- The wind and weather conditions existing at the time.
- The operational status and control logic of the turbine (a function of turbine control strategies and alarms, wind speed, and grid availability).

Should there be an ice throw event, the risk of a person being hit and injured by an ice fragment thrown from an operating wind turbine also depends on a variety of factors, including:

- The point where the detached ice fragment lands (function of wind speed and direction, rotor speed, radial position on blade, blade azimuth, etc.).

- The mass, shape, and speed of the fragment.

- The structural integrity of the fragment (i.e., will it break up in flight?).

- The probability of a person being at the exact point of landfall at the time that a fragment hits the ground.

The AWS Truewind study refers to a comprehensive study of ice shedding and human strike probabilities from wind turbines prepared by the consulting firm Garrad Hassan and Partners, Ltd. in conjunction with the Finnish Meteorological Institute and Deutches Windenergie-Institute as part of a research project on the application of wind energy in cold climates (Morgan et al., 1998). The Garrad Hassan study was cited in the DEIS, and has been added to Appendix M of the SDEIS.

The Garrad Hassan study confirms the points made above regarding principal ice shedding mechanisms and ice throw risk factors. It relied on numerous field observations which indicated that most ice shedding consists of ice fragments being dropped off, rather than thrown from, the rotor. This study also included an assessment of potential ice throw distances during exceptional events and the probabilities of a person being struck by an ice fragment under specific operational conditions. For a moderate icing location, such as Cohocton, the maximum achievable distance (i.e., worst case scenario) for ice to be thrown was conservatively estimated to be approximately 350 m (1,150 ft). If a person is always present within proximity of the turbine during icing conditions, and no control method is incorporated into a wind turbine's control logic to prevent an ice throw, the risk of that person being struck by an ice fragment is estimated to be greater than one in 1 million. As was stated in the DEIS, this risk is less than the risk of a person being struck by lighting.

Numerous control technologies exist to further reduce the potential risk of ice throw events from current generations of wind turbines. The Town of Cohocton Windmill Local Law requires (and the proposed revision would also require) use of such control technologies. Based upon its review of the Garrad Hassan study and its own knowledge of wind energy

production technology, AWS Truewind concluded that, when such technologies and practices are observed, the probability of ice fragments falling a significant distance from a turbine becomes, for practical purposes, insignificant.

It is also worth noting that a survey of all wind farm insurance underwriters throughout the world found that there has not been one liability claim due to injury from ice throw (NYSERDA website).

3.10.2.2.2 Tower Collapse/Blade Throw

The risks of tower collapse or blade throw are described in the DEIS.

3.10.2.2.3 Stray Voltage

The potential for stray voltage impacts is as described in the DEIS.

3.10.2.2.4 Fire

The potential for a turbine fire and the likely response to such an occurrence are as described in the DEIS. It is worth noting that, other than relatively small quantities of oil and hydraulic fluid, the nacelle includes few flammable components. However, should a fire occur, the typical sequence of events would be as follows:

- The Project SCADA system would sense the problem and would shut down the affected turbine.
- Local first responders would be contacted and directed to the site.
- The area surrounding the turbine would be cordoned off to protect the general public, and any spot fires on the ground would be extinguished.
- The fire would be allowed to burn itself out.
- Once the fire was out, necessary clean-up and repair would be untaken by operations personnel trained and certified for work in towers and confined spaces.

3.10.2.2.5 Lightning Strikes

The potential for lightning strikes, and the type of damage such strikes typically cause are described in the DEIS. If lightning strikes result in damage at all, it is typically surface damage to the blade tips or edges, rather than a fire in the nacelle. It is worth nothing that the Madison (NY) Wind Power Project, which has been in operation since 2000, has never experienced a turbine shut down or serious damage due to lightning strikes (S. Alexander, pers. commun.).

The currently proposed Clipper turbines include lighting receptors at the tip of each blade, which connect through brushes on the blade bearing and main shaft to carry lighting strike current down the tower to the ground. For service crew and machine safety, a steel mesh Faraday cage in the nacelle provides an added protective measure.

It is also worth noting that because of their height, to the extent that turbines attract lighting, they will reduce the potential for strikes on nearby structures, trees, and vehicles.

3.10.2.2.6 Electro-magnetic Fields

The potential for impacts associated with electro-magnetic fields was fully discussed in the DEIS.

3.10.2.2.7 Health Effects

Shadow flicker/strobe affect and low frequency noise from operating wind turbines are often cited by wind power opponents as having potential health effects. The shadow flicker/strobe affect of the rotating turbine blades often raises concerns regarding the potential for triggering an epileptic seizure. According to the British Epilepsy Foundation (2006) approximately five percent of individuals with epilepsy have sensitivity to light. Most people with photosensitive epilepsy are sensitive to flickering around 16-25 Hz (Hertz or Hz = 1 flash per second), although some people may be sensitive to rates as low as 3 Hz and as high as 60 Hz. A wind turbine rotor speed of 15.5 RMP translates to a blade pass frequency of less than 0.8 Hz (less than 1 alternation per second). Therefore health effects to individuals with photosensitive epilepsy are not anticipated.

Low frequency noise from the operating turbines has also been accused of contributing to sleep disorders and other psychological problems. According to information on the

NYSERDA website, “to date there have been no documented direct health effects associated with the level of low frequency noise generated by modern wind turbines. Over the past decade, noise studies conducted at wind farms in the UK, Denmark, Germany, and the U.S. have repeatedly shown that the levels of low frequency noise radiated from modern, upwind wind turbines are at a very low level, typically below the threshold of perception. These studies have been peer reviewed and are generally accepted by noise professionals.” Additional information on low frequency noise is included in the Sound Study in Appendix I.

Health effects associated with the so-called “Wind Turbine Syndrome” are also often raised as potential concerns. However, the occurrence of this syndrome is not supported by the results of peer-reviewed medical studies. These concerns appear to be based primarily of surveys of turbine-related annoyance and anecdotal reports, rather than clinical studies.

3.10.3 Proposed Mitigation

3.10.3.1 Construction

Proposed mitigation measures to assure public safety during Project construction are as described in the DEIS.

As mentioned in Section 3.8, preliminary construction routing plans have been developed to assure that construction vehicles avoid areas where public safety could be a concern (schools, clusters of homes, etc.). Final routing plans will be developed prior to construction.

3.10.3.2 Operation

Proposed mitigation measures that could reduce public safety risks associated with ice shedding, tower collapse, blade throw, stray voltage, fire, lightning strikes, and electro-magnetic fields are as described in the DEIS.

3.11 COMMUNITY FACILITIES AND SERVICES

Community facilities and services provided to the Project area are as described in the DEIS.

3.11.1 Existing Conditions

Public Utilities and Infrastructure

Public utilities and infrastructure in the Project area are as described in the DEIS.

Police Protection

Police department services and facilities are as described in the DEIS.

Fire Protection and Emergency Response

Fire Department and EMT services and facilities are as described in the DEIS.

Health Care Facilities

Hospitals and health care services in the Project area are as described in the DEIS.

Educational Facilities

Public school facilities are as described in the DEIS.

Solid Waste Disposal

Solid waste disposal is as described in the DEIS.

Parks and Recreation

Park and recreation facilities are as described in the DEIS. The Lawrence Parks Recreation Area, a Town park located on Atlanta Back Road in Cohocton, was inadvertently left off the list included in the DEIS. This park provides opportunities for trail use, swimming, fishing, picnicking and field sports. It is located approximately one mile west of the Project Site.

3.11.2 Potential Impacts

3.11.2.1 Construction

As stated in the DEIS, during construction, the Project will result in no significant increase in the demand for utilities such as telephone, natural gas, electric, water, sanitary sewer, etc. However, the Project as currently proposed will have a beneficial impact by generating a total of up to 90 MW of clean renewable energy that can be used by the people of Steuben County and New York State. Other potential construction-related impacts on community facilities and services are as described in the DEIS.

3.11.2.2 Operation

As stated previously, the revised Cohocton Project will generate up to 90 MW of electric power and will advance the State's goal of having 25% of the state's power provided by renewable sources by 2013. Other operational impacts on community facilities and services are as described in the DEIS. It is worth noting that by creating jobs, local expenditures, and municipal revenue, the Project will enhance the economic health and well being of the community. These financial benefits will be provided without the need for municipal and school district services and facilities required by most other forms of economic development. A viable economy and strengthened tax base are crucial to maintaining quality of life within a community.

3.11.3 Mitigation

As stated in the DEIS, the impacts to community services resulting from the proposed Project are not of the type or magnitude to require mitigation. In fact, development of the proposed Project will have minimal impact on population, and place little demand on community services. At the same time, the Project will provide significant income and tax revenue to the Town, county, and school districts. This income will more than offset any incurred costs, and will assist with the financing of community services that benefit all residents of the Towns and county.

3.12 COMMUNICATION FACILITIES

To evaluate the potential for the revised Project layout to impact existing telecommunication signals, Comsearch was contracted to conduct Microwave Systems Studies and to respond to concerns regarding potential impacts on satellite television reception and police communications.

3.12.1 Existing Conditions

3.12.1.1 Microwave Analysis

In evaluating the potential impact of revised Project deign on microwave communications, Comsearch identified nine microwave paths that intersect the Project Site (see Figure 1 in the Licensed Microwave Search and Worst Case Fresnel Zone Study in Appendix N).

3.12.1.2 Off-Air Television Analysis

Because it does not relate to specific turbine coordinates or dimensions, no addition/revised television reception analysis was conducted for the revised Project. Off-air television stations within 100 miles of the Project Site are as reported in Appendix L of the DEIS.

3.12.1.3 Cellular, PCS, and LMR Systems

No additional study of cellular, personal communication system (PCS), or land mobile radio (LMR) coverage/use in the area was conducted as part of the SDEIS.

3.12.2 Potential Impacts

3.12.2.1 Construction

Temporary communication interference as a result of Project construction is as described in the DEIS.

3.12.2.2 Operation

3.12.2.2.1 Microwave Communication Systems

To assure an uninterrupted line of communications, a microwave link should be clear, not only along the axis between the center point of each antenna, but also within a mathematical distance around the center axis known as the Fresnel Zone. As part of the revised/updated Licensed Microwave Search and Worst Case Fresnel Zone Study conducted by Comsearch (Appendix N), a Worse Case Freznel Zone (WCFZ) was calculated for each of the nine microwave paths identified within the Project Site. In this analysis, the WCFZ calculation only includes a horizontal analysis for each microwave path (i.e., based on its maximum width). Based upon the horizontal analysis, it was determined that possible interference with five turbines (Turbines 7, 14, 16, 28, and 33) could occur along five of the microwave paths that cross the Project Site. The cases specifically involve the possible obstruction of one 2.1 GHz path licensed to Dobson Cellular, one 950 MHz path licensed to Family Life Ministries, and three 940 MHz paths licensed to Pfeiffer Corporation. Due to the potential interference, Comsearch was contracted to conduct a detailed interference study (i.e., a vertical and more detailed horizontal analysis of each path). This study determined that four of the microwave paths would still experience interference as a result of the proposed Project because Turbines 7, 16, 28, and 33 do not have sufficient vertical or horizontal clearance from the affected Fresnel zones (see Appendix N).

3.12.2.2.2 Television Systems

Potential impacts on off-air television reception are as described in the DEIS. However, to address this matter further, a Technical Memorandum was prepared by Comsearch that addressed the potential impact of the Project on satellite TV reception. Comsearch concluded that the Project will not interfere with reception of satellite TV signals because the antennas for the satellite receivers are positioned (and can be repositioned) to provide a clear, unobstructed view of the satellites providing the programming. In addition, electromagnetic "noise" produced by the turbines is undetectable by satellite television receivers (additional detail is provided in the Technical Memorandum included in Appendix N).

3.12.2.2.3 Cellular, PCS and LMR Systems

Potential impacts on other forms of wireless communication are as described in the DEIS. However, to address concerns regarding potential impacts on a police communication antenna on Potter Hill, Comsearch prepared a second Technical Memorandum (also included in Appendix N). As stated in this memo, the antenna in question is a Land Mobile Radio (LMR) transmit-receive system operated by the New York State Police. The frequency band utilized by police LMR communication systems is VHF. Comsearch concluded that the VHF frequencies used by this antenna should not be affected by the presence of wind turbines (addition detail is provided in the Technical Memorandum included in Appendix N).

3.12.3 Proposed Mitigation

3.12.3.1 Construction

Mitigation for construction-related impacts to communications is as described in the DEIS.

3.12.3.2 Operation

3.12.3.2.1 Microwave Communication Systems

To eliminate the potential for interference with microwave communications, Comsearch recommended relocating Turbines 7, 16, 28, and 33 outside of the affected microwave paths. These turbines have been relocated and their revised locations are as shown in the currently proposed Project layout. Therefore, the revised Project, will not result in any interference to existing microwave telecommunication systems.

3.12.3.2.2 Television Systems

Mitigation for potential television interference is as described in the DEIS. The complaint resolution process described in the DEIS, has been expanded upon in Section 4.2, and outlines a procedure than can be used for reporting and resolving television reception problems. Corrective measures that have been used on other wind power projects range from simple antenna adjustments to installation of HDTV boxes, cable, or satellite systems for affected residents. As indicated in the Technical Memorandum included in Appendix N, mitigation for impacts on satellite TV reception should not be required because the turbines will not obstruct satellite system antennas and because the electromagnetic noise generated by the turbines is at a much lower frequency than the reception band of satellite receivers.

3.12.3.2.3 Cellular, PCS and LMR Systems

Mitigation for potential interference with other forms of wireless communication is as described in the DEIS. As indicated in the second Technical Memorandum included in Appendix N, any unanticipated impact on police communications could be easily corrected/mitigated by repositioning the affected repeater sector antennas, or by adding a repeater to the LMR system.

3.13 LAND USE AND ZONING

3.13.1 Existing Conditions

3.13.1.1 Regional Land Use Patterns

Regional land use patterns are as described in the DEIS.

3.13.1.2 Project Site Land Use and Zoning

Land use and zoning within the Project Site is as described in the DEIS.

The Town of Cohocton local law (Local Law No. 1 of 2006) governing wind energy facilities (Windmill Local Law) was described in the DEIS.

The Town is currently considering adoption of a revision of the Windmill Local Law (Proposed Local Law 2 of 2006). Local Law 2 would reenact essentially all of Local Law 1, but would supplement it in several key ways that provide clarifications and additional protections for the Town and its residents. In particular, Local Law 2 is more stringent than the existing law in the following ways:

- It includes new, more detailed requirements for a windmill-only noise analysis to be submitted at the time of application submission.

- It provides that the allowable noise criterion will be reduced from 50 dB(A) to 45 dB(A) if the windmill project produces a pure tone.

- It provides a valid, testing-based procedure for verifying compliance with the noise criterion.

- It requires quarterly reports the Town Highway Superintendent identifying material changes in the condition of Town roads utilized in construction of a windmill project.

- It requires use of only upwind design windmills.

- It prohibits advertising signs on windmills.

3.13.1.3 Agricultural Districts

Agricultural districts are more-or-less as described in the DEIS. Approximately 4,995 acres (88%) of the revised Project Site are included within this district. Agricultural land use is a significant component of the Project Site with approximately 3,565 acres of the 5,700 acre area (63%) in row crops, field crops, or pastureland.

3.13.1.4 Future Land Use

As stated in the DEIS, other than the proposed Project, (and other proposed wind power projects) future land use patterns in Steuben County and the Town of Cohocton are anticipated to remain largely unchanged for the foreseeable future.

3.13.2 Potential Impacts

3.13.2.1 Construction

With the reduced number of turbines currently proposed and the revised alignment of the 115 kV transmission line, construction-related disturbance to agricultural land is currently estimated to total approximately 216 acres. This compares with approximately 285 acres estimated in the DEIS. Construction will also result in clearing approximately 55 acres of

forestland as compared to 67 acres estimated in the DEIS. Other potential land use impacts are as described in the DEIS.

Construction activity will be in compliance with local zoning and the requirements of the existing and proposed Windmill Local Law and zoning regulations in Cohocton.

3.13.2.2 Operation

Operation of the Project as currently proposed is consistent with existing zoning and the requirements of the updated Windmill Local Law. It is also compatible with land use patterns within the Town of Cohocton.

Only very minor changes in land use within the Project Site are anticipated as a result of Project implementation. The 36 possible turbine sites, substations, and other ancillary facilities together represent a maximum conversion of approximately 32 acres of land from agricultural land, meadow/brushland, or forestland to developed land use (as compared to the 44 acres estimated in the DEIS). However, as noted in the original and Supplemental Visual Impact Assessments, the Project may result in a perceived change in land use in some areas of the Town (and some portions of surrounding Towns). As discussed in Section 3.5, the visibility and visual impact of the wind turbines will be highly variable based upon distance, weather conditions, sun angle, the extent of visual screening, viewer sensitivity and/or existing land uses. Although in general, the visual impact evaluation indicated a low to moderate level of visual contrast. In addition, both the original VIA and SVIA concluded that the Project would not have a significant adverse impact on community character in most locations. The Project will be significantly, or completely screened from most areas with concentrated residential development (Village of Cohocton, Village of Naples, etc.), and in the opinion of the VIA rating panel, generally appears compatible with a working agricultural landscape. It is also worth noting that to the extent that the Project supports local farmers and helps keep land in active agricultural use, it will help preserve open space and maintain the area's rural character. Furthermore, by creating jobs, local expenditures, and municipal revenue, the project will enhance the economic health and well being of the community. These financial benefits will be provided without the need for municipal and school district services and facilities required by most other forms of economic development. A viable economy and strengthened tax base are crucial to maintaining community character and quality of life within a community.

3.13.3 Proposed Mitigation

Mitigation measures that will be undertaken to reduce the impact of the Project on land use and zoning are as described in the DEIS.

4.0 UNAVOIDABLE ADVERSE IMPACTS

The proposed Project will result in significant long-term economic benefit to participating landowners as well as to the Town of Cohocton, the local school districts, and Steuben County. When fully operational, the Project will provide up to 90 MW of electric power generation with no emissions of pollutants or greenhouse gases to the atmosphere. The development of the site is consistent with surrounding land uses and will help maintain the area in agricultural use.

Despite the positive effects anticipated as a result of the Project, its construction and operation will necessarily result in certain unavoidable adverse impacts to the environment. The majority of the adverse environmental impacts associated with the Project will be temporary, and will result from construction activities. Site preparation (e.g., clearing, grading), improvement of local roads, and the installation of access roads, turbines, interconnects, staging areas, the O&M building, meteorological towers, the collection substation, and the interconnection substation will have short-term and localized adverse impacts on the soil, water, agricultural, and ecological resources of the site. This construction will also have short-term impacts on the local transportation system, air quality, and noise levels. These impacts will largely result from the movement and operation of construction equipment and vehicles, which will occur during the one-year construction of the Project. The level of impact to each of these resources has been described in the DEIS and other sections of the SDEIS. They will generally be localized and/or of short duration.

Long-term unavoidable impacts associated with operation and maintenance of the Project include turbine visibility from many locations within the Town. While the presence of the turbines will result in a change in perceived land use from some viewpoints, their overall contrast with the landscape will likely be low to moderate in most locations. The Project also may function to keep land within the Project Site in agricultural use, thus protecting open space and existing land use patterns. Project development will also result in an increased level of sound at some receptor locations (residences) within the study area, a minor loss of agricultural and forest land, wildlife habitat changes, and some level of avian and bat mortality associated with bird/bat collisions with the turbines. As described in Section 3.0, of both the DEIS, and SDEIS, these impacts are not considered significant.

Although adverse environmental impacts will occur, they will be minimized through the use of various general and site-specific avoidance and mitigation measures, as described in the

DEIS. With the incorporation of these mitigation measures, the Project is expected to result in positive, long-term overall impacts that will offset the adverse effects that cannot otherwise be avoided.

4.1 GENERAL AVOIDANCE AND MITIGATION MEASURES

See discussion in Section 4.1 of the DEIS.

4.2 SPECIFIC MITIGATION MEASURES

Project development and operation will also include specific measures to mitigate potential impacts to specific resources. These were described in detail in Section 3.0 of the DEIS and SDEIS.

The proposed complaint resolution process referenced in the DEIS will be developed and implemented prior to construction. It is anticipated to include the following:

- Prior to construction, CPP will communicate to neighboring residents, the Town of Cohocton and permitting agencies the contact name and address of the Project Community Relations representative and the Construction Manager (and, prior to the end of construction, the Operations Manager). CPP will also publish a community 1-800 telephone number.
- Complaints by neighboring residents, or others, may be made through the following channels:
    1. By calling the local or 1-800 number and speaking directly with construction and operations personnel;
    2. By writing to UPC at its local address or at its principal place of business; or
    3. By making the complaint in person at CPP's construction trailer or operations building.
- In the event that the Town receives complaints directly about unanticipated effects of Project construction or operations, the Town shall notify CPP within 5 days in writing of the details of such complaint.
- A log will be kept locally of the name and contact details of the complainant and the actions taken to resolve the complaint. This log will be available to the Town Board for inspection upon request.
- In the event that CPP receives complaints, CPP will promptly investigate such complaints. A report of each investigation shall be made available to the Town. In the

event that the investigation determines that the complaint has identified a problem attributable to the construction, operation or maintenance of the Cohocton Wind Power Project, CPP will promptly work directly with the complainant and, in appropriate circumstances, the Town to resolve the identified problem. In the event that the identified problem is not resolved, or that a plan to resolve the problem is not under development within 30 days of the determination that a problem exists, the complainant may refer the matter to the Town.

4.3 ENVIRONMENTAL COMPLIANCE AND MONITORING PROGRAM

In addition to the mitigation measures described previously, CPP will develop an environmental compliance program and employ environmental monitors to oversee compliance with environmental commitments and permit requirements, as described in Section 4.3 of the DEIS.

5.0 ALTERNATIVES ANALYSIS

The following alternatives to the proposed action are described and evaluated: no action, alternative project site, alternative project design/layout, alternate project size, and alternative technologies. These alternatives were discussed in the DEIS, but with the revised Project design, need to be reevaluated. They offer a potential range and scope of development for comparative analysis and consideration.

5.1 NO ACTION

The no action alternative assumes that the Project Site would continue to exist as active agricultural land, residential property and vacant land. Under this alternative, no wind turbines or infrastructure (e.g., roads, interconnects, transmission line and substations) would be developed on the site. Consequently, none of the environmental impacts associated with Project construction and operation would occur. In addition, no economic benefits would accrue to the area. As stated in Section 3.9 of the SDEIS, these unrealized economic benefits would include approximately $2.5 million in earnings from Project construction and $0.9 million annually in earnings from Project operation. Lease payments to participating landowners, annual PILOT payments to the affected Towns and school boards would also not be realized. Annual revenues to the Town of Cohocton and the area school districts from the PILOT payments are anticipated to average approximately $700,000 per year for the first 20 years of Project operation (declining thereafter based on depreciation).

In addition, to the extent that the Project helps supplement farm income and keeps land in active agricultural use, the no action alternative could have an adverse impact on land use and existing community character by allowing continued loss of working farms, active agricultural land and undeveloped open space. Furthermore, the benefits of adding up to 90 MW of clean, renewable electric energy to the power grid would be lost, and reliance on fossil-fuel-fired generators, which contribute to emissions of sulfur dioxide (a precursor of acid rain), nitrogen oxide (a smog precursor), and carbon dioxide (a greenhouse gas) would continue unabated. Given the short-term nature of anticipated construction impacts and the generally minor long-term impacts of Project operation, as compared to the significant economic benefits that the Project would generate, the no action alternative is not considered a preferred alternative.

5.2 ALTERNATIVE PROJECT AREA

See discussion in Section 5.2 of the DEIS.

5.3 ALTERNATIVE PROJECT DESIGN/LAYOUT

As described in the DEIS, CPP's ability to develop a significantly different project layout within the Project Site is constrained by the need to maintain required set-backs and adequate separation of turbines, and to limit environmental impacts. Keeping the turbines on high-elevation sites with adequate wind, staying 520 feet from roads and property lines, and 1,500 feet from residences, leaves very little room for modification of the Project layout. In addition, the turbines must have adequate separation to avoid energy loss associated with wake effects. They, and other Project components, also must be sited so as to minimize loss of active agricultural land and/or interference with agricultural operations. Avoidance of wetlands, streams, forested areas, and steep slopes further reduces available siting alternatives (see Figure S23). Proposed turbine siting also needs to be sensitive to landowner agreements/considerations. All of these factors have guided the location of potential turbine sites, and limit the ability to significantly change the proposed configuration.

Having said this, the Project as currently proposed does employ an alternative to the layout originally proposed in the DEIS. The 36 2.5 MW turbines currently proposed are capable of generating more power than the 41 2.0 MW turbines proposed in the original layout. At the same time, the net reduction of five turbines reduces required site disturbance and various operational impacts (e.g., visual impact, loss of agricultural land, etc.). At this point, relocation of any of the turbines to a site other than one of the identified 36 potential sites would have a ripple effect, in that the location of other turbines would have to be reexamined and possibly changed to maintain an efficient/workable Project design. Therefore, reduction of environmental impacts in one location could result in increased impact in another location and/or reduced power generation. In the case of visual impact, removal or relocation of one or two individual turbines from a 36-turbine array is unlikely to result in a significant change in Project visibility and visual impact from most locations.

In addition to evaluating turbine siting alternatives, alternate means of connecting with the existing NYSEG 230 kV line were evaluated. As described in the DEIS, different voltage levels for the transmission line (34.5, 115, and 230 kV) were considered, as well as different routes, and the alternative or placing the line underground. As far as the proposed route is concerned, the transmission line route currently proposed is almost 0.5 mile shorter than the

route described in the DEIS. It still avoids the Village of Cohocton and other areas of concentrated settlement, in an attempt to minimize disturbance/interference with yards, homes, street trees, and utility lines. The proposed route largely follows field edges and crosses open land (farm fields, successional old field/shrubland, and scrub-shrub wetland), where required tree clearing will be limited. In those areas where forest clearing is proposed, alternative routes that would reduce the extent of clearing were either not considered acceptable by the involved landowners (because CPP does not have the right of Eminent Domain, any proposed route must be agreed to by the affected landowners) or would result in significant wetland impacts. The proposed alignment across Wetland AV-1 utilizes the existing railroad ROW to minimize disturbance to this area. Consequently, the proposed transmission line route is considered the only feasible route available to the Applicant.

CPP investigated placing the 115 kV transmission line partially or fully underground. However, these alternatives were found to be infeasible due to their high cost. The proposed 115 kV line is approximately 9.0 miles long. The cost of going overhead for this full distance is approximately $4 million. The cost of going underground over this same distance is approximately $16 million. The cost of placing the entire line underground would make the Project uneconomical. CPP also investigated the option of going partially underground, but determined that even relatively small sections of underground line had unacceptable cost implications. For example, an analysis prepared by MSE Power Systems indicates a 0.4-mile stretch of 115 kV overhead line would cost approximately $171,000, while going underground this same distance would cost approximately $917,000. Although an underground line would reduce agricultural and visual impacts, it would likely increase impacts on wetlands and streams.

As to turbine selection, the wind industry is generally moving toward the use of larger wind turbine generators, since they are generally more cost-effective (i.e., have a more favorable ratio of the rotor-swept area to generator size). The Project Site, as with most places in New York State, has positive wind shear, which means that the average wind velocity increases along with the height of the wind turbine tower. An 80 meter tower with a 96 meter-diameter rotor is among the tallest turbines now commercially available, and the currently proposed turbine and turbine layout are the ones that maximize the generation potential of the site, while utilizing the fewest turbines. Because the wind is stronger and less turbulent at higher altitudes, these larger turbines are more efficient at capturing the available energy in the wind. As mentioned previously, use of smaller turbines would likely reduce power generation

and/or increase impacts associated with road and interconnect construction. Smaller turbines, at best, and would only marginally reduce visual impact.

Consequently, CPP believes that alternative project designs are likely to result in equal or greater adverse environmental impacts, while yielding lower electrical output. They are therefore considered less desirable than the proposed design.

5.4 ALTERNATIVE PROJECT SIZE

See discussion in Section 5.4 of the DEIS. A significantly smaller sized project is not economically feasible given the high fixed cost (approximately $4 million) of the 9.0 mile 115 kV transmission line required to connect the Project Site with the existing power grid.

5.5 ALTERNATIVE TECHNOLOGIES

See discussion in Section 5.5 of the DEIS.

5.6 ALTERNATIVE CONSTRUCTION PHASING

See discussion in Section 5.6 of the DEIS.

6.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

See discussion in Section 6.0 of the DEIS.

7.0 GROWTH INDUCING IMPACTS

See discussion in Section 7.0 of the DEIS.

8.0 CUMULATIVE IMPACTS

SEQRA requires a discussion of cumulative impacts where such impacts are "applicable and significant." 6 NYCRR § 617.9(b)(5)(iii)(a). Cumulative impacts are two or more individual environmental effects which, when taken together, are significant or which compound or increase other environmental effects. The individual effects may be effects resulting from a single project or from separate projects.

Where individual effects of the Project may interact with other effects of the Project, such potential cumulative impacts have been addressed in Section 3 above.

This section addresses the potential cumulative impacts that may arise from interactions between the impacts of the Project and the impacts of other projects. In general, cumulative impact analysis of external projects is required where the external projects have been specifically identified and either are part of a single plan or program, or there is a sufficient nexus of common or interactive impacts to warrant assessing such impacts together. The subsections below discuss whether there are identified projects for which cumulative impact analysis is required, and assess the extent to which the impacts of such projects will be cumulative with the impacts of the Cohocton Wind Power Project.

Existing and Approved Projects

As was reported in the DEIS, there are still no operating or approved utility-scale wind power projects in Steuben County. The nearest existing project is the Wethersfield Wind Farm, a 10 turbine, 6.6 MW wind energy facility located in the Town of Wethersfield in Wyoming County. The Wethersfield facility is located approximately 40 miles from the Project Site, and therefore does not have an impact on the Project Site or the surrounding area within and near the Town of Cohocton.

CPP is not aware of any other existing or approved projects within the Town or surrounding area that do, or if constructed, would, have environmental effects that would interact with those of the Project.

Proposed or Future Projects

Across Steuben County and New York State, several additional wind-powered generating facilities are in the project planning and development phases. The review and approval status of these projects is highly variable, ranging from preliminary site investigations to those with completed system reliability impact studies (requirement of NYISO), detailed project plans, and landowner agreements. The NYISO reviews projects in three main phases: submittal of an interconnection request, preparation of a feasibility study, and completion of a system reliability impact study. This review process separates projects, initially by feasibility to connect to the New York power grid via a selected transmission facility. Proposed projects in any phase of project review by the NYISO are listed on a comprehensive queue listing maintained by NYISO on their website http://www.nyiso.com. It is reasonable to assume, that wind power projects with in-progress system reliability impact studies and with upcoming proposed operation dates may be considered 'proposed' or 'future' projects for the purposes of cumulative impact analysis.

In Steuben (and Yates) County, eight additional projects are considered proposed projects that may fall into this category (NYISO, queue updated 11/7/2006). These include the following:

- Ecogen Prattsburgh/Italy Valley Wind Farm (79.5 MW)
- Prattsburgh Wind Park [WindFarm Prattsburgh] (75 MW) proposed by UPC Wind Management, LLC and Global Winds Harvest, Inc.
- Hartsville Wind Farm (50 MW) proposed by Airtricity Developments, LLC
- Canisteo Hills Windfarm (149 MW) proposed by Invenergy NY, LLC
- Paragon I Wind Generation (100 MW) proposed by Clipper Windpower, Inc.
- Canandaigua II [Dutch Hill] (42 MW) proposed by UPC Wind Management, LLC
- Paragon II (150 MW) proposed by Clipper Windpower Development, Inc.
- Howard Wind Project (79.2 MW) proposed by Everpower Global

To obtain additional information about these projects, CPP reviewed data available from the NYISO website and from the Steuben County IDA. This review revealed that the precise location of most of these proposed facilities is not available from these sources. As a result, CPP is not able to identify the actual locations or proposed layout/design of most of these projects, and therefore is not able to provide a detailed cumulative impact analysis. As was

the case when the DEIS was prepared, the exceptions are the Ecogen Prattsburgh/Italy Valley Wind Farm, which has been the subject of a Final Generic EIS issued by SCIDA, the WindFarm Prattsburgh Project (which released a DEIS on June 22, 2006), and Canandaigua II (Dutch Hill) project, which is also being proposed by an affiliate of CPP. Further, it is important to note that the assumption that one or more of the proposed Steuben County projects would complete the NYISO review; complete SEQRA review; complete state, federal, and local permitting; receive funding; and be constructed is also speculative. Any, or all of the proposed projects in Steuben County may not be approved and/or constructed, and therefore would not contribute to cumulative impacts associated with the construction and operation of the Cohocton Wind Power Project.

Nonetheless, for purposes of this SDEIS, CPP assumes that all of the proposed projects will be approved and constructed, and provides the analysis which follows of potential cumulative impacts to the extent ascertainable. In most cases, only limited information about the other projects is available, so only a limited analysis is possible.

Ecogen and Global Winds Harvest Prattsburgh Projects

The Ecogen Prattsburgh/Italy Wind Farm and the WindFarm Prattsburgh Project are proposed to be constructed in close proximity to each other in the Towns of Italy (Yates County) and Prattsburgh (Steuben County). As measured to the nearest turbine, these projects are located approximately 1.75 miles northeast of the Cohocton Wind Power Project. Due to the separation of these projects from the Cohocton Wind Power Project, they will not result in cumulative construction impacts. The construction routes described in Section 3.8 of the SDEIS and Appendix J do not overlap with those proposed for either of the Prattsburgh projects. With respect to operational impacts, the two Prattsburgh projects will not create cumulative noise and shadow flicker impacts due to their distance from the Cohocton Project.

Cumulative impacts arising from simultaneous operation of the three projects are anticipated to be limited to visual and avian impacts. Cumulative avian impacts may occur, regardless of the distance between proposed facilities. Based upon the information presented in the WindFarm Prattsburgh DEIS, if as many as 6 birds per turbine per year are killed (i.e., the high end of what has been observed at other projects), total annual collision mortality could be as high as 264 birds (EDR, 2006). The avian analysis conducted for the Cohocton Project also predicted a potential worst-case scenario of 6 fatalities per turbine per year (see Section

3.3 and Appendix E of the DEIS). As currently proposed, the Cohocton Project includes up to 36 turbines, which equates to a maximum of approximately 216 avian fatalities per turbine per year. Therefore, cumulative avian mortality for both the WindFarm Prattsburgh and Cohocton projects may be as high as 480 birds per year. Assuming the same maximum per turbine mortality rate, and approximately 50 turbines at the Ecogen project, would increase this number to 780. While this number may sound large, it is a tiny fraction of the population that migrates through or resides in this area, and would not be biologically significant for any of the affected species.

Cumulative bat mortality impacts could also be anticipated, but based on the results of studies at other wind power projects and correspondence with the NYSDEC (A. Hicks, pers. commun.) it does not yet appear possible to accurately predict post construction bat mortality based on preconstruction data.

Cumulative visual impacts are not anticipated to be significant from most locations, due to screening providing by hills and trees, and the distance between the projects. A cumulative viewshed analysis was prepared as part of the SVIA. To accomplish this, the 10-mile radius Cohocton topographic and vegetation analyses (based on maximum blade tip height) were overlaid on the same viewshed analyses prepared for the proposed Dutch Hill Wind Farm in the Town of Cohocton, and the WindFarm Prattsburgh project in the Towns of Prattsburgh and Italy. The proposed Ecogen Prattsburgh/Italy Wind Farm project was not addressed, because final turbine locations for that project have not yet been determined. The viewsheds for the three projects were then plotted on a base map and areas of viewshed overlap identified (Figure S22). The cumulative viewshed analysis of the proposed Cohocton, Dutch Hill, and WindFarm Prattsburgh projects is presented in Figure 7, Sheets 5 and 6 in the SVIA. Based on the screening effect of topography alone, it appears that areas with potential simultaneous views of these three projects are limited to higher elevation ridgetops and slopes. Valley areas, where the majority of sensitive receptors are located (including all of the villages, hamlets, and major roads) generally have potential views of only one or two of these projects. Factoring vegetation into the cumulative viewshed analysis essentially eliminates wooded slopes from the area of potential cumulative Project visibility. Areas indicated as having views of all three projects on the cumulative vegetation viewshed map are limited to ridgetops, which in total amount to approximately 4% of the overlapping study areas. Areas indicated as having potential views of just the Cohocton and WindFarm Prattsburgh projects are concentrated in the Towns of Naples, Prattsburgh and Italy, to the east and northeast of the Project Site.

To further address concerns regarding potential cumulative visual impact of these wind power projects, a cumulative simulation of the Cohocton and Prattsburgh projects was prepared.

Viewpoint 133 on Burke Road in the Town of Prattsburgh (for precise location see Figure 10 in the SVIA) was chosen for development of a cumulative simulation, because it allows unscreened views of turbines in each project, including foreground views of several Prattsburgh turbines (see Figure S16). The viewpoint is typical of the upland agricultural landscape similarity zone. Expansive open fields allow for long distance views to adjacent ridgetops. The landscape is flat to gently rolling and includes a patchwork of open fields and woodlots. The only evidence of development is the plowed snow along the road edge and a midground barn structure and a meteorological tower. With the proposed Project in place, four turbines from the WindFarm Prattsburgh Project can be seen in the foreground and near midground on the right, while a more distant cluster of turbines from the Cohocton Project can be seen on the background ridge to the left. The primarily impact is the scale contrast presented by the foreground turbines, which contrast primarily with landform and vegetation. Color contrast is minimal and the turbines appear to fit with the agricultural land use that dominates this view. The SVIA rating panel indicated a moderate level of visual contrast (average score of 2.46 on a scale of 1 to 5) in this view. The presence of the two projects was noted as helping to balance the turbines in the view. Their organized patterns and spacing also help soften their impact on the landscape (see additional discussion and rating panel comments in Appendix E).

The Final Generic EIS prepared with respect to the Ecogen project analyzed the cumulative impacts that could arise between it and the WindFarm Prattsburgh project.

Dutch Hill Project

Canandaigua Power Partners II, LLC, an affiliate of CPP, has filed an interconnection request with the NYISO and an application with the Town of Cohocton for the Dutch Hill Wind Farm. The Dutch Hill project is proposed to consist of 16 2.5 MW wind turbines located on Dutch Hill in the Town of Cohocton. The Dutch Hill site is located directly west of the proposed Cohocton Wind Power Project, across the Cohocton River Valley. This site is approximately 1.6 miles from the nearest turbine included in the Project. It is located directly

north of the Village of Cohocton and southwest of the hamlet of Atlanta. Like the proposed Project Site, the Dutch Hill site is primarily elevated, open agricultural land.

Due to the distance between the Dutch Hill and Cohocton sites, cumulative noise and shadow flicker impacts are not anticipated. However, based on the proposed number and location of Dutch Hill turbines, cumulative traffic, avian, visual, and economic impacts are likely.

Given the number of large over size/overweight (OS/OW) transport vehicle trips required to deliver turbine components for each proposed project, it is reasonable to assume that there may be a cumulative effect on transportation and traffic within the Town of Cohocton. It is not anticipated that there will be significant cumulative effects on local transportation routes due to the fact that the projects are separated by over a mile and the local roads used for the Cohocton Project are separate and distinct from those used by Dutch Hill. Additionally, preliminary turbine component delivery routes were selected to avoid major population areas such as business and residential areas in the village of Cohocton. In the event that both the Cohocton and Dutch Hill projects are constructed in the same time frame, it is necessary to identify which travel routes may be common to evaluate the cumulative impacts the two projects may impose on the existing highway infrastructure.

The transportation assessment reports prepared for the Dutch Hill and Cohocton Wind Projects indicate the same southbound and northbound routes in Cohocton and Avoca, NY may be used to deliver wind turbine components to the two project sites, as described below.

- Southbound Truck Route: Potential areas of cumulative traffic impact traveling southbound would be confined primarily to traffic on a) Interstate 390 Southbound, b) a short stretch of Michigan Hollow Road between I-390 and SR 415, and c) SR 415 from Michigan Hollow Road to Newcomb Hollow Road. Each section of this route is described below. If the Dutch Hill Wind Project is constructed on the same schedule as the Cohocton Wind Power Project, the number of truck trips required to deliver turbine equipment along these sections of road would increase by 144 to a total of 468 trips, as described below. There would also be an equal number of returning trucks. The 468 truck trips would be spread throughout the duration of the construction phase and would not occur at one time.

- I-390 Southbound: This section of the route is approximately 15.5 miles in length. The number of truck trips along this route would increase by 144 trips spaced throughout the construction period if construction of the Dutch Hill Wind Project occurs on the same construction schedule as the Cohocton Wind Power Project. The additional impact to the interstate highway infrastructure is expected to very low because the interstate highway system is designated and constructed to handle heavy volume and heavy loads.

- Michigan Hollow Road: This section is very short (0.3 miles) and connects I-390 to SR 415. This section is also designed and constructed to the same high standards as the interstate system. The total of 468 truck trips spaced throughout the duration of construction using this road to make deliveries to the Dutch Hill and Cohocton projects would have very little if any impact to the roadway infrastructure.

- State Route 415 North (SR 415): This section of the route is approximately 8.6 miles in length. This route follows the Cohocton River through the hamlet of Wallace into the Village of Cohocton. There is ample pavement width to handle the additional 144 truck trips anticipated by simultaneous construction of the Dutch Hill and Cohocton Projects. As previously stated, the additional 144 truck trips would be spread throughout the duration of the construction phase and would not occur at one time. Therefore, the cumulative impact to the roadway infrastructure is expected to be very low. Though this route leads to the Village of Cohocton, it is important to note that all wind turbine transport vehicles will be exiting SR 415 before reaching the Village and will be traveling along designated by-pass roads to avoid using local roads in the Village. Therefore local congestions and damage to road infrastructure within the Village is not anticipated.

- Village By-Pass Routes: In the Town of Cohocton, both wind projects share a portion of SR 415 northbound between Wentworth Road and Newcomb Hollow Road for approximately 2.5 miles before turning onto designated By-Pass routes to avoid the Village community. For the Cohocton project, the designated By-Pass route is Newcomb Hollow Road. Newcomb Hollow Road has direct access to the Lent Hill area where the majority of the wind turbine sites are located. For the Dutch Hill project, the designated By-Pass route is Jones Road. Jones Road has access to Loon Lake Road (CR 121) which in turn has direct access to SR 415 (west of

Cohocton Village) and Davis Hollow Road where the Dutch Hill project is proposed. These By-Pass routes were specifically identified and evaluated as the best routes around the Cohocton Village so as to not create “bottlenecks” on Maple Avenue, Wilcox Street, Hill Street, North and South Main Streets.

- Northbound Truck Route: Potential areas of cumulative traffic impact traveling northbound would be confined primarily to traffic on Interstate 390 Northbound from Exit 1 to Exit 2 for a distance of approximately 11 miles. Both wind projects may be required to travel this route to make deliveries to different wind turbine sites. Deliveries for Dutch Hill will likely use Exit 2 from I-390 North. The number of truck trips along this route is increased by 144 trips to a total of 468 trips throughout the duration of construction, if construction of the Dutch Hill Wind Project occurs on the same construction schedule as the Cohocton Wind Power Project. The additional impact to the interstate highway infrastructure is expected to be very low because the interstate highway system is designed and constructed to handle heavy volume and heavy loads.

Any cumulative transportation impacts would be temporary and short-term in nature. Upon issuance of approvals of individual projects, coordination of transportation routes would be undertaken by the affiliated project developers to assure that the duration and extent of impact is minimized and that road repair/restoration work is accomplished at the appropriate time, and at not cost to the affected jurisdictions.

Using the assumptions presented previously regarding potential worst case per-turbine avian mortality, the Dutch Hill and Cohocton projects together could include up to 52 turbines, which would result in up to 312 bird collision fatalities annually. Adding potential mortality from the two Prattsburgh projects would increase this total number to 876. However, given the results of avian studies from all of these projects, this cumulative impact is still a small fraction of the bird population that resides in or migrates through the area.

The fatality rates of bats documented at some mid-Appalachian wind power facilities do provide credible cause of concern regarding the potential cumulative impact of wind power developments on bat populations. However, considerable variability in documented fatality rates for bats has been observed across the country and across the landscapes on which wind energy developments have been constructed. As mentioned previously, based on

current available data, there is no way to accurately predict bat mortality at a specific wind power site, let along multiple sites.

As mentioned previously, a cumulative viewshed analysis was prepared to evaluate potential cumulative visual impact of the Cohocton, Dutch Hill and WindFarm Prattsburgh projects. The cumulative topographic viewshed analysis indicated that simultaneous views of the Cohocton and Dutch Hill projects were likely to be available in most of the Cohocton River Valley from Wallace to Wayland. Factoring the screening effect of vegetation into the viewshed analysis significantly reduced cumulative visibility of these two projects. Remaining simultaneous views of the Cohocton and Dutch Hill project are most likely to be available in the central and northern portions of the Cohocton River Valley and the Naples Valley to the north.

The SVIA (Appendix F) also included preparation of visual simulations from Viewpoint S-71 on West Hollow Road in the Town of Naples and Viewpoint 195 on Kirkwood-Lent Hill Road in the Town of Cohocton (for exact locations, see Figure 10 in the SVIA). These viewpoints were chosen because they offered clear views of both the Cohocton and Dutch Hill projects. Viewpoint 71A is from West Hollow Road outside the Village of Naples. It is approximately 3.5 miles from the nearest turbine that will be visible in the view, and offers a panoramic vista along a rural highway. With the two projects in place, turbines can be seen projecting into the sky above both background ridgetops in this view. They appear dark against the sky and their expanse across the landscape alters the open panoramic quality of the view. Their scale contrast is also noticeable, but mitigated by the effects of distance. While the two projects are balanced across the two ridgelines, one rating panel member felt that the turbines altered the rural character of the view, while the other two noted relatively little adverse impact.

Viewpoint 195 is approximately 0.5 mile from the nearest turbine that will be visible in this view. Rolling agricultural fields, hedgerows, and woodlots in the foreground and midground give way to long-distance views to Dutch Hill in the background. With the proposed Project in place, foreground and midground turbines from the Cohocton Project, as well as background turbines from the Dutch Hill Project, come to dominant the view. Scale contrast of the foreground turbines is notable, as is their color contrast with the sky under these lighting conditions. Although consistent with the concept of a working landscape, number and proximity of visible turbines significantly changes the rural character of the view.

In regard to cumulative economic impacts, the Economic Impact Analysis prepared for the Cohocton Project (Appendix K) also evaluated the potential impact of both the Dutch Hill and Cohocton projects. This study reported that approximately $245 million in investment would be needed to construct the Cohocton and Dutch Hill Wind Farms, and that construction of both facilities would generate approximately 101 construction-related jobs. The construction of the two wind farms will collectively have a spin-off of approximately 886 jobs, bringing the projected total economic impact of construction to 987 jobs. Earnings derived from construction wages will have a spin-off effect projected at approximately $1.504 million, bringing the total estimated economic impact from household wages to $3.958 million. The $245 million in total construction investment will generate indirect and induced impacts of approximately $345 million, bringing the total economic impact to over $590 million for the two wind farm facilities.

Once in operation, the Cohocton and Dutch Hill Wind Farms will have a combined generation capacity of approximately 125 megawatts of power. Both wind farms will need the services of one Operations Manager, one Quality Control Engineer, one Bookkeeper/Secretary and four Wind Technicians. Staff time utilization will be divided at 70% utilization for the Cohocton Wind Power Project and 30% utilization for the Dutch Hill Wind Farm.

Total direct earnings comprised of direct wages and leases paid to landlords for both sites are estimated at $0.768 million annually. Wages for the Cohocton and Dutch Hill Wind Farms are estimated at $355,000 per year for a staff of six. Leases are collectively projected at approximately $625,000, comprising 2.5% of annual gross receipt (output) per year. The six jobs generated by operating the wind farm facilities will result in a spin-off of approximately 22 jobs, bringing the total impact of combined Project operation to 29 jobs. These full-time jobs create other jobs in other sectors of the economy through expenditures derived from household wages. Earnings are projected to have an indirect and induced impact of approximately $0.161 million, bringing the total economic impact on earnings to approximately $0.928 million per year. Revenues are projected to generate approximately an additional $30.773 million in output, bringing the total economic impact on gross sales and receipts (output) to approximately $55.773 million per year.

Other impacts of the two projects are strictly additive in nature. Combined impacts to soils, natural communities, agricultural land, and wetlands can be determined by simply adding the results from the Cohocton SDEIS and the Dutch Hill DEIS. A similar approach could be

taken to evaluate combined benefits to power generation capacity and air emissions reductions.

It is important to reiterate that the Dutch Hill project is not a second phase of the Cohocton Wind Power Project. Rather, the two are entirely separate projects. As stated in the DEIS, the Dutch Hill project will be owned and operated by a separate project company, on a separate site, with a separate electrical interconnection. Construction and operation of the Project is not dependent upon the development or operation of the Dutch Hill project, and the two projects will not be functionally dependent upon each other. Review of the Cohocton Wind Power Project pursuant to SEQRA, and subsequent issuance of the permits necessary to construct and operate the Project, will not commit any reviewing agency to approve the Dutch Hill project. To the contrary, the Dutch Hill project will be separately reviewed. To assure that all environmental impacts are fully and appropriately reviewed, the Dutch Hill DEIS will include a full cumulative impact assessment of the interactions between the two projects.

Other Steuben County Wind Energy Projects

It is reasonable to assume, based upon the limited information available on the four remaining proposed wind energy projects in Steuben County, that the proposed project sites for these projects are located from 3 to 30 miles from the Project Site. Given that, cumulative impacts to area residences from noise or shadow flicker are unlikely, as the turbines would not overlap or be interspersed with proposed Cohocton turbines (i.e. be located within ½ mile of each other). However, potential cumulative impacts could include construction-related impacts to area roads and bridges. This would only occur if two or more projects were constructed simultaneously and if they used the same construction delivery routes. Should this situation arise, coordination of transportation routes would be undertaken by the involved project developers to assure that the duration and extent of impact is minimized and that road repair/restoration work is accomplished at the appropriate time, and at not cost to the affect jurisdictions.

The most likely cumulative impact resulting from the construction of multiple proposed wind power projects within the County would be the effects on visual/aesthetic resources and community character. The cumulative impact of multiple projects will be highly variable depending upon the number of turbines visible, their proximity to the viewer, the landscape setting and the viewer's attitude toward wind power. If multiple projects were visible from a

particular viewpoint, the typical scenario would have portions of one project being visible in the foreground or midground while another is visible in the background. Although a project may be visible from many miles away, its visual impact diminishes significantly at distances over 3.5 miles (Eyre, 1995). In addition, long distance views across Steuben County are highly variable and often screened by valley topography and forest vegetation. As indicated in the cumulative viewshed analysis prepared as part of the SVIA, visibility of multiple (i.e., more than two) projects (if they are ultimately built) would generally be restricted to elevated, open (agricultural) ridgetops, where residential density is generally lower (as opposed to villages and hamlets which are often located in valley settings and have limited outward views to the landscape due to the presence of building and trees).

9.0 EFFECTS ON USE AND CONSERVATION OF ENERGY RESOURCES

The proposed Project will have significant, long-term beneficial effects on the use and conservation of energy resources. The operating Project will generate up to 90 MW of electricity without any fossil-fuel emissions. Assuming that the average house in Western New York uses approximately 650 kilowatt hours of electric power per month, and assuming the Project actually generates approximately 30% of its nameplate generating capacity, this is enough power to support approximately 39,500 homes in New York State (on an average annual basis). The Project will also add to and diversify the state's sources of power generation, accommodate growing power demand through the use of a renewable resource (wind) and over the long term will likely displace some of the state's older, less efficient, and dirtier sources of power.

It will also facilitate compliance with the Public Service Commission (PSC) "Order Approving Renewable Portfolio Standard Policy", issued on the 24th of September 2004. This Order calls for an increase in renewable energy used in the state to increase to 25% (from the then level of 19%) by the year 2013. The principal benefits of the Project are in accordance with the 2002 State Energy Plan (New York State Energy Planning Board, 2002), namely:

- "Stimulating sustainable economic growth"
- "Increasing energy diversity…including renewable-based energy"
- "Promoting and achieving a cleaner and healthier environment"

In response to statements by wind power opponents that such projects will not address global warning and our dependence of fossil fuels, Charles Komanoff, in a recent article in the on-line publication Orion (Komanoff, 2006) offers the following response:

> "This notion is mistaken. It is true that since wind is variable, individual wind turbines can't be counted on to produce on demand, so the power grid can't necessarily retire fossil fuel generators at the same rate as it takes on windmills. The coal- and oil-fired generators will still need to be there, waiting for a windless day. But when the wind blows, those generators can spin down. That's how the grid works: it allocates electrons. Supply more electrons from one source, and other sources can supply fewer. And since system operators program the grid to draw from the lowest-cost generators first, and wind power's "fuel", moving air, is free, wind-generated

electrons are given priority. It follows that more electrons from wind power mean proportionately fewer from fossil fuel burning."

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