# Final Environmental Impact Statement for the Ball Hill Wind Project Chautauqua County, New York Volume 1

**November 2016**

Prepared for:

**Ball Hill Wind Energy, LLC**
11101 W. 120th Ave., Suite 400
Broomfield, CO 80021

Prepared by:

ecology and environment, inc.
Global Environmental Specialists

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# Table of Contents

**Volume 1**

**Table of Contents (cont.)**

**Section** **Page**

**Table of Contents (cont.)**

# List of Tables

# List of Figures

# List of Abbreviations and Acronyms

| | |
|---|---|
| 2008 DEIS | Draft Environmental Impact Statement (accepted in 2008) |
| AM | amplitude modulation |
| APE | area of potential effect |
| AWWI | American Wind Wildlife Institute |
| Ball Hill | Ball Hill Wind Energy, LLC |
| BBCS | Bird and Bat Conservation Strategy |
| BMP | best management practice |
| CRIS | Cultural Resources Inventory System |
| dBA | decibels (A-weighted) |
| DHS | U.S. Department of Homeland Security |
| E & E | Ecology and Environment, Inc. |
| Eagle MP | Eagle Management Plan |
| ECL | (New York State) Environmental Conservation Law |
| EMP | Environmental Monitoring Plan |
| ERP | Emergency Response Plan |
| FAA | Federal Aviation Administration |
| FEIS | Final Environmental Impact Statement |
| FM | frequency modulation |
| FTE | full-time equivalent |
| GIS | geographic information system |
| GSU | generation step-up |
| Hz | Hertz |
| km | kilometer |
| kV | kilovolt |
| LMR | land mobile radio |
| LOD | limit of disturbance |
| MassDEP | Massachusetts Department of Environmental Protection |

## List of Abbreviations and Acronyms (cont.)

| | |
|---|---|
| MDPH | Massachusetts Department of Public Health |
| MDS | map-documented structure |
| MSDS | material safety data sheet |
| MW | megawatt |
| NHPA | National Historic Preservation Act |
| NLEB | northern long-eared bat |
| NRE | National Register Eligible |
| NRHP | National Register of Historic Places |
| NRL | National Register List |
| NYCRR | New York Codes, Rules, and Regulations |
| NYSDAM | New York State Department of Agriculture and Markets |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOT | New York State Department of Transportation |
| O&M | operation and maintenance |
| Panamerican | Panamerican Consultants, Inc. |
| Project | Ball Hill Wind Project |
| NYSPSC | New York State Public Service Commission |
| RES | Renewable Energy Systems Americas, Inc. |
| ROW | right-of-way |
| SDEIS | Supplemental Draft Environmental Impact Statement |
| SEQRA | (New York) State Environmental Quality Review Act |
| SHPO | State Historic Preservation Office |
| SWPPP | Storm Water Pollution Prevention Plan |
| Town Laws | Wind Energy Facilities Law of the Town of Villenova and Article XIV of Town of Hanover Zoning Laws: Wind Energy Conversion Systems |
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| Villenova Town Law | Wind Energy Facilities Law of the Town of Villenova |
| VRA | visual resource assessment |
| W | watts |
| WECS | wind energy conversion system |
| V126 | Vestas Model 126-3.45MW IEC IIA/IIB turbines |

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# Definitions

The following terms are used throughout this document to describe the proposed action.

- **Project.** "Project" refers to all activities involved in the construction, operation and decommissioning of the Ball Hill Wind Project described herein and all components thereof, including, but not limited to, wind turbines (including blades, nacelles, towers, pads, and foundations); electrical transmission and collection lines and poles; trenches; access roads; laydown areas, Operations and Maintenance (O&M) buildings and related structures.

- **Project Area.** The Project Area (see Figure 1) is denoted by the outer boundary of the geographic area that contains all wind energy facilities (as defined in the Villenova and Hanover wind laws) including, without limitation, turbine sites, access roads, transmission line and collection system components, O&M building, laydown areas, collection substation, and interconnection substation.

- **Wind Overlay (Zoning) District.** A Wind Overlay (Zoning) District is defined by the Town of Villenova Local Law 1 of 2007 and the Town of Hanover Local Law 1 of 2008 as a zoning district that encompasses part or parts of one or more underlying districts and that establishes requirements for wind energy facilities. Both laws require that all wind energy conversion systems must be within a Wind Overlay District. For this Project, the term "Wind Overlay District" is synonymous with "Project Area," and Ball Hill seeks the creation of such a district.

- **Project Site.** The Project Site consists of land within the Project Area that has the potential to be permanently or temporarily disturbed as a result of the construction, operation, or decommissioning of Project facilities (including wind turbines, electrical collection and transmission lines, utility trenches, utility poles, access roads, staging areas, mitigation areas and other related structures). Ball Hill has obtained property interests or is in the process of finalizing negotiations for all parcels that would host Project components or for which a setback waiver within the Project Site is required.

- **Project Sponsor.** The Project Sponsor is the Ball Hill Wind Energy, LLC. Throughout this document the Project Sponsor will be referred to as "Ball Hill."

# 1 Project Description

## 1.1 Introduction

Ball Hill Wind Energy, LLC (Ball Hill), a company owned by Renewable Energy Systems Americas, Inc. (RES), proposes to construct and operate the Ball Hill Wind Project (Project) in the towns of Villenova and Hanover, Chautauqua County, located in western New York State. Construction of the Project would be expected to begin in 2017 and be complete in 2018.

This Final Environmental Impact Statement (FEIS) has been prepared in accordance with the requirements of the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations, 6 New York Codes, Rules and Regulations (NYCRR) 617. The FEIS describes changes to the Project design since the January 2016 Supplemental Draft Environmental Impact Statement (SDEIS), presents responses to comments received from involved agencies and the public, and analyzes potential environmental impacts resulting from the revised Project layout and design. Studies and reports pertaining to the Project are attached.

The format of this FEIS is as follows:

- Section 1 provides an updated Project description and details changes in the Project from the SDEIS to the FEIS.
- Section 2 provides individual responses to all comments received during the SDEIS public comment period.
- Appendices A through T provide additional Project information either updated from the SDEIS or committed to in the SDEIS. Appendix A, Updated Tables and Figures, provides updated tables and figures from the SDEIS that are not associated with an updated report. Updated tables and figures corresponding to the subject matter of the other appendices are included within the respective appendices. For example, updated wetland impact text, tables and figures are provided in Appendix E, Water Quality and Wetlands, along with the updated report.

## 1.2 Project History

In May 2008, the Town of Villenova Town Board (Lead Agency) accepted an application for a Special Use Permit and Wind Overlay Zoning District under the Wind Energy Facilities Law of the Town of Villenova (Villenova Town Law) for

the proposed Noble Ball Hill Windpark in the towns of Villenova and Hanover, Chautauqua County, New York. This wind energy proposal utilized the same general Project Area as is currently proposed for the Project. In September 2008 the Villenova Town Board, as the Lead Agency under SEQRA, accepted a Draft Environmental Impact Statement (2008 DEIS) as complete for purposes of commencing public review. As described in the 2008 DEIS, the Project then called for the construction and operation of 60 1.5-megawatt (MW) turbines (90.0 MW of power). Of the 60 proposed turbines, 49 were proposed for the town of Villenova and 11 for the town of Hanover within the same Project Area as studied in the 2008 DEIS and later in the SDEIS. The proposal also included associated access roads, buried electrical collection lines, and electrical transmission and interconnection facilities. After acceptance of the 2008 DEIS, the Lead Agency opened a public comment period and held a public hearing under SEQRA and as required under the Villenova Town Law and the Town of Hanover Zoning Laws: Wind Energy Conversion Systems (Hanover Town Law). Written and oral comments were received from involved agencies and the public. Copies of these comments are included in this FEIS in Appendix T, Public Participation.

In 2010, development of the Project continued within the same Project Area as studied in the 2008 DEIS, the 2016 SDEIS, and in this FEIS. In 2011, the Lead Agency received an amended application for the necessary Town permits and approvals, and an amendment of the maximum height limitation in the Villenova Town Law. The amended application contained a revised layout and proposed new taller turbine technology within the same Project. In 2012, revised amended applications using different turbine technology and a revised layout within the same Project Area as the 2008 DEIS were submitted to the Villenova and Hanover Town Boards. In February 2012, the Lead Agency requested that a SDEIS be prepared, identifying differences from the 2008 DEIS and providing updated impact analyses in accordance with an approved scope of review for the Duke Energy Generation Services SDEIS. In May 2012, the Lead Agency accepted the revised amended application as complete, made a positive declaration of significance, and ordered an SDEIS to be prepared consistent with the scope of impacts approved in February 2012. The SDEIS was prepared as directed and submitted to the Lead Agency's consultants for review and comment.

In October, 2015, the Lead Agency recognized the continued development of the Project by Ball Hill, determined by the Lead Agency as the Applicant and Project Sponsor. Since Ball Hill proposed to operate a number of wind energy conversion systems (WECS), which were different in type, size, and location than was previously reviewed, the Lead Agency ordered the preparation of an SDEIS and required Ball Hill to address a range of impacts related to the implementation of new WECS technology including the increase in height, the modification of the prior Project layout and the passage of time. On January 18, 2016, Ball Hill submitted the SDEIS to the Lead Agency, which was reviewed by the Town's consultants. On January 27, 2016, the Lead Agency accepted the SDEIS as complete for purposes of commencing public review. Copies of the Town Resolution ac-

cepting the SDEIS as complete and the notice of public hearings are included in Appendix T, Public Participation.

Ball Hill then presented the SDEIS at a Public Hearing in the Town of Villenova on March 2, 2016. During the 45-day public comment period ending March 14, 2016, comments from the New York State Public Service Commission (NYSPSC), New York State Department of Environmental Conservation (NYSDEC), and members of the public were received. A total of 14 commenters provided written or spoken comment on a variety of topics. Responses to comments made by the public and by government agencies are provided in Section 2 of this FEIS. This includes responses to comments made by the public at the March 2, 2016, public hearing, and comments submitted by the public and government agencies during the 45-day comment period ending on March 14, 2016.

After consideration of comments received on the SDEIS and in the course of optimizing the Project design to avoid and/or minimize impacts, including permanent impacts to wetlands, the Project was modified as set forth in the amended applications submitted to and accepted by the Towns of Villenova and Hanover on September 28, 2016, and October 24, 2016, respectively.

Public hearings were held in each town after the acceptance of the amended applications where Ball Hill, and its supporting staff, presented the updated Project and solicited and answered questions from the interested public.

Responses to comments made by the public and by involved and interested agencies are provided in Section 2 of this FEIS, and additional information pertaining to public participation is presented in Appendix T, Public Participation. All impact studies associated with the revised Project design have been updated and have been submitted herewith, or were included in the amended applications.

## 1.3 Changes in the Project since the SDEIS

In the revised layout presented in this FEIS, the Project minimizes environmental impacts, taking into account the community's input, while maintaining the Project's energy generation capacity and maximizing energy efficiency. Ball Hill's detailed process of micrositing and analyzing engineering options and controls to minimize or avoid Project environmental impacts identified in the January 2016 SDEIS has decreased the estimated total land disturbance from construction by about 27% and the estimated total land impacted by operation by about 43%. Tables summarizing these changes are provided in Appendix A.

The current layout reflects a balance of minimizing potentially negative environmental and human impacts while still providing an economically viable Project to produce energy from 100 MW of wind capacity to the electric grid. The following concerns and requirements were taken into account as the Project Design and layout were finalized:

- **Public input and participating landowner concerns/recommendations.** Ball Hill communicated with the local community through a public hearing and the public review of the SDEIS, as well as two additional public hearings in Villenova and Hanover, respectively. Ball Hill also communicated directly with participating landowners in cases where Project facilities would be located on their property, to minimize negative impacts to property owners and their neighbors.
- **Setback requirements.** The parent company of Ball Hill has a policy to voluntarily implement setbacks of 500 meters (1,642 feet), where practicable, from existing residences to ensure maximum screening benefit of existing woodland vegetation, and minimize sound impact and the potential for extended duration shadow flicker on nearby residences. This is more stringent than the Towns' setback requirements, and was achieved for all but four residences, which are less than 1,642 feet but still farther than 1,200 feet from a turbine. As a result, there are no residences within 1,200 feet of a WECS under the current layout of the Project.
- **Impacts to agricultural land.** Adhering to the New York State Department of Agriculture and Markets (NYSDAM) *Guidelines for Agricultural Mitigation for Windpower Projects (revised 2013)*, wherever practicable the Project is sited along field edges and existing access paths to avoid segmenting agricultural lands and impacting agricultural production.
- **Sound.** Ball Hill reduced the number of proposed turbines and took careful consideration to locate the collection substation at the southern end of the Transmission Line (Town of Hanover) such that no residences would be impacted by the sound from the substation (see Figure 2). As a result there are no residences within the 50-A-weighted-decibel (dBA) noise contour and there are fewer houses above the 45-dBA noise contour compared to the SDEIS.
- **Wetlands and Streams.** The Project was microsited resulting in changes to the Project layout from the layout set forth in the SDEIS to decrease impacts to wetlands. Extensive field work was conducted throughout the Project Area to understand where the wetland resources are in the area so that the Project could avoid them wherever practicable. Ball Hill has submitted the Conceptual Wetland Mitigation Plan to the agencies (see Appendix F, Conceptual Wetland Mitigation Plan) and will continue working with agencies (i.e., NYSDEC and U.S. Army Corps of Engineers [USACE]) to obtain wetland permits and implement additional mitigation measures where wetland impacts could not be avoided. Ball Hill is committed to providing a final mitigation plan approved by NYSDEC and USACE prior to permit issuance from both the NYSDEC and USACE.
- **Tree clearing and wildlife**. The Project was sited and turbines were relocated from the SDEIS layout in order to decrease the level of tree clearing and habitat fragmentation, which in turn decreases Project impacts on wildlife, including birds and bats. Ball Hill will continue to consult with federal and state agencies to ensure proper mitigation and construction and post-

construction monitoring occur to further protect wildlife and restoration will be conducted in accordance with commitments made in the SDEIS and FEIS.

- **Federal Aviation Administration requirements.** Ball Hill consulted with the Federal Aviation Administration (FAA) to get a determination of no hazard for all turbines in the layout (see Appendix G, Agency Correspondence). To address concerns about impacts to local airports, the Project team consulted with the local and County officials regarding the Project and confirmed the Project Area is outside the 6-nautical-mile area of operations for both County airports.
- **Visual impacts and shadow flicker**. Ball Hill analyzed the visual impacts from the Project utilizing photo simulations and analyzed the impacts on houses from shadow flicker (see Section 1.4.7 and Appendix I, Visual Resource Assessment).
- **Historic structures and archeological deposits.** The Project avoids a known archeological site that was identified during a 2012 field season. Ball Hill also moved a laydown area from a culturally sensitive area in order to avoid potential archeological deposits. Ball Hill acknowledges that there may be adverse impacts to cultural resources due to the Project and will consult with the State Historic Preservation Office(r) (SHPO) on mitigation techniques as part of Section 106 of the National Historic Preservation Act of 1966 (NHPA). In addition, Appendix O of this FEIS, Architectural Resources Mitigation, provides information about the visual impact mitigation strategies that may be pursued in consultation with SHPO. Ball Hill is committed to consulting SHPO on mitigation strategies for the Project and developing a Historic Resources Impacts Mitigation Plan approved by SHPO.
- **Economic benefits.** In addition to balancing potential negative impacts with an economically viable Project, the Project would also have a significant net positive economic impact on the local community and would contribute to meeting New York State air quality goals.

### 1.3.1 Changes to the Project Layout

Ball Hill has been able to reduce the Project footprint and related impacts by selecting a stronger turbine, the Vestas Model V126-3.45MW IEC IIA/IIB (the V126; see Section 1.3.2), and reducing the total number of turbines to be constructed from 36 to 29.

Figure 1 shows all proposed Project facilities. Figure 2 illustrates both the January 2016 SDEIS and FEIS layouts to highlight changes in the Project layout.

Table 1.3-1 provides a comparison of the Project Layouts proposed in the January 2016 SDEIS and this FEIS. Table 1.3-2 lists the changes made to the Project Layout by turbine and facility.

**Table 1.3-1 Comparison of Project Layouts Proposed in the SDEIS and FEIS**

| Project Component | SDEIS Layout | FEIS Layout |
|---|---|---|
| Wind Turbines | 36 | 29 |
| Access Roads | 14.9 miles | 13.0 miles |
| Buried Electrical Collection Lines | 21.3 miles | 19.8 miles |
| Overhead Transmission Lines | 6 miles | 5.7 miles |
| O&M Building Site | 2.8 acres (5 acres leased) | 5 acres leased[2] |
| Collection Substation | 175 x 290 feet | Similar footprint on 1.3 acres |
| Interconnection Substation | 225 x 611 feet | Similar footprint on 4.0 acres |
| Temporary Construction Laydown Areas (acres) | 26.1 acres | 15.0 acres |
| Potential Impact to wetlands (acres) (Temporary/Permanent)[1] | 24.5 acres/ 4.6 acres | 24.96 acres[3]/ 0.87 acres |

Notes:
1 Total wetland impact is the permanent and temporary impacts combined.
2 The O&M Building site would be utilized as a temporary laydown area during construction.
3 The total temporary impact to wetlands under the FEIS (24.96 acres) includes impacts to forested wetlands by clearing vegetation with no additional fill. Impacts to wetlands are further characterized and explained below in Section 1.4.4 and Appendix E, Water Quality and Wetlands, of this FEIS.

**Table 1.3-2 Ball Hill Wind Project Summary of Changes from the SDEIS**

| Facility | Modifications and Rationale |
|---|---|
| Turbine 1 | Turbine and access road eliminated to minimize slope impacts. Engineering constraints (steep slopes) made access difficult. |
| Turbine 2 | Moved approximately 530 feet southeast; new access road location from Round Top Road. Moved from wooded area to open farm field. Eliminated difficult stream crossing and impacts associated with stream and woodlands and decreased forest fragmentation. |
| Turbine 3 | Moved approximately 450 feet southwest. Increased setback from adjacent landowner and houses to northeast. |
| Turbine 4 | Moved approximately 230 feet southeast, to allow proper turbine spacing for the V126 turbine. |
| Turbine 5 | Moved approximately 208 feet southeast. Increased spacing required for V126 turbine. |
| Turbine 6 | Moved approximately 350 feet southwest to minimize steep slope impacts within turbine footprint. |
| Turbine 7 | Moved approximately 220 feet northwest to address engineering constraints and avoid wetland impacts. |
| Turbine 8 | Remained in the same location as presented in the SDEIS. |
| Turbine 9 | Moved access road to minimize agriculture impacts. |
| Turbine 11 | Remained in the same location as presented in the SDEIS. |
| Turbine 12 | Turbine and access road eliminated in response to engineering constraints, to increase Project energy production and accommodate proper turbine spacing. |
| Turbine 13 | Remained in the same location as presented in the SDEIS. |

**Table 1.3-2 Ball Hill Wind Project Summary of Changes from the SDEIS**

| Facility | Modifications and Rationale |
|---|---|
| Turbine 14 | Moved approximately 220 feet southwest, to allow proper turbine spacing for the V126 turbine. |
| Turbine 15 | Moved approximately 500 feet east to increase Project energy production. |
| Turbine 16 | Moved approximately 50 feet southeast, to allow proper turbine spacing for the V126 turbine. |
| Turbine 17 | Moved approximately 580 feet northeast, to minimize wetland impacts. Road moved to minimize wetland impacts as well. |
| Turbine 18 | Minor road shifts to minimize wetland impacts and impacts on agricultural lands. |
| Turbine 19 | Moved approximately 350 feet north, for proper turbine spacing for the V126 turbine. |
| Turbine 20 | Moved approximately 820 feet northeast, to allow proper turbine spacing for the V126 turbine, and to comply with setbacks in Villenova's Wind Law. |
| Turbine 21 | Moved approximately 200 feet southwest, in response to engineering constraints, to avoid steep slopes and impacts, and minimize tree clearing. |
| Turbine 23 | Moved approximately 230 feet east, for wetland avoidance. |
| Turbine 25 | Turbine and access road eliminated to avoid wetland impacts, and minimize tree clearing. |
| Turbine 26 | Turbine and access road eliminated to avoid wetland impacts, and minimize tree clearing. |
| Turbine 27 | Moved approximately 1,100 feet northeast to avoid wetland impacts, and minimize tree clearing |
| Turbine 28 | Moved approximately 220 feet west, to avoid wetland impacts and gas pipeline/wells. |
| Turbine 29 | Turbine removed and access road eliminated to allow for proper turbine spacing for the V126 turbine, to minimize tree clearing, and avoid wetlands impacts. |
| Turbine 30 | Moved approximately 90 feet southwest. To minimize wetland impacts and respond to engineering constraints. |
| Turbine 31 | Remained in the same location as presented in the SDEIS. |
| Turbine 32 | Turbine and access road eliminated, for proper turbine spacing. |
| Turbine 33 | No change. |
| Turbine 34 | Moved approximately 430 feet southeast, to increase setbacks from adjacent parcel. |
| Turbine 35 | Moved approximately 309 feet southwest, to avoid wetland impacts. |
| Turbine 36 | Moved approximately 500 feet southeast, for proper turbine spacing for the V126 turbine. Associated access road and collection line moved accordingly. |
| Turbine 37 | Moved approximately 1,200 feet northwest for proper turbine spacing. Associated access road and collection lines moved accordingly. |

**Table 1.3-2 Ball Hill Wind Project Summary of Changes from the SDEIS**

| Facility | Modifications and Rationale |
|---|---|
| Turbine 38 | Turbine eliminated, for proper turbine spacing, for the V126 turbine and to avoid wetland impacts. |
| Collection Substation | Moved approximately 850 feet northwest, to minimize tree clearing and increase setback from residence. |
| Interconnection Substation | After extensive assessment of potential alternative locations, the original proposed location of the interconnection substation was retained as optimal. |
| O&M Building | Location of the O&M Building will be finalized to avoid and/or minimize wetland impacts but will be located within the footprint shown on Figure 1. |

Key:
O&M = operations and maintenance
SDEIS = Supplemental Draft Environmental Impact Statement
V126 = Vestas Model 126-3.45MW IEC IIA/IIB turbines

### 1.3.2 Summary of Changes by Project Component from SDEIS to FEIS

**Changes to Project Area:** After reducing the number of turbines, the Project Area, which encompasses parts of the towns of Villenova and Hanover, has been reduced from 13,659 acres in the SDEIS to 9,715 acres. The Project Area encompasses the outer boundary of all parcels containing Project facilities.

**Changes to Turbines:** The Project has been reduced from 36 wind turbines to 29 turbines (23 in the town of Villenova and six in the town of Hanover) with a capacity to produce approximately 100 MW of electricity. The wind turbines that would be installed for the Project would be latest V126 each of which would have a capacity to produce approximately 3.45 MW of electricity. Using this turbine allowed Ball Hill to remove seven turbines which had been in the SDEIS Project layout, reducing the Project footprint and impacts as detailed below.

The V126 class turbine is a three-bladed, upwind, horizontal-axis wind turbine with a rotor diameter of approximately 413 feet. The nacelle is located at the top of the tower and contains the electrical generating equipment. The turbine rotor and the nacelle are mounted on top of a tubular tower giving a rotor hub height of approximately 285 feet. The maximum height for the turbine is below 500 feet when a rotor blade is at the top of its rotation. Once installed, the wind turbine would occupy a round base approximately 60 feet in diameter. Appendix B, Turbine Specifications, of this FEIS contains the Type Certification, a vertical drawing, and the product brochure for the V126.

**Changes to Turbine Sites:** As detailed in Table 1.3-2, seven turbine sites presented in the SDEIS have been eliminated from the current Project layout, and the remaining 29 turbine locations have been sited to ensure that:

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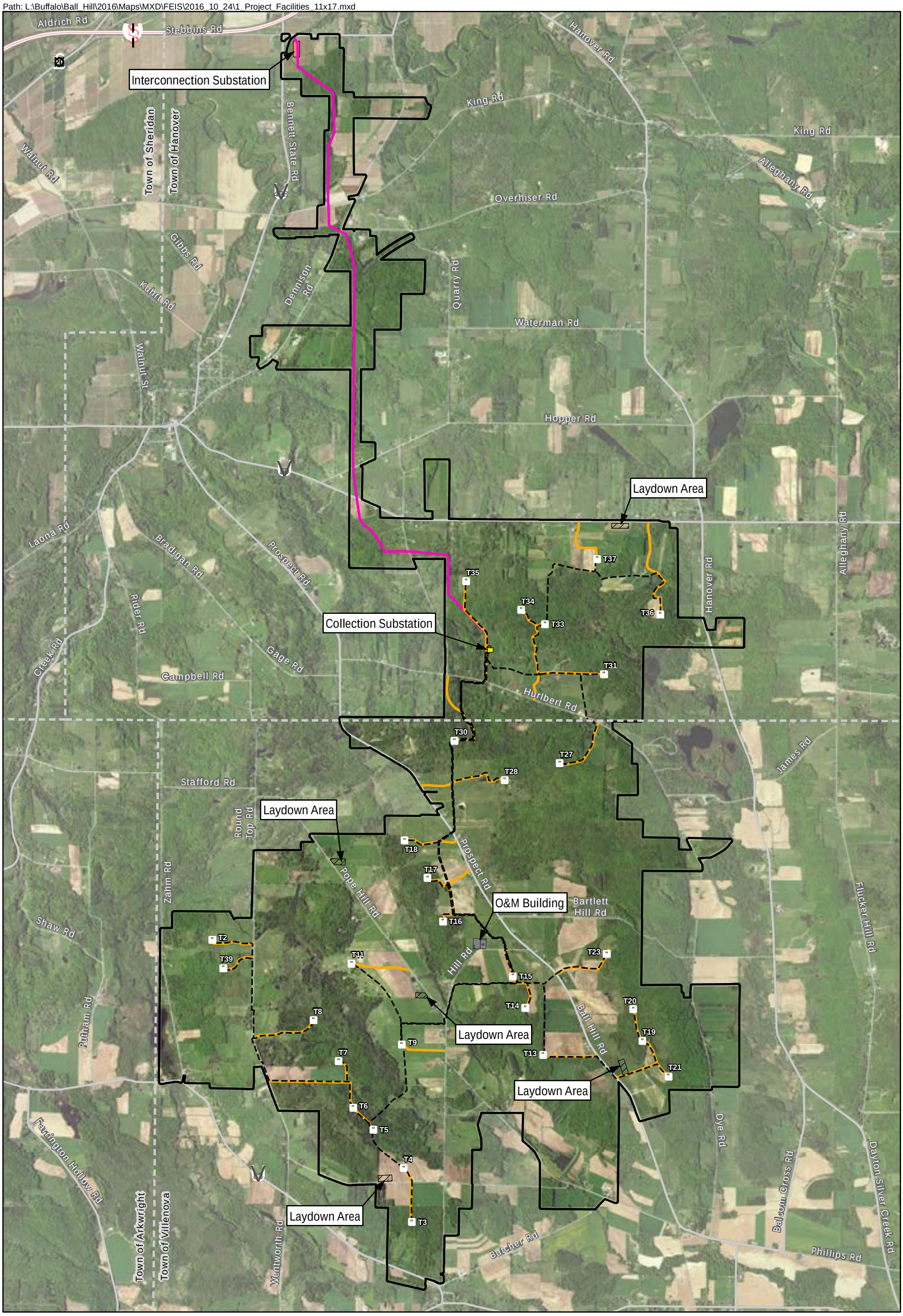


Figure 1
**Project Facilities**
Ball Hill Wind Project
Chautauqua County, New York
Ball Hill Wind Energy, LLC

Source: ESRI 2012; Fisher Associates 2016; NAIP 2015.

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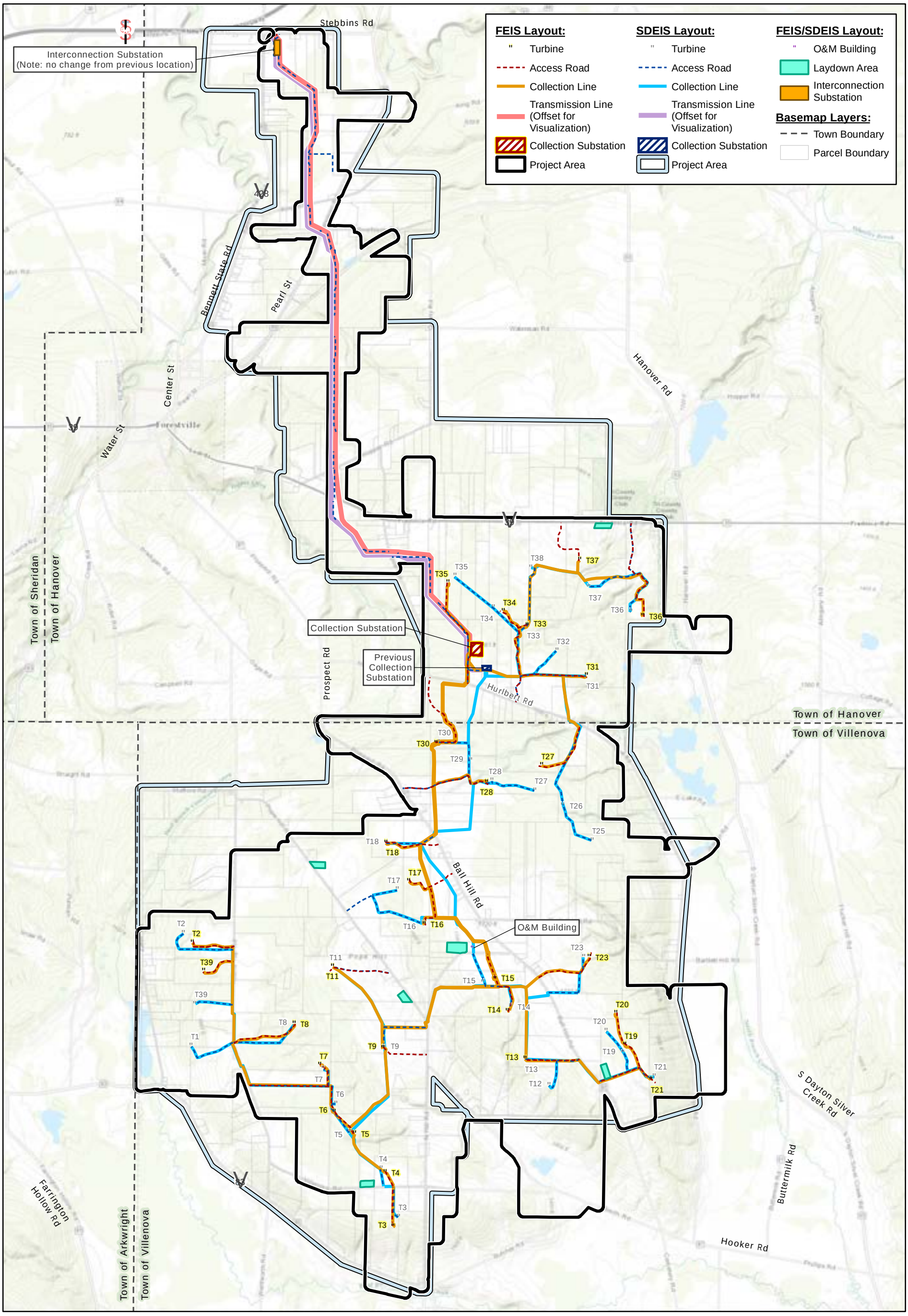


Figure 2
**Project Comparison**
FEIS Layout (November 2016) SDEIS layout (January 2016)
Chautauqua County, New York
Ball Hill Wind Energy, LLC

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.

Source: ESRI 2012; Fisher Associates 2016.

*The actual substation footprint will be smaller than the area shaded on this figure, but within the boundary of the area shaded.*

- Impacts on wetlands and other environmentally sensitive areas were avoided or minimized to the maximum extent practicable;
- Landowner concerns were addressed;
- Setback requirements were met;
- Engineering constraints, such as steep slopes, were accounted for; and
- Applicable sound pressure levels in the Towns' Laws are not exceeded at sensitive locations, such as at residences, schools, churches, libraries, and parks.

**Changes to Access Roads:** The total length of access roads to be constructed has been reduced to approximately 13.0 miles (9.0 miles in the town of Villenova and 4.0 miles in the town of Hanover), a decrease of 1.9 miles. As described in the SDEIS, the 36-foot-wide temporary access roads would be restored and scaled back to a permanent width of 18 feet.

**Changes to Collection System:** The length of underground collection lines has been reduced to 19.8 miles (14.5 miles in the town of Villenova and 5.2 miles in the town of Hanover). All collection lines would be constructed underground. Each system was designed to:

- Collocate electrical lines and roads within the same corridor, where possible;
- Optimize the use of previously disturbed areas, such as farmlands and roads; and
- Avoid or minimize wetland and stream crossings.

**Changes to Collection Substation:** As indicated in Table 1.3-2, this substation has been moved approximately 850 feet northwest, to minimize tree clearing, increase the setback from the nearest residence, and minimize noise impacts. It would still be located in the town of Hanover.

**Changes to Transmission Line:** The transmission portion of the Project would be a 115-kilovolt (kV) transmission line, instead of the 230-kV line presented in the SDEIS. This change was adopted to reduce perceived cost and schedule impacts. As a result of the revised location for the collection substation, the length of the 115-kV transmission line, which would transfer the energy produced by the Project to the interconnection substation, has been reduced to 5.7 miles. Access roads for the transmission line are described above. Wetland impacts associated with the transmission line have been avoided or minimized to the extent practicable.

**No Changes to Interconnection Substation:** As indicated in Table 1.3-2, after extensive assessment of potential alternative locations, the location of the interconnection substation identified in the SDEIS was retained as this location created the least impacts of the alternatives studied.

**Changes to Operation and Maintenance Facility and Laydown Areas:** The proposed location of the Operation and Maintenance (O&M) Facility has not changed. Ball Hill may lease up to 5 acres for the O&M facility; however, construction and operation of the O&M building and laydown area would only permanently impact a portion of those 5 acres. The final location of the O&M building would be determined in consultation with the property owner and designed for environmental impact minimization. During construction of the Project, this area would be utilized as a temporary construction laydown area.

**Laydown Areas:** In the SDEIS, 26.1 acres of laydown areas were anticipated; the revised layout identifies a total of 20.0 acres of land that would be used as laydown areas (see Figure 1). Since Ball Hill submitted the amended application to the Lead Agency, one laydown area in the southeast corner of the Project was identified as a culturally sensitive area and was removed from the layout.

**Changes to Project Site:** The Project Site consists of 256.6 acres (147.6 acres in Villenova and 109.0 acres in Hanover) within the approximate 9,715-acre Project Area. The Project Site includes grading and selective tree clearing for temporary and permanent construction rights of way (ROWs) for access roads, the turbine sites (permanent impacts include a crane pad and turbine apron/foundation); the collection system ROW; the transmission line ROW; 20.0 acres for equipment laydown areas and the O&M building site; 1.3 acres for the collection substation; and 4.0 acres for the interconnection substation.

Table 1.3-3 compares the total number of acres that would be temporarily and permanently impacted in the SDEIS layout and the revised layout presented in this FEIS.

### 1.3.3 Updates to Construction Plans

Construction of the Project would occur wholly within an area identified in this FEIS as the limit of disturbance (LOD), which is contained wholly within the Project Area boundary (see Appendix C, Project Drawings). Not all disturbance within this area would require temporary or permanent fill or grading. For the purposes of the analysis within this FEIS, construction impacts are defined as areas where permanent and temporary grading and fill are anticipated to occur.

The following definitions describe temporary and permanent impacts:

- Temporary impacts occur in areas where vegetation/land uses will be restored or be allowed to be restored naturally after construction of the Project is complete; and
- Permanent impacts are in areas where permanent grading and fill will remain during operation of the Project.

**Table 1.3-3 FEIS: Summary of Project Impacts, Entire Project Site[1, 2, 3]**

| Project Component | Construction Impacts (Permanent and Temporary Impacts) [acres] | | | Project Operational Impacts (Permanent Impacts) [acres] | | | Areas to be Restored to Existing Condition After Construction (Temporary Impacts) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Town of Hanover | Town of Villenova | Total[1] | Town of Hanover | Town of Villenova | Total[1] | Town of Hanover | Town of Villenova |
| Total SDEIS | 330.1 | 124.0 | 206.1 | 228.3 | 101.0 | 127.3 | 101.8 | 22.9 | 78.8 |
| Total FEIS | 256.6 | 109.0 | 147.6 | 55.5 | 18.7 | 36.8 | 201.1 | 90.3 | 110.8 |
| **Change from SDEIS to FEIS** | **(-73.5)** | **(-15.0)** | **(-58.5)** | **(-172.8)** | **(-82.3)** | **(-90.5)** | **99.3** | **67.4** | **32.0** |

Notes:

1 Table totals may not sum due to rounding.

2 Construction impacts are defined as areas where grading (temporary and permanent) would occur for the construction of Project facilities with the exception of the Transmission Line for which construction impacts are considered to be the entire 80-foot ROW.

3 As noted in Section 1.3.3 and represented in the drawings presented in Appendix C of this FEIS, Project Drawings, there are an additional 62.3 acres within the proposed limits of disturbance (LOD) where grading is not expected to occur, but additional disturbance may include limited tree clearing and/or other minimal temporary disturbance required for construction of the Project facilities.

Total construction impacts make up the Project Site (256.6 acres), as described in Section 1.3.2. There are areas outside the Project Site but within the proposed LOD (62.3 acres). Disturbance in these 62.3 acres would likely be limited to tree clearing and/or minimal temporary disturbance as required for construction of the Project facilities but not permanent fill. As an example, the LOD around the construction impacts for an access road would be the area where additional tree clearing/trimming may be required for safe transport of construction materials. There is a potential that limited grading may occur in these areas during construction of the Project. For this reason, total impacts with respect to tree clearing and wetlands and waterbodies are analyzed for the entire LOD, whereas other resource areas, such as soils and other ecological community types, are analyzed for the Project Site as defined in this FEIS.

Construction of the Project is expected to begin in 2017 and be complete in 2018, although weather and other factors may increase or decrease the length of the anticipated 12-month construction schedule. Ball Hill will obtain all necessary permits and approvals prior to the start of construction. As noted in the SDEIS:

- Construction would be monitored by Ball Hill personnel, Ball Hill's environmental supervisor, and the Towns' environmental inspectors to ensure that all construction is conducted in accordance with applicable federal, state, and local permits and conditions, agreements, and regulations.
- All stream and wetland crossings would be executed in accordance with the requirements of permits issued by NYSDEC and the USACE.
- Activities within active agricultural fields would be conducted in accordance with applicable NYSDAM guidelines to the greatest extent practicable, and in accordance with Town approvals and landowner input.
- Site-specific Storm Water Pollution Prevention Plans (SWPPPs) will be prepared and implemented prior to construction and operation, and individual Notices of Intent for construction will be filed in accordance with the NYSDEC New York State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity requirements. A description of stormwater pollution prevention measures that will serve as a basis for creation of a site-specific SWPPP was provided in the SDEIS as Appendix E, and remains valid for the FEIS. The SWPPPs will be submitted to the Towns prior to the issuance of building permits.
- Ball Hill will enter into agreements with the Towns of Villenova and Hanover and Chautauqua County as appropriate, and obtain permits from the New York State Department of Transportation (NYSDOT) as needed to allow improvements and modifications to existing roads and ROWs prior to the start of construction.
- Ball Hill will obtain building permits, as required, and submit entranceway, roadway, and gate details as a component of the permit application process. Final engineering plans that include parcel boundaries and road and utility

ROWs verified by licensed surveyors will be provided prior to issuance of building permits.

- Ball Hill, or its contractors, will coordinate with "Dig Safely New York" and the respective gas utility companies to determine the locations of all active gas lines and wells within the Project Site. Appropriate setbacks and crossing procedures will effectively minimize risks of interference. Where encroachments are determined to be necessary during Project engineering, Ball Hill will coordinate with the applicable company to be consistent with its encroachment polices.

The following subsections contain numbers and measurements specific to installation of the V126 turbine. The information is otherwise identical to that presented in the SDEIS.

### Turbine Installation

Generally, each component type would be installed in the same manner at each turbine site. A turbine site is a staging area (maximum of 150-foot radius from the turbine pedestal) used during construction for laying out equipment, turbine rotor assembly, and stockpiling topsoil. Within the staging area, an approximately 210- by 175-foot area would be cleared and graded to a slope of 2% or less to facilitate the layout of turbine components (see Appendix C, Project Drawings). Disturbance outside this area would generally be limited to tree cutting necessary for rotor assembly and storage of excess topsoil, subsoil, or woody material including stumps, roots, logs, and/or wood chips. This area will be designed so as to avoid or minimize impacts to wetlands, streams, and other sensitive resources.

Within the maximum 150-foot radius from the turbine pedestal, a gravel crane pad – typically 80- by 50-foot with a slope of 1% or less in all directions – would be installed. The crane pad is used to support the crane used to lift turbine components to their upright and installed positions. After turbine installation is completed, the crane pad would remain in place for future turbine maintenance or decommissioning.

Each wind turbine would permanently occupy a round foundation base that is approximately 60 feet in diameter, only a portion of which would be exposed. Preparation of each turbine site for installation of spread footer foundations would involve excavation of surface materials to a depth of approximately 10 feet. After excavation is complete, concrete would be spread on the bottom of the excavation to level it in preparation of the rebar installation. After the rebar, steel and a turbine bolt cage would be installed and the concrete placed for the foundation and turbine pedestal. Each foundation would utilize approximately 480 cubic yards of concrete and rebar steel. The final design of each foundation will be submitted with the building permit application for each turbine site.

Best management practices (BMPs) will be used to ensure that topsoil and subgrade materials are kept separated and stockpiled so that the disturbed land is returned to its pre-construction condition and use. Dewatering will be used when

necessary to maintain the strength of the subsurface load-bearing materials. If bedrock is encountered during excavation activities, an excavator with a large rock bucket will be used or, in locations where the bedrock is more concentrated with depth, an excavator equipped with a hydraulic/pneumatic breaker or rock grinder may be used.

Ball Hill does not expect that blasting would be necessary for the excavation of the foundations. In the event that blasting becomes necessary, a detailed blasting plan would be prepared and submitted to the Towns of Villenova and Hanover, Chautauqua County Emergency Services Coordinator, and Chautauqua County Department of Health for their review.

During Project construction, the turbine components (i.e., tower sections, nacelle, and rotor blades) would be transported from the vendor's ports of import and delivered directly to site. An area may be identified in a parking area off-site to allow for short-term equipment staging for verification of match marking, a quality receipt inspection, washing,[1] and any necessary rigging adjustments prior to delivery to site. Materials, such as cable reels, and 34.5-kV junction boxes, would be delivered directly to specific turbine sites or to general laydown areas identified on Figure 1, to support specific scheduled construction activities. Other specific equipment and materials would be delivered to designated turbine sites. Each turbine site would serve as the heavy lift staging area for the erection of that specific turbine.

During construction, a total of 20 acres of temporary laydown areas within the Project Area would also provide storage for materials, such as overhead poles, rods, ring forms, and other construction materials. The proposed locations of the temporary laydown areas are depicted on Figure 1 and were chosen because they require minimal clearing and avoid permanent impacts on these locations. Six laydown areas are currently proposed for the Project and range in size from 2 to 5 acres each. Construction of each laydown area would include stripping and stockpiling the topsoil, reinforcing the site with geotextile fabric, and installing gravel. The laydown areas would also provide space for Ball Hill and its contractors' construction trailers and parking for construction crews who would be transported to the work sites. Others, including dedicated support staff, quality inspectors, and field engineers, would park off the public roads with landowner permission in designated areas, such as access roads and turbine sites, as needed. Construction trailers would be utilized during the construction phase of this Project and are anticipated to be placed within the O&M building site/laydown area. This would be a centralized location for work trailers and Project coordination. Laydown areas will be restored upon completion of construction.

[1] In accordance with the State Pollutant Discharge Elimination System (SPDES) permit, washing would be conducted with water only. No detergents, solvents, or other additives would be used. A separate SPDES permit is required for such activities.

### Underground Electrical Collection System Installation

Underground electrical collection lines would be used as the main electrical collection system to gather electricity generated at all the wind turbine sites. Underground collection lines would be installed, to the extent possible, alongside areas of temporary road disturbance. In areas where underground collection lines could not be installed adjacent to an access road, they would be installed within a maximum 40-foot wide ROW. Underground collection lines would be installed via direct burial using either a trenching machine or a track hoe. The cables would generally be buried in 48-inch-deep trenches, with a final depth to the top of the cable of 42 inches. Where multiple circuits are installed parallel to each other, a separation of approximately 12 feet is required. In the unlikely event that bedrock is encountered within the trench depth during installation, alternatives, such as ripping or blasting, would be evaluated. Blasting would not proceed until a blasting plan has been prepared and approved by the appropriate town in which the blasting would occur and Chautauqua County.

Construction of underground collection lines within wetlands would be done either by trenching or using a directional bore during construction. These narrow trenches placed in wetlands would not create an impervious boundary; therefore, would not cause any alteration in the subsurface hydrology of wetlands. However, where necessary, trench plugs would be used to prevent migration of water out of the wetland. Pre-existing contours would be restored after the trench is backfilled and the area is revegetated. No permanent loss of wetlands would occur in association with the installation of underground collection lines.

Underground collection lines would be installed via trenching or using a directional bore at stream crossings. Streams that are not naturally dry at the time of crossing would be temporarily dammed, and water would be pumped around the construction area to allow collection lines to be installed in dry conditions. The equipment that would be used to install the collection lines cuts a trench, places the cable, and backfills the trench in a single pass, thereby reducing the duration of stream disturbance. Boring (and not dam and pump methods) will occur for stream crossings where required by permit condition or where specific site conditions (e.g., protected streams, steep slopes, unstable soils or other engineering challenges) necessitate its use. If directional bore is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore. Each bore will start and finish beyond stream banks. Aboveground junction boxes will be located at various locations to join multiple reels of cables for long runs and at one end of each directional bore location.

### Overhead Electrical Transmission Line Installation

The electrical transmission portion of the Project would require a new overhead transmission line. A new maximum 120-foot ROW would be required; all forested areas within a central 80-foot ROW would be cleared to avoid interference with transmission lines. The additional 20 feet of ROW on either side of the clearing would be utilized for selective tree removal. During construction, equipment travel would generally be limited to a 20-foot travel corridor, where

practicable, and temporary 80-foot by 80-foot workspaces at pole locations. If wetland areas and streams are encountered along the transmission ROW, wetland mats would be used within a 12-foot corridor immediately adjacent to the transmission line to accommodate equipment travel.

Construction of the proposed transmission line would occur in four general phases: 1) ROW clearing and preparation; 2) installation of single-pole structures; 3) stringing of the conductors; and 4) cleanup and restoration.

The entire cleared ROW width would be cleared of trees during construction and maintained in an herbaceous or scrub-shrub state during operation to provide necessary transmission system clearance and maintain reliability of the transmission line. Within wetlands, trees would be cut by hand and equipment used for removal would be positioned outside of the wetland boundary or on mats located within a construction corridor immediately adjacent to the transmission line. Tree stumps would be left intact except where removal is necessary for pole installation or where they pose a safety related construction constraint (such as within travel paths). In these areas, stumps would be removed and disposed of in approved upland, non-active agricultural locations.

Single wood or wood look-alike poles would be installed to support the conductors. A crew would transport the poles, along with insulators and insulator hardware, to each pole location on the ROW. A drill rig or auger would be used to drill holes for the transmission poles to the required depth, based on final engineering design. The poles would be lifted individually and set in place by a crane or large forklift. Braces and davit arms would be individually hoisted and framed to the poles. The insulators, clamps, travelers, and other associated hardware would be installed on the pole. Appendix C, Project Drawings, shows the Ball Hill Wind Energy 115 kV Transmission Line Plan and Profile Drawings.

### Access Road Construction

Access roads would have a temporary width of 36 feet during construction. Access roads would be installed within a disturbed area of varying widths (further reduced in wetlands) that would serve as extra work space to allow for construction of the temporary access road, storage of topsoil, and safe passage of equipment. When collocated with an access road, underground collection lines would be installed parallel to the construction ROW (for an example drawing see Appendix C, Project Drawings). When turbine and collection system construction is complete, the disturbed areas and construction ROW will be restored (as described below) leaving a narrower permanent access road for each turbine site. Such access roads would be maintained at a width of 18 feet for O&M of the turbines. Actual road widths vary depending on grading requirements and topography, see Appendix C, Project Drawings, for specific access road widths.

Except for the 18-foot permanent access road, the remainder of the construction ROW would be allowed to naturally revegetate, subject to elimination of dangerous trees. Natural revegetation of the construction ROW is likely to result in the

establishment of native plants, due to existing seed banks and adjacent plant communities. An annual rye seed and mulch would be used to temporarily stabilize the soil. If necessary, supplemental seeding/mulching would take place on an as-needed basis. In areas adjacent to agricultural fields, plans for revegetation or seeding/mulching would be discussed with individual farmers so that the re-establishment of vegetation complements each farmer's operation. The NYSDAM *Guidelines for Agricultural Mitigation for Windpower Projects* (revised 2013) will be followed to minimize loss of agricultural land and impacts on farming operations. Periodic removal of woody vegetation may be required to maintain an herbaceous or successional shrub state composed of native species along access road edges.

The proposed access roads for the Project are gravel roads designed to bear the weight of construction vehicle and truck traffic transporting concrete, gravel, and turbine components to the wind turbines over the life of the Project. These access roads would also support any emergency or fire service equipment that may need access to and egress from to the Project Site. The required gravel road base section would be constructed using site-specific geotechnical information considering the load-bearing requirements of construction traffic and equipment delivery. The gravel roads would then be constructed accordingly for the soil conditions and base section, including stripping of topsoil in most areas. Geotextile fabric, or a comparable product, may be used to separate the native soil/fill from the gravel base material to prevent fine soil particles from migrating into the gravel base material and to preserve road base integrity. Cement stabilization may be used in place of geotextiles in some areas as well.

Roads would be constructed with stream culverts as needed to prevent washout of the base material during storm events and to ensure roadbed stability. Roadside ditches would be constructed as dictated by the terrain to convey stormwater runoff away from the roadways. To prevent access by the general public, construction/access roads may be gated where they intersect public roads.

### Construction of Substations

The interconnection substation will include a three-breaker-ring bus arrangement. The interconnection substation will be designed in accordance with National Grid standards and with the Northeast Power Coordinating Council Criteria for Bulk Power Stations and criteria set for by the U.S. Department of Homeland Security (DHS). The collection substation will be designed in accordance with Institute of Electrical and Electronics Engineers and National Electrical Safety Code standards. Both substations will be located in steel fenced areas with appropriate warning signs.

The collection system delivers generated power via four to eight collector system circuits that are connected to the collection substation. The collection substation transformer steps up the voltage to 115 kV for interconnection with the National Grid transmission system through the new interconnection.

The substation includes circuit breakers in combination with open-air type isolation switches to connect the collection system feeders to the main 34.5-kV substation bus, a 34.5-kV main bus open-air isolation/grounding switch, a 34.5- to 115-kV, wye-delta-wye generation step-up (GSU). An automatic transfer switch is to be included if a back-up station service power source from the local distribution utility or a back-up diesel generator is included in the final design of the substations.

The construction of these facilities involves grading, construction of a foundation for the transformer, steel work, breakers, control house, and other outdoor equipment; the erection and placement of the steel work and all outdoor equipment; and electrical work for all the required terminations. The GSU transformer will be equipped with mineral oil and adequate oil containment will be provided. All excavation, trenching, and electrical system construction work would be done in accordance with the SWPPPs. Prior to construction, site-specific SWPPPs would be submitted to the NYSDEC, as required. Construction work would require the use of bulldozers, a drill rig and concrete trucks, a trencher, a back-hoe, front end loaders, dump trucks, transportation trucks for the materials, boom trucks and cranes, and man-lift bucket trucks.

The footprint for the collection substation would be up to 266 feet by 239 feet and up to 1.3 acres of disturbance, and the footprint for the interconnection would be approximately 265 feet by 651 feet, and up to 4.0 acres of disturbance. These footprints may be larger during construction; additional temporary impacts for these facilities are captured under total impact calculations. Additional information is provided in Appendix C, Project Drawings.

### 1.3.4 Operations and Maintenance Plans

The following plans for O&M of the WECS facilities are the same as those presented in the SDEIS.

Ball Hill plans to operate the Project with a staff of up to six full-time employees who would perform routine, preventive maintenance and unplanned work on the wind turbines under an O&M contract. A facility manager and an administrative assistant would be responsible for all O&M of the site, including administration and direction of turbine maintenance, technical oversight as required by the manufacturer, and operational coordination with both the utility grid system and local landowners. If needed, large repair tasks would be accomplished using both Project employees and third-party contractors.

Ball Hill would construct an O&M facility within the Project Area, which would house these activities. The O&M building footprint would be approximately 140 feet by 50 feet constructed as a single story with amenities including a maintenance shop, offices, and a conference room.

The operational staff would maintain the wind turbines, including routine maintenance, long-term maintenance, and emergency work. Routine maintenance for

the turbines would include testing lubricants for contaminants, changing lubricants, calibrating and testing electronic systems, and tightening bolts and components.

Routine maintenance is generally completed on a scheduled basis by climbing the tower using the internal ladder and doing the work with normal hand tools and electrical testing equipment. Long-term maintenance may include replacing/rebuilding and cleaning larger components, such as generators and gearboxes, testing electrical components, and refurbishing blades.

Emergency work may be required as the result of a system or component failure. Certain unplanned work, such as blade repairs or repairs to other large components, may require utilization of cranes at each turbine site to complete the work.

It is not expected that the Project would use herbicides to control vegetation along access roads, turbine maintenance areas, or electrical collection ROWs. Access roads are not expected to promote vegetation growth because of the use of geotextile fabric and gravel construction and the periodic use of the access roads by vehicles. If the use of herbicides becomes necessary to control vegetation, application would be performed by a certified contractor and in accordance with all applicable regulations. The natural vegetative conditions would be restored after construction and preserved to the maximum extent practicable throughout the Project Area, and no sites would remain devoid of vegetation. Maintenance of all cleared areas and periodic removal of vegetation would consist of trimming trees and clearing undesirable vegetation by side trimming, cutting, and mowing to: 1) control re-sprouting of undesirable tall growing species to maintain safe clearance within wire security zones; 2) remove vine growth from poles; 3) clear access paths to overhead equipment; 4) protect underground collection lines from root damage; and 5) maintain erosion and sediment control devices. In some cases, spot control of invasive species might be required. Maintenance of clearance distances around aboveground electrical lines would be limited to a minimum of a 5-foot-radius around conductors as recommended by the manufacturer's specifications, as necessary, to prevent interference with power cables.

All materials used during the inspection and maintenance of Project equipment would follow a strict material safety data sheet (MSDS) program and, when required, would include documented, dedicated control of excess materials as well as off-site disposal of waste materials at licensed facilities with an emphasis on recycling whenever possible. Typical MSDSs are included in the FEIS as Appendix D, MSDS Sheets.

## 1.4 Changes to Potential Environmental Impacts

The following summarizes changes in potential environmental impacts as a result of the changes made to the Project since the SDEIS.

### 1.4.1 Geology

Geologic impacts have not changed from the SDEIS. Construction of the Project is not expected to affect regional geology and topography because the spatial scale of the Project is much smaller than the regional geologic and topographic scales. Operation of the Project would not result in any additional impacts on local geology and topography beyond those required for the installation and maintenance of the facilities.

### 1.4.2 Soils

Since publication of the SDEIS, the Project Area and Project Site have decreased in size. The existing conditions of soil units within the Project Area that are likely to be impacted are described in full in the SDEIS and are not restated here. However, due to the revised Project layout, impacts on soils have changed in this FEIS. Tables A-1 and A-2 show impacts on soils and soil types within the Project Site. The SDEIS layout would have resulted in the disturbance of soils on 282.6 acres of land, including the permanent impact of 98.1 acres. The revised layout would result in the disturbance of soils on 205.2 acres, including the permanent impact to 55.5 acres. The transmission line ROW is not included in the impact calculations for soils construction because the ROW is not anticipated to require grading. If grading were required on the transmission line, an additional 51.4 acres of soils may be temporarily impacted within the ROW.

### 1.4.3 Water Quality

Appendix E, Water Quality and Wetlands, includes a detailed discussion of impacts on water quality and wetlands and a revised Wetland Delineation Report. Impacts of the Project on water quality have been further reduced from those presented in the SDEIS as a result of the changes in the layout. As noted in the SDEIS, Ball Hill will minimize any potential construction impacts on wetlands, surface water, and groundwater through the implementation of BMPs. Long-term impacts are expected to be minimal because Project components were sited in previously disturbed areas to the extent practicable.

Based on the layout of Project components, a total of 31 perennial streams, six intermittent, and six ephemeral streams would be crossed by Project facilities Seventeen NYSDEC-protected streams would be crossed by the Project facilities. These streams are discussed under the Protected Streams section of Appendix E, Water Quality and Wetlands (Section E.1).

As described above, construction of the Project may result in minor, short-term impacts on the streams crossed. These impacts could occur as a result of in-stream construction activities or construction on slopes adjacent to stream channels. If permanent culverts are necessary, they will be designed and installed in a manner maintaining natural stream flow and water velocity. Clearing and grading stream banks, culvert installation, in-stream trenching, trench dewatering, and backfilling could result in modification of aquatic habitat, increased water temperature, increased sedimentation, turbidity, decreased dissolved oxygen concentrations, releases of chemical and nutrient pollutants contained in stream sedi-

ments, and introduction of chemical contaminants, such as fuel and lubricants from possible spills. In general, these impacts would be temporary, short-term, and reversible as they are limited only to the period of in-stream construction activities.

Construction of the Project could result in indirect impacts on the quality of stormwater runoff as a result of increased surface runoff from disturbed areas and the possible release of pollutants or hazardous materials in the event of a spill during construction. These impacts are still expected to be minor, short-term, and reversible, with the exception of a minor permanent increase in impervious surface area, which will be mitigated through compliance with the site-specific SWPPP and Spill Prevention, Control, and Countermeasures.

As stated in the 2016 SDEIS, if areas of shallow groundwater exist in the vicinity of Project facilities, they would be identified during site-specific, detailed foundation engineering investigations performed in conjunction with the road and foundation design processes and addressed in the design plans which would be submitted to the Town prior to construction. In addition, stream crossings will be engineered, designed, and installed to maintain sufficient flow during construction in accordance with applicable regulations. These methods will be provided to the Towns upon submittal of the Joint Wetland Permit Application to NYSDEC and the USACE.

### 1.4.4 Wetlands

Wetland delineation surveys were conducted in 2015 and 2016 to evaluate impacts and proposed mitigation and to support federal and state permits. The Project Wetland Delineation Report and a request for jurisdictional determination were submitted to the USACE and NYSDEC on July 21, 2016. The USACE and NYSDEC conducted site visits to verify wetland boundaries on August 24, 2016, and September 14, 2016, respectively.

The preliminary impact analysis provided in the SDEIS was prepared utilizing data from surveys conducted in 2011, 2012, and 2015. Since that time, the updated stream and wetland information was used to support micro-siting of the Project to avoid and minimize impacts on streams wherever practicable. The results are provided in Appendix E, Water Quality and Wetlands.

Construction of the Project (i.e., access roads, collection lines, transmission lines, laydown and O&M areas, and turbine sites) would result in total construction disturbance of 25.83 acres of wetlands, 0.87 acres of which would be permanently impacted by placement of fill associated with turbine staging areas, access roads, and the transmission substation. The remaining 24.96 acres of wetlands would be limited to temporary ground disturbance impacts or permanent impacts associated with conversion of forested wetlands to an herbaceous or scrub-shrub state (see Table E-2 in Appendix E of this FEIS). All other Project facilities, including the interconnection substation and all turbine foundations, are located outside of delineated wetlands.

Temporary impacts consist of 24.96 acres of wetland that would be temporarily impacted by grading, ground disturbance, or placement of fill during construction and would be returned to preconstruction contours and allowed to revegetate to scrub-shrub or emergent cover. All of these wetland impacts are assumed to be under federal jurisdiction. The majority of wetlands subject to temporary clearing within the construction ROW are herbaceous and scrub-shrub wetlands (18.11 acres), which are expected to quickly revert to their preconstruction conditions. Some areas that are currently forested wetlands would be temporarily cleared during construction to allow for safe construction at turbine sites, but would be allowed to revert to a forested wetland condition over time (0.31 acres). An additional 6.54 acres of forested wetlands along the transmission and collection lines would be permanently impacted in association with forest conversion. Impacts to forested wetlands increased from the SDEIS layout to the FEIS layout due to completing the wetland and stream delineations and conducting micrositing of Project components to reduce overall impacts.

Of the wetlands impacted along the transmission line, 5.90 acres are mapped as NYSDEC wetlands (SC-12, a Class II wetland; and SC-13, a Class III wetland; see Table E-3 in Appendix E of this FEIS.), Of the 5.90 acres of wetland temporarily subjected to ground disturbance or fill, 2.82 acres would also be permanently impacted by forest conversion.

Operation of the generation and transmission facilities could result in temporary impacts on wetlands associated with clearing to maintain ROWs for the transmission line and collection lines as well as temporary impacts on wetlands for maintenance access. Total wetland impacts for the entire Project are listed in Table E-2. Impacts on state jurisdictional wetlands are presented in Table E-3.

Ball Hill has submitted the Conceptual Wetland Mitigation Plan to the agencies (see Appendix F, Conceptual Wetland Mitigation Plan) and includes an invasive species management plan, as part of the Environmental Monitoring Plan (EMP) of this FEIS. Ball Hill will continue to coordinate with NYSDEC and USACE during their review of the Joint Application for Permit and implement additional mitigation measures, if necessary, due to unavoidable wetland impacts. Ball Hill will provide a Final Wetland Mitigation Plan approved by NYSDEC and USACE prior to permit issuance.

### 1.4.5 Biological Resources

Since publication of the SDEIS, a new Natural Heritage Program search was conducted for the Project and no new species were identified. The U.S. Fish and Wildlife Service (USFWS) *Information, Planning, and Consultation* System (*IPAC* System) was also consulted, and no new species were identified. The results are included in Appendix G, Agency Correspondence.

Where feasible, Ball Hill has sited Project facilities to minimize fragmentation of forested habitat and avoid wetlands and aquatic habitats, thereby minimizing the potential for impacts on wildlife.

Table A-3 and Figure A-1 of Appendix A indicate the ecological community types that would be impacted by the Project under the revised layout, where the total acres to be impacted have been reduced from 330 acres in the SDEIS to 256.6 acres. Forest impacts, in which all clearing of forested habitat is considered to be a permanent impact due to the length of time needed for a forest to regenerate to pre-construction conditions, account for a total of 97.9 acres based on best available geographic information system (GIS) data for ecological community types for the Project Site. In addition, 21 acres of tree clearing would be required in the additional LOD area of the Project. In total 118.9 acres of tree clearing is anticipated from the Project.

Ball Hill considered forest impacts when developing the revised layout. As noted by NYSDEC in their comment on the SDEIS, any contiguous forest block of 150 acres or larger is considered valuable forest habitat that is viable for many bird species that require interior forests for breeding. Most of these species are protected by federal and state laws, such as the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Part 182 of NYCRR, and Article 11 of the New York State Environmental Conservation Law (ECL; Edick 2016). Ball Hill's analysis of available GIS data identified contiguous forest blocks of 150 or more acres within the Project Area. Construction of the Project would include tree removal within these forest blocks; however, in all instances but one, there would still be a portion of contiguous forest block greater than 150 acres (see Figure A-2). Once the Project is constructed, there will be 15 contiguous forest blocks greater than 150 acres and seven new forest blocks less than 150 acres in size (see Figure A-2).

Indirect impacts on forest habitat blocks greater than 150 acres as a result of construction and operation of a wind energy project may occur 300 feet from the boundary of a disturbance (i.e., a new forest edge) (NYSDEC 2016). The construction of the Project will indirectly impact an additional 939 acres of forested habitat based on applying a 300-foot buffer to all construction impacts in forested habitat. These areas may experience indirect impacts, as pertaining to interior forest breeding birds. Table A-5 and Figure A-2 show direct and indirect impacts to forested habitat from the Project.

In total, 2.3% of the forested habitat in the Project Area would be impacted by Project construction (18.3% indirectly impacted), the majority of which is considered to be habitat for interior forest wildlife. Given the fact that access to the Project during operation would be limited to a small number of vehicles and that habitat in the Project Area is already segmented by existing roads and infrastructure, it is unlikely that the Project would significantly impact interior forest wildlife species.

### 1.4.6 Bird and Bat Resources

Since the SDEIS, previously collected bat acoustic data from 2012 was analyzed in more detail, two additional avian studies were conducted, coordination efforts with NYSDEC and the USFWS continued on bird and bat issues, and the summary tables of post-construction bird and bat fatality studies from New York State have been updated. These topics are summarized in this section.

#### 2012 Bat Acoustic Data Analysis

During its review of the SDEIS, NYSDEC requested that Ecology and Environment, Inc.(E & E) reanalyze previously collected acoustic data from 2012 survey season using two automated species identification software packages currently approved by the USFWS for presence/probable absence surveys for the federally listed threatened northern long-eared bat. E & E took a multi-level analysis approach that incorporated results from the automated classifiers, maximum likelihood estimations, and independent reviews from three E & E bat specialists with expertise in acoustic identification. This multi-level approach was used in order to prevent potential false-positive identifications. In total, six calls originating from the low microphone during the 2012 acoustic survey were positively identified as northern long-eared bat and no calls from this species were detected by the high microphone during the 2012 survey year. The full analysis can be found in Appendix H, Bird and Bat Resources.

#### Additional Eagle Surveys

Additional eagle surveys were conducted to gather current information to supplement the data obtained during the surveys conducted in 2012-2013. Eagle point-count use surveys were initiated in March 2016. During each spring and summer season field visit, E & E also observed the two nearest Bald Eagle nests and collected sighting and nest status notes. An interim report that summarizes the results of the 2016 eagle surveys conducted through September 2016 is included in Appendix H, Bird and Bat Resources. Eagle surveys will continue through February 2017 and then the report will be updated and shared with NYSDEC and the USFWS.

Bald Eagles were periodically observed in the Project Area during surveys between March 2016 and September 2016, with 36 total sightings, most of which occurred in September. Golden Eagles were not observed in the Project Area during the 2016 surveys. The Bald Eagles were likely a mix of migrants, locals, and transients and included adult and immature birds. The relatively high sightings per hour at the three most northern survey points is influenced by the large number of sightings on September 1, which involved surveying only the northern half of the site, and repeated sightings of the same eagles. Aside from the number of sightings on September 1, the results of the 2016 surveys to date are generally consistent with the results reported in previous studies conducted by E & E in the Project Area, suggesting Bald Eagle activity within the Project Area during spring and fall migration seasons and more occasional activity during summer months.

Bald Eagles continue to increase their presence and expand their distribution in Chautauqua County as well as in western New York State, adjacent states, and the Great Lakes region. Two Bald Eagle nest locations in the vicinity of the Project Area were monitored in 2016 and both were confirmed to be occupied by incubating Bald Eagles. The "Hanover nest" apparently failed later in the season while the "Thruway nest" possibly fledged two young.

Ball Hill will continue to coordinate with NYSDEC and the USFWS regarding eagle activity. All data presented to and discussions with NYSDEC and USFWS will be utilized to develop appropriate minimization measures that will be included in the Project Bird and Bat Conservation Strategy (BBCS) and Eagle Management Plan (Eagle MP), including, at a minimum, the necessary post-construction monitoring activities to evaluate risk to eagles from the operation of the Project and adaptive management measures that will be taken based on that monitoring.

### Breeding Bird Survey

An additional breeding bird survey was conducted in June 2016 to supplement the data obtained during the surveys conducted in 2007, 2008, and 2011. A transect-style survey methodology was utilized, which will allow for better comparison of pre-construction avian use to post-construction avian use. The results of the breeding bird surveys in 2016 are not directly comparable to the results from previous years due to differences in survey methodologies. The total number of species detected was somewhat higher in 2016 (80 species) than previous years but comparable when including only birds within 50 meters of the transect (67 species). The two most common species detected during the 2016 breeding bird surveys were Bobolink and Red-winged Blackbird, which were also the most abundant species detected in the 2011 surveys. The transects in pasture/hayfield habitats had the highest number of birds, dominated by Bobolinks and Red-winged Blackbirds and to a lesser extent Savannah Sparrows and Song Sparrows. Forested habitats had higher species diversity, which was expected given the wider array of habitats within the forested transects. Overall, the findings from the breeding bird surveys are consistent with the existing knowledge of the bird resources in the region. Typical for Chautauqua County, a good diversity of breeding species is associated with the area, primarily in forested areas. The methodology and results are included in the 2016 breeding bird survey report in Appendix H, Bird and Bat Resources.

### Continued Agency Coordination and Bird and Bat Conservation Strategy/Environmental Monitoring Plan Development

Ball Hill participated in multiple meetings with NYSDEC and USFWS since the SDEIS was issued. These meetings included discussion of avian and bat issues, in addition to other topics, and continued the long history of agency coordination dating back to the earliest years for this proposed Project.

In an effort to reduce the impacts of wind energy projects on bird and bat resources, the USFWS recommends that wind energy project proponents develop a BBCS that outlines the project development process and includes monitoring and

conservation measures that would be implemented to avoid and minimize impacts on birds and bats at each project they propose to develop. The recommendation for the development of a BBCS is part of the USFWS's *Land-Based Wind Energy Guidelines* (USFWS 2012), which outlines a systematic approach for a wind energy developer to assess the potential risk to bird and bat resources during the pre-construction phase, evaluate the impacts on bird and bat resources resulting from the construction and operation of the Project, and develop conservation measures and mitigation measures to avoid and minimize impacts during the pre-construction, construction, and operational phases of the Project.

Ball Hill has initiated preparation of a BBCS following the USFWS's tiered approach. The purpose of this voluntary, Project-specific BBCS is to design and document a program to reduce the operational risks that could result from bird and bat interactions with the Project.

In addition, Ball Hill is developing an Eagle MP for the Project. The Eagle MP documents Bald Eagle and Golden Eagle use of the Project, describes efforts made to reduce risk due to Project development, documents communications and cooperation with the USFWS and NYSDEC, and the proposed post-construction monitoring and adaptive management approach for the Project. The Eagle MP follows the USFWS *Eagle Conservation Plan Guidance Module 1 – Land-based Wind Energy* (USFWS 2013).

Ball Hill will continue to coordinate with the USFWS and NYSDEC in preparation of a Project BBCS and Eagle MP.

#### Updated New York State Post-Construction Bird and Bat Mortality Rate Tables

The tables for avian mortality and bat mortality rates included in the SDEIS were updated to include the results of additional studies completed in New York State. These are included in Appendix H, Bird and Bat Resources.

### 1.4.7 Visual Resources

The Visual Resource Assessment (VRA), included as Appendix I, has been revised and updated by Saratoga Associates to address potential impacts to visual resources and includes an updated shadow flicker study.

The updated VRA evaluates the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) and SEQRA criteria to minimize impacts on visual resources.

The VRA includes an updated shadow flicker analysis, in addition to viewshed mapping, photographic simulations, and other visual impact analysis. Evidence from operational turbines suggests that shadow flicker is only a significant issue

at short distances. Shadow flicker is typically not found to occur at distances greater than 10 rotor diameters from a wind turbine. Beyond 10 rotor diameters, a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it. The VRA analysis identified 241 receptors within 4,134 feet (or approximately 10 rotor diameters) of any turbines, and calculated the number of hours per year each inventoried structure would theoretically fall within the shadow zone of one or more proposed turbines:

- 57 (23.6%) would theoretically not be impacted;
- 18 (7.5%) would theoretically be impacted 0 to 2 hours per year (hrs/yr);
- 69 (28.6%) would theoretically be impacted 2 to 10 hrs/yr;
- 43 (17.8%) would theoretically be impacted 10 to 20 hrs/yr;
- 32 (13.3%) would theoretically be impacted 20 to 30 hrs/yr;
- 17 (7.1%) would theoretically be impacted 30 to 40 hrs/yr; and
- 5 (2.1%) would theoretically be impacted 40+ hrs/yr.

As described in a memo included in Appendix I, Saratoga revisited the shadow flicker analysis after the locations of two turbines were moved. It was found that the micrositing of the two turbines would have only a minor impact on shadow flicker hours at up to six receptors; no significant increases would occur at any receptors.

There are no regulations or guidelines that establish an acceptable degree of shadow flicker impact on a potential receptor. Industry standard utilizes a 30-hour per year threshold that identifies residences where mitigation may be appropriate. The number of receptors theoretically impacted for 30 hours or more has increased from eight receptors based on the Project Layout presented in the SDEIS to 22 receptors under the revised layout.

Section 4.0 of Appendix I provides a list of potential mitigation measures that could be implemented for the Project. To minimize visual impacts, certain aspects were included in the design of the turbines. Tubular style towers that have been selected, rather than skeletal or lattice frame towers, to minimize textural contrast and provide a simpler, visually appealing form. The FAA mandates that white or light gray be used for aviation safety, and these colors are well suited to minimizing visual contrast with the background sky. Where specifications permit, non-specular paint will be used on all outside surfaces to minimize reflective glare. Additional mitigation measures will be considered on a case-by-case basis.

### 1.4.8 Sound

An updated sound level assessment was prepared for the revised Project layout and is included as Appendix J, Sound Level Assessment Report. The report indicates that predicted sound level impacts from the 29 proposed V126 wind turbine generators and two proposed electrical transformers will comply with Town of

Hanover and Town of Villenova noise limits at each of the closest structures to the Project. Additionally, the Project is still anticipated to meet the suggested criteria recommended in the NYSDEC guidance document for avoiding the potential for adverse community noise impacts. No pure tones (such as whines, screeches, or hums) were identified at the closest structure for the turbine model under consideration. Low frequency sound levels at the closest structures to the Project are also predicted to be well below the recommended criteria to avoid disturbance, vibration, and rattle indoors.

Due to the nature of wind turbine noise and the relative background sound levels in the area, Project turbines may be audible at times at some of the closest residences. However, conservative modeling assumptions were made to account for the occasional occurrence of conditions which may favor propagation of sound from the Project or increase the perceptibility of turbine noise. Most of the time, nominal sound levels from the Project are likely to be significantly less than those predicted in this analysis, which are based on worst-case conditions.

### 1.4.9 Air Quality

The existing air quality characteristics and conclusions for the Project Area remain accurate as described in SDEIS. In summary, the 100-MW Ball Hill Wind Project would produce zero annual emissions, while an existing upstate coal plant produces 243,767 tons per year of carbon dioxide in addition to other emissions. By prioritizing energy efficiency and renewable energy sources, such as the Ball Hill Wind Project, New York State can continue to improve air quality in the state and address the long-term impacts of climate change.

### 1.4.10 Communication Signal Study

In September 2016, Comsearch completed an *AM and FM Radio Report,* an *Off-Air TV Analysis*, a *Land Mobile & Emergency Services Report for Ball Hill Wind,* and a *Microwave Study* (see Appendix K, Communication Surveys) based on the updated Project Layout. The existing communication characteristics and conclusions for the Project Area remain generally accurate as described in the SDEIS.

#### Existing Conditions

**Amplitude Modulation (AM)/Frequency Modulation (FM) Radio.** Comsearch identified 12 FM radio transmitters in 2016 within the 30-km search radius, the same number it identified in 2015. Of these 12, only 10 are currently licensed and operating, four of which are translator stations that operate with a limited range (11 were licensed and operating in 2015). The stations are listed in Comsearch's report included in Appendix K, Communication Surveys. None of the FM stations are considered full-power stations (greater than 10 kW); four are medium-power stations (1 kW to 10 kW); five are low-power FM stations (100 watts [W] to 1 kW); and the remaining stations are all very low-power (less than 100 W).

**Off-Air Television.** Since the 2016 SDEIS, television coverage has changed slightly. As of 2016, there were 24 database records for stations. Of these 24, 16

are currently licensed and operating. Nine of the stations are full-power digital stations and are licensed under call signs WNYB, WBBZ-TV, WKBW-TV, WIVB-TV, WGRZ, WNYO-TV, WUTV, WNLO, and WNED-TV. There are seven low-power translators broadcasting that operate on a special transmit authority and operate with limited coverage.

**Land Mobile Radio and Mobile Phones.** In 2016, Comsearch identified 15 site-based licenses in and around the Project Area. Comsearch also identified 26 area-wide licenses for the state of New York and 11 for the county of Chautauqua. These area-wide licenses are designated for mobile use only. In 2016, nine cellular operating licenses were identified in the Project Area (seven were identified in 2012). For the list of land mobile radio (LMR) and mobile phone licenses, see Appendix K, Communication Surveys.

**Microwaves.** Comsearch's 2016 microwave study, based on the revised Project layout (see Appendix K, Communication Surveys), identified one microwave path intersecting the area of interest for the Project.

## Impact Conclusions

Impacts from construction of the Project would not result in significant adverse impacts on communication signals in the Project Area, as stated in the SDEIS. Impacts to off-air television are similar to those described in the SDEIS. The full power digital stations (WNYB, WBBZ-TV, WKBW-TV, WIVB-TV, WGRZ, WNYO-TV, WUTV, WNLO, and WNED-TV) and Class A station WVTT-CD may have disruption in reception in and around the Project. The areas primarily affected would include TV service locations within 10 km of the Project and that have clear line-of-sight to a proposed wind turbine but not the respective station. Communities and homes located in these areas may have degraded reception of the following station: WNYB, Channel 26. This is due to the multipath interference caused by signal scattering as TV signals are reflected by the rotating wind turbine blade and mast.

According to the 2016 Comsearch Communication Signal Studies in Appendix K, Communication Surveys (as with the 2015 survey), there are 12 FM stations within 30 km of the center of the Project Area. All of the FM stations are located at distances greater than 9.01 km (5.59 miles) from the nearest turbine. At these distances, according to Comsearch, the wind turbine effects on the FM coverage for all of these stations would be very minimal to non-existent. No problems are expected for the coverage of the full-power and medium-power FM stations near the Project Area because the separation distances from the proposed wind turbines are so great. Audio signals from AM broadcast can interact with wind turbines at close range (1 to 3 kilometers [km; 0.62 to 1.86 miles]). However, the two AM transmitters (same station) identified by Comsearch were approximately 10 miles from the center of the Project Area.

The Fresnel Zones for the one microwave path identified were calculated and mapped in order to assess the potential impact from the turbines. None of the tur-

bines were found to have potential obstruction with the microwave systems in the area.

### Mitigation

As stated in the SDEIS, the following mitigation measures will be implemented by Ball Hill:

- If there is a reported change in LMR coverage, the change can be easily corrected by repositioning the affected repeater, or by adding a repeater to the LMR system locations within the wind facility. Repeater antennas can be installed on utility, meteorological, or turbine towers in the wind facility, if needed.
- If a cellular system or personal communication system operator finds that their coverage has been compromised by the presence of wind turbines, coverage can be restored by adding an additional cell or an additional sector antenna to an existing cell. Submission of claims for signal interference by turbines will be accepted up to one year after tower commissioning, utilizing the complaint resolution procedure. The initial validity of claims will be evaluated by line-of-sight analysis of the communication tower, turbine tower, and receptor.
- After construction, Ball Hill will confirm and address on-site television reception interference issues on a case-by-case basis. Any complaints would be received by the environmental supervisor, who would follow a complaint resolution process to be developed in consultation with officials in the host communities and described Appendix L, Complaint Resolution Plan. Directional antennae or satellite television service may be offered as an alternative for those homes whose off-air television reception is found to be degraded.

## 1.4.11 Traffic and Transportation

An updated Transportation Site Survey is included in Appendix M, Transportation. Also included in Appendix M are summaries of turbine component, cement, and gravel truckloads, and a map of preliminary culvert locations and temporary roadway widening locations in the Project Area (for more detailed drawings of construction see Appendix C, Project Drawings).

The 2016 Transportation Study identifies two routes into the site from I-86:

- I-86 (from the east) to exit 12, SR 60 N - CR 50 N - US 62 N (through a left hand turn on US 62) - SR 83 N - CR 87 N - Danker Road (W) - Ball Hill Road (N) to the site; and
- I-86 (from the west) to exit 13 to make a U turn onto I-86 east to exit 12, SR 60 N -CR 50 N - US 62 N (through a left-hand turn on US 62) - SR 83 N - CR 87 N - Danker Road (W) - Ball Hill Road (N) to the site.

Alternate routes, including transporting loads in from US 20, are not an option. The corner at the northern end of Ball Hill Road in Forestville would be a difficult turn for a regular semi-truck, much less specialized wind heavy-haul equipment.

The Transportation Site Survey determined the Project should be successful in building and utilizing access roads on site to reach the identified turbine locations (see Appendix M, Transportation). No major transport obstacles or obstructions were identified that would prevent movement of equipment from origin points east or west of the Project Site while traveling on I-86.

A follow-up survey would be required once the Project approaches the transport execution phase and the following are confirmed or completed:

- Source locations defined;
- Lay-down yard or truck staging area;
- Pad access roads; and
- Road and pad completed to Vestas specifications.

It is estimated that 348 truckloads (12 truckloads per turbine) would be required to deliver turbine components to the Project Area (the 2008 study estimated between 410 and 500 truckloads). Approximately 1,392 truckloads of concrete would be required to complete the turbine foundations. The current estimate assumes concrete would be provided by a local batch plant. Each turbine foundation would require approximately 480 cubic yards of concrete, for a total of 13,920 cubic yards of concrete. Additionally, approximately 3,516 truckloads would be required to haul gravel to the site, which is based on the current estimate which assumes a total of 75,155 cubic yards of gravel for use on the Project Site, with 22 cubic yards transported per truck. The gravel would be used to build the Project's 13.0 miles of gravel roads. It is assumed that all gravel and cement loads would leave the Project Area empty.

As part of the Project approval process, Ball Hill will enter into road use agreements with the Towns that will require Ball Hill to perform pre-construction inspections of all roads that will be used for transportation and equipment delivery for the Project. The pre-construction inspection will result in a pre-construction survey report that will evaluate road features, such as embankments, guard rails, and culvert pipe conditions, and a detailed photographic survey of the Haul Route network immediately prior to construction. It will also identify utility lines that need to be raised to accommodate passage of the delivery vehicles and their loads.

The road use agreement will designate approved routes and commit the cost of both improvements and repairs to Ball Hill's account. General types of improvement and repairs may include repaving, patching, shoulder repair, and culvert repair. Ball Hill will have an obligation to perform any upgrades to the roadways and permanent structures that will be required to allow passage of the aforementioned loads, and will have an obligation to maintain the roads in a safe and pass-

able condition throughout the construction period. At the completion of construction, Ball Hill will return the roadways used for construction of the Project to preconstruction conditions.

Typically, intersection improvements include traffic sign removal, compacted gravel widening, drainage ditch filling, and/or drainage pipe culvert extensions. Once the gravel widening has been constructed, traffic signs will be reset to their original location on portable or removable posts so they can be easily moved when oversize loads pass through an intersection. When Project construction is complete, the intersections will be restored to their original condition and the disturbed areas will be reseeded as required.

With regard to air traffic, the FAA conducts its own review of radar obstruction when wind turbines are registered with them in the process of seeking a "Determination of No Hazard." As required, Ball Hill submitted a Notice of Proposed Construction to the FAA for review on November 23, 2015. During the review process, the FAA also circulates the application data to the U.S. Department of Defense and the DHS. The FAA responded to Ball Hill's application on August 11, 2016 with a "Determination of No Hazard to Air Navigation" for all the proposed turbine locations (see Appendix G, Agency Correspondence).

### 1.4.12 Land Use

Under the revised layout, the Project remains compatible with local and regional land use, as it would not preclude existing uses or interfere with proposed future uses outside of the established Project Site. Construction impacts would be temporary, short term and, for the most part, reversible. It is estimated that it would take about two years until temporary access roads and other construction-related land disturbances revert back to preconstruction conditions. Permanent impacts resulting from conversion of natural areas to built facilities and the conversion of one vegetative community to another would exist for the duration of Project operation(20 years) (i.e., impacts on forested lands), but it is expected that these converted areas could return to preconstruction conditions after decommissioning.

New land cover data from the United States Geological Survey has been released to the public. Figure A-3 and Table A-5 in Appendix A show the existing land use for the Project Area.

Figures A-4 and A-5 show setbacks established in accordance with Villenova and Hanover Town Laws. Table A-6 presents a summary of the construction and operation impacts of the Project on existing land use/land cover at the Project Site.

### 1.4.13 Socioeconomics

The existing socioeconomic characteristics and conclusions for the Project Area remain accurate as described in the SDEIS. Since the publication of the SDEIS, the Project has been reduced from 36 wind turbines to 29 turbines (23 in the town of Villenova and six in the town of Hanover) with a capacity to produce approximately 100 MW of electricity. The SDEIS provided a range of construction and

operational impacts based on a typical 79- to 100-MW wind project in the state of New York. Since Ball Hill chose to use 100-MW, the 100-MW turbine estimates shown in Tables 2.13-5 and 2.13-6 are applicable.

### Construction Impacts

Regional economic output, a measure of economic activity in an area, is expected to directly increase by $5.6 million as a direct result of construction of the Project. An additional $58.0 million of economic output is expected to be generated as these funds are "multiplied" or cycle through the local economy. Construction of the Project would result in the direct employment of approximately 70 to 90 full-time equivalent (FTE) (with a total estimated payroll of $5.3 million).

### Operational Impacts

During operation, the Project would inject an estimated $1.5 million annually into the regional economy via O&M expenditures at the site. These expenditures would occur annually for the life of the Project.

During operations, the Project would employ approximately 7-9 on-site FTE workers with a total estimated payroll of approximately $600,000, to operate and maintain the Project and to monitor production. Operation of the Project would also support an estimated 10 indirect and induced FTE jobs throughout the region (with a total estimated payroll of $3.0 million). The total direct, indirect, and induced impacts of operations of the Project would support approximately 16 FTE workers with a total annual payroll of approximately $1.3 million annually.

## 1.4.14 Cultural Resources

Panamerican Consultants, Inc. (Panamerican) has conducted the cultural resources investigations for the Project from 2008 until the present, which includes a Phase I Cultural Resources Study that has been updated at each stage of the Project based on the changes to the Project layout. The study involves archaeological excavations as well as analysis of historic architectural resources in accordance with the SHPO Guidelines for Wind Farm Development Cultural Resources Survey Work (SHPO 2006), NHPA, New York State Historic Preservation Act, SEQRA, the National Environmental Policy Act, as well as other relevant state and federal legislation. The methodology for the study was approved by the SHPO prior to commencement of the investigations. The archeological and architectural addendums for the Project were updated to reflect the FEIS layout and submitted to the SHPO for review (see Appendix G, Agency Correspondence).

### Archaeological Resources

The purpose of the archaeological investigation was to identify all archaeological and cultural resources in the Project Area. The Project's area of potential effect (APE) has been revised from a 401-acre APE at the time of the DEIS, to 354.8 acres in the SDEIS, to a final area of 318.9 acres in this FEIS, based on the revisions made to the Project layout. The APE of the new design crosses similar environmental zones, "Local Habitat Areas," to those of the previously investigated APE. Therefore, the results generated by the first investigation are applicable in

assessing the archaeological sensitivity of the current APE. No potentially National Register of Historic Places (NRHP)-eligible archaeological cultural resources have been identified in the current Project Area.

The new Project design was reviewed over historic maps and only two map-documented structures (MDSs) were in the vicinity of APE that had not been surveyed. In consultation with SHPO, it was assessed that there is a low potential for the Project to affect archaeological deposits associated with these two MDSs given the inaccuracies of 19th century maps and additional archaeological testing for this Project was not necessary. Specifically, the SHPO agreed that the 2016 configuration of the Ball Hill Wind Farm Project is not sensitive for archaeological resources, and that sufficient field investigations have been conducted (Herter 2016; see Appendix G, Agency Correspondence). The full Archaeological Survey for the Ball Hill Wind Project, Addendum 3 is included in this FEIS in Appendix N, Cultural Resources Surveys.

### Architectural Resources

The purpose of the 2016 architectural survey is to identify National Register Listed (NRL)/National Register Eligible (NRE) properties in the Project's 5-mile visual APE study area. Addendum #3 to the Architectural Survey (included in Appendix N) addresses newly identified areas in the current visual APE that were previously not covered by earlier investigations (i.e., new locations containing historic architectural resources now in the visual APE). It includes an up-to-date analysis of the potential visual effect of the Project on historic architectural resources in the study area.

National Register eligibility recommendations presented in the 2016 addendum report are preliminary and not considered final determinations of National Register eligibility. Final determinations will be made by SHPO.

Addendum No. 3 of the Architectural Survey for the Ball Hill Wind Project is attached to this FEIS in Appendix N. The following summary is presented in Addendum No. 3:

A total of 159 individual NRE properties and two NRE historic districts are in the current visual APE for the Ball Hill Wind Project (a decrease in five properties from the SDEIS). None of these properties are listed on the National Register. The average number of turbines that can be seen is 15 with an average distance of 3.6 miles. While some of these properties are grouped together within villages or hamlets, along roads or in associated complexes, such as farmsteads, on the whole, the properties are widely dispersed across the area. As noted in Section 3.0 of Addendum No. 3, the impacts to these resources vary with the surrounding topography, distance from the turbines and electrical lines, existing landscaping and vegetation, and surrounding land uses. Some screening would be afforded by mature trees, shrubs, and plantings for at least part of the year. This observation is especially true for buildings/structures in the areas surrounding streams and steep embankments. The topography of some portions of the 5-mile visual APE would

provide additional screening. Nevertheless, there are visual impacts to the area associated with the construction of the Project that will require mitigation.

Ball Hill is obligated to mitigate adverse visual effects to NRE and NRL properties under Section 106 of the NHPA as well as to mitigate significant visual impacts under Article 8 of the New York State ECL and 6 NYCRR Part 617 as delineated in the NYSDEC report entitled *Assessing and Mitigating Visual Impacts* (NYSDEC 2000). In the case of this Project, both Section 106 and NYSDEC mitigation were triggered by the same occurrence: the inclusion of NRE or potential NRE properties within the Project visual EPA. NYSDEC lists specific mitigation strategies while Section 106 does not; the two are not mutually exclusive, however the strategies for each can have common characteristics. Section 4.0, Mitigation of Visual Impacts of Addendum No. 3 (see Appendix N of this FEIS) summarizes mitigation types and techniques. In addition, Appendix O of this FEIS, Architectural Resources Mitigation, provides information about the kinds of visual impact mitigation strategies that may be pursued in consultation with SHPO, such as strategies pertaining to maintenance plans, various types of surveys, monetary contributions, heritage tourism materials or other educational activities. Ball Hill is committed to consulting SHPO on mitigation strategies for the Project and developing a Historic Resources Impacts Mitigation Plan approved by SHPO.

### 1.4.15 Health and Safety

The existing health and safety characteristics and general conclusions for the Project Area remain as described in the SDEIS. Appendix P, Health and Safety Plans, include Project specific versions of a Safety Program File, Emergency Response Plan (ERP), and Construction Quality Plan. The Ball Hill Quality Manual is also included. These files are identified collectively as Ball Hill's Health and Safety Plans. These documents are works-in-progress and subject to revision as more information becomes available. Ball Hill's final Project-specific Health and Safety Plans will be prepared and finalized prior to the start of construction, but will be maintained and continually updated throughout the life of the Project.

The Safety Program File is intended to provide guidance to those responsible for managing health and safety on project sites and will include copies of the local, state, and federal permits for the Project.

An ERP template was provided in the SDEIS. As stated in the SDEIS, Ball Hill will coordinate all fire protection and emergency response plans with local providers of such services. Ball Hill places the highest priority on safety and health procedures at its project sites, and will fully complete an ERP for the Ball Hill Project. Since publication of the SDEIS, a working draft for the ERP has been developed and is included in Appendix P, Health and Safety Plans. This plan includes Ball Hill's Emergency Notification Procedure, Spill Response Procedure, Site Evacuation Procedure, Fire Prevention Procedures, and Rescue Operations. The ERP is a living document that will be updated and improved upon as more information is available and as situations arise. These materials will be provided to all fire departments and emergency responders servicing the Project.

In March 2016, Ball Hill met with the following local fire officials from the fire districts serving the Project Area to provide an introduction to the Project:

- Silver Creek Volunteer Fire Department: Jim Tytka;
- Forestville Volunteer Fire Department: Kyle Barthel; and
- Hanover Hose Company: Steve D'Angelo.

The Construction Quality Plan describes in concise terms the specific means of implementing the Quality Management System, which is outlined in the Quality Manual in accordance with the contract documents relative to the Ball Hill Wind Project. The plan describes key personnel and responsibilities during construction of the Project.

The Lead Agency received several comments during the Public Hearing conducted for the Project Sponsor's amended Special Use Application on the potential for health effects from the Project on the local community including health effects from shadow flicker and noise (specifically "wind turbine syndrome" and infrasound).

The Massachusetts Department of Environmental Protection (MassDEP), in collaboration with the Massachusetts Department of Public Health (MDPH), convened a panel of independent experts to identify any documented or potential health impacts or risks that may be associated with exposure to wind turbines, and, specifically, to facilitate discussion of wind turbines and public health based on sound science (MassDEP and MDPH 2012).

During their evaluation, the Panel conducted an extensive literature review of the scientific literature as well as other reports, popular media, and the public comments received by the MassDEP and MDPH. In January 2012 the panel presented its finding on population responses to turbines and noise, vibration, and flicker.

The following are the findings with respect to infrasound (vibrations with frequencies below 20 Hertz [Hz]) and health impacts of noise and vibration:

- Infrasound from wind turbines is not related to nor does it cause a "continuous whooshing."
- There is insufficient evidence that the noise from wind turbines is directly (i.e., independent from an effect on annoyance or sleep) causing health problems or disease.
- Claims that infrasound from wind turbines directly impacts the vestibular system have not been demonstrated scientifically. Available evidence shows that the infrasound levels near wind turbines cannot impact the vestibular system.
- There is no evidence for a set of health effects, from exposure to wind turbines, that could be characterized as a "wind turbine syndrome."

- The strongest epidemiological study suggests that there is not an association between noise from wind turbines and measures of psychological distress or mental health problems. There were two smaller, weaker, studies: one did note an association, one did not. Therefore, the Project Sponsor concludes that the weight of the evidence suggests no association between noise from wind turbines and measures of psychological distress or mental health problems; and
- None of the limited epidemiological evidence reviewed suggests an association between noise from wind turbines and pain and stiffness, diabetes, high blood pressure, tinnitus, hearing impairment, cardiovascular disease, and headache/migraine.

In addition, the Chief Medical Officer of Health of Ontario Canada, prepared a report in response to public health concerns about wind turbines in May 2010 (Chief Medical Officer Of Health 2010), which concludes: "…that while some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects. The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct health effects, although some people may find it annoying."

In addition, the Lead Agency received a comment during the public hearing for the SDEIS, concerning the impact of the shadow flicker on an individual with epilepsy. Modern, commercial-sized wind turbines do not cause flicker that is fast enough to cause epileptic seizures. Flicker frequency due to a turbine is on the order of the rotor frequency (i.e., 0.6 to 1.0 Hz), which is harmless to humans. According to the Epilepsy Foundation, only frequencies above 10 Hz are likely to cause epileptic seizures. This has been documented by the following resources:

- National Research Council. 2007. Environmental Impacts of Wind-Energy Projects. Washington, DC: The National Academies Press. Accessed online at: https://www.nap.edu/catalog/11935/environmental-impacts-ofwind- energy-projects; and
- Massachusetts Departments of Environmental Protection and Public Health. January 2012. Wind Turbine Health Impact Study: Report of Independent Expert Panel January 2012. Accessed online at: http://www.mass.gov/eea/docs/dep/energy/wind/turbine-impact-study.pdf

The complaint resolution procedure presented in this FEIS as Appendix L, will be approved by the Lead Agency, and provides mechanisms for filing and resolving complaints about noise and other matters.

### 1.4.16 Cumulative Impacts

Since the publication of the SDEIS, the proposed Cassadaga Wind Project has reduced the number of turbines from 62 to 58, and the project developer submit-

ted the Article 10 application to the New York State Board on Electric Generation Siting and the Environment. The developer of the Arkwright Summit Project is seeking permit approvals, and that project has not changed. The following summarizes the changes in cumulative impacts due to the updated Cassadaga Project and Ball Hill's revised layout.

### Wildlife

Ball Hill has decreased impacts to forested areas from the SDEIS (from decreased number of turbines and length of transmission line) and Cassadaga has decreased the number of proposed turbines, while the general scope of the Arkwright Project has not changed. Therefore, the conclusion of the SDEIS remains valid, that the three wind power projects would be anticipated to result in minimal loss of habitat within the respective project areas as well as compared with available habitat within the region. In addition, the impacts on habitat are consistent with activities and conditions that regularly occur throughout the region as a result of normal farming and timber activities.

The analysis conducted for each of the three proposed projects concludes that forest habitat fragmentation caused by the projects would be minimal relative to the amount of fragmentation already present in the region due to existing infrastructure, and has been minimized in the siting process for wind farm turbines and facilities.

### Avian and Bat Species

Construction-related activities at each project (e.g., clearing for road construction, infrastructure construction, equipment noise, and increased vehicle traffic) can potentially impact birds and bats by causing temporary displacement from habitat. Because these impacts are generally temporary and would be limited at any one location, potential cumulative construction impacts on bird and bat populations are not expected to be significant.

The potential cumulative impacts of the operation of the proposed Arkwright Summit project and the Cassadaga project were assessed in the SDEIS using the range of approximate fatality rates from post-construction studies conducted at New York State wind energy facilities. This analysis has now been updated and the revised tables are included as Table 1.4-1 and Table 1.4-2.

The species composition of estimated bird fatalities from turbine collision is primarily passerine species (approximately 60% of bird fatalities in the United States, with high percentages in the eastern United States) that occur at the highest rates during spring and fall migration (American Wind Wildlife Institute [AWWI] 2015). For most bird species, there is often only one individual killed at a site, suggesting that wind power projects do not have impacts at local or range-wide population levels for those species. Most of the fatalities resulting from a project would be of single individuals of one species, but the most common species would have fatalities of multiple individuals. Fatality rates at currently estimated values of avian mortality do not appear likely to lead to population declines in

most bird species (AWWI 2015), which is even more applicable for a cumulative evaluation of three proposed projects in Chautauqua County, New York.

**Table 1.4-1 Approximate Regional Number of Bird Fatalities**

| Project | Number of Turbines | Number of Megawatts | Approximate Minimum Bird Fatalities/ Turbine/[1] | Approximate Minimum Bird Fatalities/ MW[2] | Approximate Maximum Bird Fatalities/ Turbine[3] | Approximate Maximum Bird Fatalities/ MW[4] |
|---|---|---|---|---|---|---|
| Ball Hill Wind | 29 | 100 | 19 | 44 | 269 | 563 |
| Arkwright Summit | 36 | 79 | 24 | 35 | 334 | 445 |
| Cassadaga Wind | 58 | 126 | 38 | 55 | 539 | 709 |
| **Total** | **123** | **305** | **81** | **134** | **1,142** | **1,717** |

Notes:
1 0.66 birds/turbine/survey period (Jain et al. 2009). Survey Period Based on 2008 Noble Bliss three-day Survey Rate.
2 0.44 birds/MW/survey period (Jain et al. 2009). Survey Period Based on 2008 Noble Bliss three-day Survey Rate.
3 9.29 birds/turbine/survey period (Jain et al. 2007). Survey Period Based on 2006 Maple Ridge Daily Survey Rate.
4 5.63 birds/MW/survey period (Jain et al. 2007). Survey Period based on 2006 Maple Ridge Daily Survey Rate.

**Table 1.4-2 Approximate Regional Number of Bat Fatalities**

| Project | Number of Turbines | Number of Megawatts | Approximate Minimum Bat Fatalities/ Turbine/[1] | Approximate Minimum Bat Fatalities/ MW/[2] | Approximate Maximum Bat Fatalities/ Turbine/[3] | Approximate Maximum Bat Fatalities/ MW/[4] |
|---|---|---|---|---|---|---|
| Ball Hill Wind | 29 | 100 | 20 | 46 | 1,160 | 1,630 |
| Arkwright Summit | 36 | 79 | 25 | 36 | 1,440 | 1,288 |
| Cassadaga Wind | 58 | 126 | 41 | 58 | 2,320 | 2,054 |
| **Total** | **123** | **305** | **86** | **140** | **4,920** | **4,972** |

Notes:
1 0.7 bats/turbine/survey period (Stantec Consulting 2009). Survey Period Based on 2008 Munnsville Weekly Survey Rate.
2 0.46 bats/MW/survey period (Stantec Consulting 2009). Survey Period Based on 2008 Munnsville Weekly Survey Rate.
3 40 bats/turbine/survey period (Stantec Consulting 2011). Survey Period Based on 2009 Cohocton and Dutch Hill Daily Survey Rate. Note that this Project did not implement operational minimizations to reduce bat mortality that Ball Hill would employ.
4 16.3 bats/MW/survey period (Jain et al. 2011). Survey Period based on 2010 Noble Wethersfield Weekly Survey Rate. Note that this Project did not implement operational minimizations to reduce bat mortality that Ball Hill would employ.

Providing a context for the impact of the estimated regional bat mortality from local wind energy facilities in upstate New York (approximately 99 to 5,680 bats/year) on bat populations overall is challenging. The overall status of bat species populations is poorly known and the ecological impact of bat fatality levels is not known (AWWI 2015). Therefore, it is difficult to quantify population impacts on even a regional scale. The range of estimated bat fatalities shown in Table 1.4-2 is higher than would be expected for any of these projects because it is an-

ticipated that all three projects would implement various operational minimizations that would greatly reduce the number of bat fatalities as compared to older operating projects that do not employ similar methods. These collective minimization efforts would also reduce potential cumulative impacts to bats in the region.

### Threatened and Endangered Species

Based on consultation with the USFWS, an IPaC search, and a revised Natural Heritage Program search, plus additional field surveys, as during the SDEIS, the only federally listed threatened or endangered species identified within the Project Area is the northern long-eared bat (NLEB). This species would be addressed through an operational curtailment approach designed to eliminate collision impacts, as well as through other features of a BBCS. Efforts at the other two projects are anticipated to be similar and thus no impacts are anticipated on the NLEB from these projects.

The Bald Eagle is another species that is present in all three project areas. Ball Hill is preparing an Eagle MP and it is anticipated that the other projects will need to address the minimization of potential eagle impacts in their permitting reviews in project-specific eagle management plans.

Bald Eagle nests within the vicinity of the Project Area are described in Section 2.6, Bird and Bat Resources, of this SDEIS. These same nests are in the general vicinity of the other three proposed wind projects, as well as several more nests to the south of the Cassadaga and Arkwright projects. The number of Bald Eagle nests has steadily increased over the last two decades in New York State and Chautauqua County and continued expansion is anticipated. No significant adverse impacts from Ball Hill construction activities on nesting Bald Eagles are anticipated given the distances to nests and adherence to the USFWS guidance (2007) for construction activities. The same adherence to USFWS guidance and level of impacts is anticipated for the Arkwright Summit and Cassadaga Wind projects, if they are constructed. Significant adverse impacts would not be anticipated from the operation of each project. Ball Hill will continue to coordinate with the USFWS regarding the potential risk to eagles from the Project. It is anticipated that there will be permit conditions from NYSDEC regarding monitoring for Bald Eagles and other listed species during Project operation and measures to avoid and minimize any potential impacts from operation. Arkwright Summit and the Cassadaga Wind Project are also coordinating with the USFWS and NYSDEC, and similar approaches are anticipated. As impacts to Bald Eagles have been low in the United States and each project is anticipated to conduct monitoring and coordinate with agencies regarding minimization measures, significant adverse cumulative impacts on the local nesting population are not expected from the operation of multiple wind projects.

Little use of these areas is anticipated by federally or state-listed endangered, threatened, and special concern species; therefore, the potential cumulative risk to

these species from both construction and operation of multiple projects is considered low.

### Visual

The introduction of additional turbines within the same viewshed can increase the number of structures visible from affected vantage points, thus creating a potential higher density of visible structures. However, visibility of turbines depends on viewer location/orientation, distance, and other factors such as the topography and vegetation, the areas of the other wind projects, and the surrounding region. The farther one travels from a wind farm, the less visible it becomes. The dominance of a wind farm on a landscape would either be diminished to a distant background view as one travels farther from a wind farm or, in most cases, would not be visible at all. As such, cumulative impacts are considered only for those projects within a 20-mile radius from the Project Area. There are no existing wind farms within a 20-mile radius of the Project.

Saratoga Associates updated the VRA to reflect the revised Ball Hill layout. The VRA includes a cumulative impact analysis and is included as Appendix I, Visual Resource Assessment. Overall, given the reduction in the number of turbines at both Ball Hill and Cassadaga Wind, the cumulative visual impact would be less, relative to the analysis presented in the SDEIS.

Cumulative visual impacts from aviation safety lighting on turbines are anticipated in the same geographic areas as the viewshed for the Project. However, in accordance with FAA guidelines, not all turbines proposed for each project would have safety lighting. The cumulative impact is highly variable depending on the final number of turbines with lighting. Factors affecting visual impact may include the proximity of the turbines to the viewer, whether the viewer is stationary or moving, and the landscape setting. The lighting plan in the DEIS for Arkwright Summit proposed lights on 21 of the 44 turbines. Although a final lighting plan has not been completed for any of the projects at this time, it is expected that approximately one-half of the proposed turbines would have simultaneously flashing red lights. Thus, the cumulative lighting impacts would be minimal.

### Sound

Because noise impacts are limited by the distance sound travels, no significant adverse cumulative impacts are expected with respect to noise. Any noise impacts resulting from construction of the projects would be considered localized and temporary. While the anticipated construction periods of the Project and Arkwright Summit could potentially overlap, given the distance of approximately 1.4 miles between the nearest points of the two projects, cumulative construction noise impacts are not expected. Operational noise impacts would be localized in the area of the proposed turbines at each wind power project.

### Cultural Resources

The construction and operation of the Project would not have any significant adverse impacts on archaeological resources in the Project Area. Since there would

be no Project-specific impacts, there is no potential for contribution to cumulative archaeological impacts of the other proposed wind power projects in the region.

Construction of the Project would not have any direct impacts on architectural resources (i.e., demolition of any NRL-listed or NRE buildings) and no direct impacts have been identified in connection with Arkwright Summit or Cassadaga Wind. There is, however, a potential for construction of each of the proposed projects in the region to have visual and noise impacts on structures potentially eligible for the NRHP. Any such impacts would be temporary.

Operation of the three wind power projects would result in visual impacts on NRE and NRL properties within the region. As noted in Section 1.4.14, Ball Hill's archaeological and architectural resource consultants, Panamerican, identified 159 NRE properties and two NRE historic districts are in the current visual APE. Within the 5-mile APE for Arkwright Summit, a total of 288 properties that are listed in or determined eligible for the NRHP were identified (EDR 2015). In the 5-mile-radius study area for Cassadaga Wind there are two properties listed on the NRHP, 67 properties determined eligible for listing on the NRHP, and 15 properties whose NRHP eligibility is currently undetermined. One or more turbines may be visible from most of these structures. The visual impacts on these structures resulting from the operation of the other projects would be additive in the sense that more turbines are potentially visible from each property. The impact would vary depending on the number of turbines from each project that may be visible from a given property. The cumulative impacts on these resources would be reduced by a number of factors, including topography, distance from the turbines, existing landscaping and vegetation, and surrounding land uses. Mitigation would be required as a condition of the construction of each of the projects to offset these impacts and, thus, cumulative impacts as a result of these projects are not anticipated.

### Land Use

Based on their proximity to each other, the Ball Hill, Arkwright Summit and Cassadaga Wind projects have the potential to contribute to cumulative land use impacts. Activities associated with the three projects would result in temporary and permanent impacts on land use, primarily conversion from one land use to another. Impacts would be greater during construction due to the need to build wider temporary access roads to support construction vehicles. Impacts would be reduced during operation when the width of these roads is reduced. For each project, locations of the turbines were chosen in part to minimize the loss of active agricultural land and interference with farm operations and other environmental resources.

Although, by their nature, each project would significantly change the appearance of the landscape, the projects are generally consistent with land use patterns within the region, and there is not expected to be a significant cumulative increase in the overall land use impact due to the operation of the projects. Land use in the region is described as rural-agricultural. The regional rural character is generally

defined by its wide open agricultural parcels and limited residential density. The projects are located entirely on private lands in areas dominated by active agricultural and forested lands, thereby avoiding significant adverse impacts on residential, commercial, and recreational land uses.

The proposed projects are compatible with agricultural land use, which dominates the region. Chautauqua County contains 235,858 acres of agricultural land, which represents approximately 35% of the county (U.S. Department of Agriculture [USDA] 2007; U.S. Census Bureau 2010). The total acreage of farmland that would be permanently impacted by conversion to nonagricultural uses for the Project and Arkwright Summit is approximately 82 acres (34.5 acres for the Project, 12.5 acres for Arkwright Summit, and 34.6 acres for the Cassadaga Wind Project). Thus, the cumulative loss of farmland would not significantly affect the total acreage of farmland in the region.

Compliance with local laws regulating the development of wind power facilities would ensure that cumulative impacts on land use are minimal. The Town Laws regulating wind energy facilities have specific agricultural mitigation measures based on NYSDAM guidelines, which include locating structures along field edges where possible, locating access roads along ridge tops, avoiding dividing large fields into smaller fields, and avoiding and maintaining all existing drainage and erosion-control structures. Compliance with these measures will limit adverse impacts on agricultural land use.

### Transportation

Traffic volumes on the roads in the vicinity of the projects would increase during the construction of each project due to equipment and material deliveries.

No major or extended road closures or improvements are expected to be required to construct the projects. Minor intersection improvements would be required to accommodate the turning radii of oversize trucks. Because there is currently little or no congestion on the roads in the Project Area, it is expected that increased traffic volumes from the projects would result in minimal delays for local traffic.

Potential impacts during construction for each project could include damage to area roads and bridges. However, such potential damage would only be significant if the projects are constructed simultaneously and if the same haul routes are used. Roadway repairs as a result of damage incurred by Project construction activity would be coordinated through road use agreements with the towns and the county. The process of creating a road use agreement would allow the Towns' plans for scheduled paving and resurfacing to be coordinated with improvements and repairs by the wind power projects' developers.

If construction of either or both projects ultimately overlaps with construction of the Project, any cumulative impacts would be temporary and short-term. Based on current proposed haul routes, the haul routes for the proposed Arkwright Summit project and the Project would not overlap. The proposed haul route for

Arkwright Summit follows I-86 to Highway 60, to Highway 20, to Highway 39, to County Road 79. The proposed haul route for Ball Hill also follows I-86 to Highway 60 and then diverges from the Arkwright route: I-86 to Highway 60, to County Road 50, to US 62, to NY 83, to County Road 87, to Danker Road, to Ball Hill Road, to the site.

If delivery routes were to change during the design and construction preparation such that simultaneous hauling of equipment for both projects occurs in the area, Ball Hill and the other two projects would re-evaluate roadway conditions and make appropriate modifications. In the NYSDOT permitting process, a final route survey would be developed that identifies improvements necessary on state roads to accommodate delivery and construction vehicles when re-routing is impractical. These final plans are also coordinated with road-use agreements between the Towns and the County.

As previously stated, existing traffic within Chautauqua County is below road capacity and existing traffic conditions are light. A limited number of light trucks would occasionally access the facilities for service and maintenance; therefore, operation of the projects is not expected to have permanent impacts on local traffic and transportation.

### Socioeconomics

None of the projects in the region are expected to adversely impact housing and population. It is likely that motels/hotels in larger population centers, such as Dunkirk-Fredonia, Jamestown, and Buffalo, would be able to absorb the temporary influx of construction workers to the area, even if the Project and the proposed Arkwright Summit project are constructed simultaneously. The hotels and motels would benefit from extended construction worker stays during the construction period of each project. These revenues would increase if considering the cumulative benefit of construction of multiple wind projects in the area. During construction of the projects, the local economy would experience several significant cumulative benefits from construction, including an increase in local economic activity and purchases of automotive fuel, meals, and other items.

The sales data collected in existing wind farm markets indicate that the construction and operation of wind power projects has no influence on property values (see Appendix Q, Property Valuation Study). Furthermore, the projects would have a positive long-term cumulative impact on the local economy in the form of payments in lieu of taxes to local municipalities, license agreements with host communities, and lease revenues to participating landowners.

### Mitigation of Wind Project Cumulative Impacts

The cumulative impacts of constructing and operating the Project and other wind generating facilities in the region are, on balance, either positive or of limited significance and, therefore, do not require mitigation. This is particularly true with the economic benefits to host communities when payments in lieu of taxes and Host Community Agreements are considered. Additionally, the Project, as pro-

posed in this FEIS, has reduced the number of turbines, length of overhead line, and overall Project footprint from the 2016 SDEIS, thereby reducing the cumulative impact on environmental resources. Ball Hill will review the potential for cumulative cultural impacts with the SHPO to develop a Memorandum of Agreement, if necessary. Ball Hill will continue to coordinate with NYSDEC and the USFWS regarding wildlife impacts and it is anticipated that the other project sponsors will do the same.

## 1.5 Additional Project Components

This section identifies additional Project plans and studies either specifically requested by the Lead Agency or required under SEQRA.

### 1.5.1 Decommissioning Plan

The Town of Villenova Local Law No. 1 of 2007, entitled the "Wind Energy Facilities Law," and Article XVI of the Hanover Zoning Law, entitled "Wind Energy Conversion Systems," require that a decommissioning plan be prepared prior to issuance of a wind energy permit or special use permit. The decommissioning plan facilitates removal of any turbine and associated Ball Hill-owned facilities at the end of a turbine's useful economic life. A decommissioning plan was prepared and accepted as part of the 2008 DEIS and has since been updated in the FEIS (see Appendix R, Decommissioning Plan). The Decommissioning Plan reflects current costs and numbers associated with decommissioning activities.

The expected useful life of the Project components is 25 to 30 years, although it is reasonable to expect that this life can and would be extended by proper maintenance (the SDEIS only predicted 20 years). Decommissioning work would be performed in accordance with all federal, state, and local requirements and the appropriate permits will be obtained prior to conducting any decommissioning activities. The decommissioning plan for the Project includes detailed descriptions and cost estimates for the removal of all turbine components. The decommissioning plan provides that the site would be restored, including removal of aboveground structures (i.e., wind turbine removal, pad mount removal, and overhead collection line removal) and underground features to a depth of 3 to 4 feet (see Appendix R, Decommissioning Plan).

Detailed costs of decommissioning Project components, average salvage values for various components, and a net decommissioning cost per turbine are presented in the updated decommissioning plan. The total cost of decommissioning is estimated at $17,600 per turbine, or $509,000 for the 29 turbines, which includes blades/hub removal, nacelle removal, tower dismantling, foundation removal, and backfill/restoration. Additionally, the plan estimates decommissioning of the collection line, substations, and roads to cost $149,000. In total, decommissioning is estimated to cost $658,000, an average of $22,700 per WECS.

In accordance with the Town of Villenova Wind Law, Ball Hill will establish financial security in a form and amount acceptable to the Town. Ball Hill will review and revise all estimated decommissioning costs on or before each five-year

anniversary of the Project's first date of commercial operations, and notify the Town of Villenova of any changes. The details of the timing and nature of the updated calculations will be included in the Host Community Agreement between Ball Hill and the Town.

### 1.5.2 Environmental Monitoring Plan

Construction activities would be monitored by Ball Hill to ensure compliance with applicable permit conditions, the SWPPP, and BMPs. The purpose of the EMP is to provide the environmental supervisor(s) with a reference source to aid in managing the environmental issues that may be encountered during construction of the Project. Environmental impacts may occur during the many phases of Project construction including roads, foundations, erosion control devices, electrical collection and transmission lines and equipment, electrical substation and switchyard, and erection of turbine equipment. Ball Hill' Environmental Monitoring Plan (titled "Construction Environmental Plan", contains the framework for the daily and long-term monitoring and reporting structure to ensure that the Project is completed within the parameters set forth in the permits issued for the Project. The EMP is intended to be a "living" document, which would evolve as the Project progresses and/or as unanticipated issues arise. The EMP for this Project is included as Appendix S.

### 1.5.3 Property Valuation Study

The updated property valuation study for the Project is included as Appendix Q. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no basis for concluding there would be any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. The study indicates that this conclusion comports with the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there would be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that these facilities have had no broad-based effects on property values in those markets.

### 1.5.4 Materials Safety Data Sheets

All materials used during the inspection and maintenance of Project equipment will follow a strict MSDS program and, when required, will include documented, dedicated control of excess materials as well as off-site disposal of waste materials at licensed facilities, with an emphasis on recycling whenever possible. Typical MSDSs are included in the FEIS as Appendix D.

### 1.5.5 Complaint Resolution Process

A Complaint Resolution Plan that describes the process for receiving and addressing complaints during construction and operation of the Project, as developed in cooperation with the Towns, is presented in Appendix L. The complaint resolution procedure as presented to the Lead Agency and Town of Hanover Town

Board and in the Project Amended Applications, will provide a mechanism for filing and resolving complaints about noise and other matters.

Attached to the complaint resolution plan are instructions on how to report a complaint during construction or operation of the Project, as well as Ball Hill policies and procedures with respect to complaint monitoring and reporting.

### 1.5.6 Agency Correspondence

Since the SDEIS was submitted in January 2016, Ball Hill has consulted with SHPO, the NYSDEC, and the FAA. Additionally, a new USFWS IPaC search was conducted, as referenced above in Section 1.4.5. Agency correspondence documents are included in Appendix G.

#### State Historic Preservation Office

Ball Hill is currently in the process of consulting with SHPO on new reports.

**Archaeological Resources.** SHPO concurs that no additional Phase IB archaeological survey is warranted given that the APE has been reduced by 46.2 acres and the low archaeological sensitivity of the 2015 Ball Hill Wind Project configuration.

**Architectural Resources.** SHPO notes that the following properties inventoried in 2008 and 2013 studies were eliminated from the inventory of National Register-eligible resources located within the visual APE in the 2015 study. Some of these omissions were due to mapping and National Register status errors in SHPO's new online database, the Cultural Resources Inventory System (CRIS). SHPO updated CRIS to correct these errors, and requested that the Architectural Survey report, Addendum No. 2 be revised to include the following:

- The Silver Creek Historic District (USN 01346.000242), identified as NRE in correspondence from this office dated September 30, 2013, has been tagged as eligible in CRIS.
- The Center Street Historic District in Forestville (USN 01352.000127), identified as NRE in correspondence from this office dated September 30, 2013, has been tagged as eligible in CRIS.
- The Ewing Park South Dayton Historic District (USN 00954.000062), identified as NRE in correspondence from this office dated September 24, 2008, has been tagged as eligible in CRIS.
- Weaver Cemetery in Arkwright (USN 00926.000044) was not removed from CRIS at any time, and is now plotted on the CRIS map.
- Ewing Park in South Dayton (USN 00954.000043) is now identified as contributing to the NREe Ewing Park South Dayton Historic District; also, please note that USN 00954.000012 (the E.B. Crissey & Co. building at 30 Maple Street) was incorrectly tagged in CRIS as not NRE, but it is eligible as a contributing property in the Ewing Park South Dayton Historic District.

- St. Peter's Episcopal Church in Forestville (USN 01352.000002) was not removed from CRIS at any time, and was determined NRE on September 5, 2013; it is now plotted on the CRIS map.

Ball Hill is currently revising the architectural survey report and continuing consultation with SHPO.

### New York State Department of Environmental Conservation

Ball Hill requested an updated New York Natural Heritage Program database review for the Project Area on August 11, 2016, since more than a year had lapsed since the previous consultation. NYSDEC responded on September 21, 2016, with a report of rare or state-listed animals and plants, and significant natural communities that the database indicates occur on the Project Site or in its immediate vicinity. Also enclosed was a report of rare bats documented within 40 miles (the 2015 consultation did not include this) and rare birds documented within 10 miles of the Project Site.

The NYSDEC identified bald eagles within 0.6 miles of the Project Site (in 2015, it identified bald eagles within 0.3 miles). Rich hemlock-hardwood peat swamp, shrub swamp, and butterwort were also identified, as with the 2015 consultation. The northern long-eared bat, a federal and New York State-listed threatened species, was identified within 40 miles of the Project Site. The 2015 consultation did not include the northern long-eared bat since its summer locations were not yet entered into the NYSDEC's database. The same list of seven birds within 10 miles of the Project Site was included in the 2016 consultation as with the 2015 consultation, although the Great Blue Heron was identified as having a "significant breeding colony" in 2016 (it was listed as "breeding" in 2015).

### Federal Aviation Administration

The FAA conducts its own review of radar obstruction when wind turbines are registered with them in the process of seeking a "Determination of No Hazard." As required, Ball Hill submitted a Notice of Proposed Construction to the FAA for review on November 23,2015. During the review process, the FAA also circulates the application data to the U.S. Department of Defense and the DHS. The FAA responded to Ball Hill's application on August 11, 2016 with a "Determination of No Hazard to Air Navigation" for the proposed turbines (see Appendix G, Agency Correspondence).

# 2 Response to Public Comments

This section provides a summary of the substantive public comments received regarding the Project since the publication of the 2008 DEIS. As noted in Section 1.2, in September 2008 the Town Board, as the Lead Agency under SEQRA, accepted the 2008 DEIS commencing a public comment period.

Since the commencement of the public comment period in fall 2008, the following opportunities were provided to the public to provide substantive comments on the Project:

- Written comments were received through January 26, 2009 on the 2008 DEIS;
- Verbal comments were received at a public hearing on the 2008 DEIS on October 30, 2008;
- Written comments were received between January 18 and March 14, 2016, on the 2016 SDEIS;
- Verbal comments were received at a public hearing on the 2016 SDEIS on March 2, 2016;
- Verbal comments were received at a public hearing on the 2016 amended application to the Town of Villenova on October 13, 2016;
- Written comments were received for 10 days after the public hearing on the 2016 amended application to the Town of Villenova;
- Verbal comments were received at a public hearing on the 2016 amended application to the Town of Hanover on November 9, 2016; and
- Written comments were received for 10 days after the public hearing on the 2016 amended application to the Town of Hanover.

Comment statements received during these open public comment periods as well as notices of the public hearings and commencement of open comment periods are included in this FEIS as Appendix T, Public Participation.

For the purposes of this FEIS, comment statements are considered to be the venue for which comments were received (i.e., a letter, e-mail, or verbal testimony at a public hearing). Within each comment statement there can be multiple comments. Comments from members of the public and state agencies are summarized within each public comment period (2008 DEIS, 2016 SDEIS, Public Hearing on the

Amended Application in the Town of Villenova on October 13, 2016 and Public Hearing on the Amended Application in the Town of Hanover on November 9,2016) below. Sections 2.1 through 2.3 provide general information on the public comment periods and the comments received on the Project. In addition, pursuant to their obligations under SEQRA, Ball Hill has provided direct responses to all comments received on the Project during public comment periods from 2008 through the publication of this FEIS (see Section 2.4). Comments are compiled in the following sections by topic area.

## 2.1 Comments on the 2008 DEIS

The Town of Villenova, as the Lead Agency, accepted the 2008 DEIS as complete and initiated a public comment period on the 2008 DEIS which extended until January 26, 2009. During this time, Noble received five individual comment statements on the Project as well as 10 verbal commenters at the October 30, 2008, 2008 DEIS public hearing. Commenters included NYSDEC, NYSDAM, NYSPSC, and concerned citizens. To the maximum extent practicable, Ball Hill took into consideration the comments on the 2008 DEIS while preparing the 2016 SDEIS.

Ball Hill reviewed the 6 comment statements received and identified 135 individual comments within those statements that were then considered in development of the 2016 SDEIS. Due to the updated Project layout and turbine technology shifts, the majority of these comments are no longer applicable; however, Ball Hill has directly responded to all comments received on the 2008 DEIS in Section 2.4. In addition, all of the abovementioned commenters were given the opportunity to comment on the 2016 SDEIS during the open public comment period from January 18, 2016, through March 14, 2016. Comments are categorized in Section 2.4 by resource area addressed in the FEIS. Some of the comments received covered more than one resource area; as a result, the total 2008 DEIS comment responses below do not add up to 135 (174 comments by resource area). Of the 174 comments by resource area, 47 were in relation to Project Description and Design, 24 to Water Quality and Wetlands, five to Biological Resources, 12 to Bird and Bat Resources, 16 to Visual Resources, 10 to Sound, 21 to Socioeconomics, two to Communication Surveys, 12 to Safety, five to Decommissioning, six to Public Participation13 to Soils, and one to cultural resources.

The comment statements received during the 2008 DEIS including the public hearing transcript are included in this FEIS in Appendix T, Public Participation.

## 2.2 Comments on the 2016 SDEIS

The Town of Villenova, as the Lead Agency, accepted the 2016 SDEIS with updated turbine technology and layout, as complete and initiated a public comment period on the 2016 SDEIS from January 18, 2016, through March 14, 2016. The public comment period for the SDEIS was open from January 18, 2016, through March 14, 2016. During this time, the NYSPSC wrote two comment letters, the NYSDEC submitted a comment statement, 11 concerned citizens provided written comment statements and 16 concerned citizens spoke at the public hearing on

March 2, 2016. Ball Hill responded directly to the NYSPSC letter with a response letter dated November 16, 2016. A copy of this letter is included in full in Appendix G, Agency Correspondence. Ball Hill's responses the comments received in the NYSPSC comment statements are summarized below.

Ball Hill reviewed all 15 comment statements and narratives received and identified 236 individual comments within those statements and addressed them in this FEIS in Section 2.4. Comments are summarized below and categorized by resource area addressed in the FEIS. Some of these comments received covered more than one resource area; as a result, the total below does not add up to 236 (238comments by resource area. Section 2.4, Response to Comments on the SDEIS, provides direct responses to all of the comments received during the public comment period on the SDEIS.

Copies of the comment statements received during this time are included in Appendix T, Public Participation.

### Project Description and Design

Fifty-two comments were received on overall Project design including, but not limited to, the type of turbine selected; location of Project facilities; construction details; and questions on Ball Hill procedure, policy, and other projects. Comments generally in favor of the Project are also included here.

### Bird and Bat Resources

Thirty-eight commenters, both concerned citizens and agencies, were concerned with the Project's impact on bird and bat resources in the Project Area. Concerns included direct harm to the resources as well as indirect habitat infringement and impacts that would put pressure on the birds and bats in the area.

### Socioeconomics

Comments, with respect to socioeconomics, included concerns with decreasing property values due to the Project. In addition, commenters were concerned with lease and Host Community Agreements with the Town and where and how the money may be spent. A total of 31 comments were received on socioeconomic resources.

### Biological Resources

Thirty comments were received in relation to impacts on wildlife and forested areas including habitat fragmentation. Additionally, multiple comments were received in relation to environmental monitoring during construction and operation of the Project including invasive species management and permit conditions.

### Public Participation

Some commenters were concerned with the notices for the public hearings and the ease of access of the public documents for review. Additional comments were received regarding the regulatory process of the Environmental Impact Statement. A total of 25 comments were received on public participation.

### Water Quality and Wetlands

Twenty-three comments were received relating to, but not limited to, the Project's impacts on wetlands and streams specifically including impacts on wetlands falling under NYSDEC purview. Multiple commenters were concerned with the incomplete field work for the Project Area.

### Sound

Twenty-one comments were concerned with sound from the turbines as well as the substation, the Project meeting Town requirements, and low-frequency sound from the Project.

### Visual Resources

Nineteen comments expressed concern with the overall look of the landscape from the construction of the Project as well as potential impact on households from shadow flicker.

### Safety

Commenters were concerned with Ball Hill's commitment to health and safety on the Project Site as well as safety concerns from other wind Projects across the country. A total of nine comments were received on health and safety.

### Decommissioning

Commenters were concerned with Ball Hill's commitment to decommissioning the Project and the proposed Decommissioning Plan. A total of six comments were received on decommissioning.

### Cumulative Impacts

Ball Hill was asked to update the cumulative impact analysis based on new available information on neighboring wind projects as well as for the new layout of this Project. A total of four comments were received on cumulative impacts.

### Transportation

The number of trucks for construction of both the turbines and the construction materials were of concern to the Town of Villenova Highway Superintendent. Comments also included questions on agreements between the Town and Ball Hill for road use and improvements. Three comments were received on transportation.

### Land Use

One commenter was concerned with the Project effect on land use in the Project Area.

### Communication Surveys

One commenter commented on the effect of wind turbines on the local weather stations.

## 2.3 Comments on the 2016 Amended Applications to the Towns

During the public hearings for the 2016 amended applications to the Town of Villenova (October 13, 2016) and Town of Hanover (November 9, 2016), 49 citizens (22 at the Town of Villenova hearing and 27 at the Town of Hanover hearing) voiced comments and questions about the Project. The majority of these comments were directly answered at the public hearings by the Ball Hill Project team.

Many topics were discussed at the public hearings, including, but not limited to, general support for the Project; concerns and questions about financing of the Project and payments to the Town and leaseholders; concerns about the public's participation, availability of resources, and representation by the Town Boards; concerns over the environmental impacts of the Project including visual resources, impacts on wildlife; concerns and support for how the payments from Ball Hill to the Town would be utilized; concerns about utilizing local employees for the construction of the Project; questions about the Project facilities including the turbines and the transmission line; the potential for interference with flight paths and communications; decommissioning of Project facilities; transportation impacts; and potential sound impacts. Ball Hill and/or the Towns' attorney directly answered all comments set forth at the Town of Villenova public hearing on October 13, 2016. At the Town of Hanover on November 9, 2016, the majority of comments were directly addressed; however, four topics required additional information to be provided in the FEIS:

- Infrasound: There was concern expressed at the meeting with respect to a study by Central Michigan University that states that emissions of infrasound, sound that is not normally heard by most human listeners, and low frequency noise by industrial wind turbines has an adverse health effect on humans. Section 1.4.15 of this FEIS describes infrasound with respect to this Project.
- Auditory processing: A commenter expressed concern over a child with Auditory Processing Disorder and the low frequency sound of the turbines. The closest turbine from the address identified by the commenter is approximately 4,000 feet away. The highest predicted sound level at her house from all wind turbines operating at their highest sound levels is 36 dBA: 33 dBA of this total is from the nearest turbine; the other 3 dBA is from the other turbines combined. Under these conditions, the existing background measurements done by Hessler Associates in 2008 show sound levels at 34 dBA. These are at the L90 sound level, which is the quietest background. In other words, 90% of the time, sound in the community today is higher than 34 dBA under conditions that will produce 36 dBA in the future from the turbines. Combining 34 dBA and 36 dBA yields 38 dBA or a 4 dBA increase, which is well within the NYSDEC Policy of 6 dBA or less. It was suggested to the commenter that she discuss the matter with her child's physician, but in the experience of Ball Hill this minimal sound impact is not associated with negative impacts on human health.

- National Oceanic and Atmospheric Administration Radar: As also noted in response SDEIS-0015-48 in Table 2.4-1, the operation of commercial wind turbines can be interpreted as weather events on Doppler radar. While it is not known whether the Ball Hill wind turbines will show up on Doppler radar, radar technicians can take note of their presence and readily interpret them as non-weather phenomena.
- Unregulated airstrips: A commenter mentioned a location of an airstrip and identified concern of the turbines affect planes making approaches. As stated at the hearing, Ball Hill adhered to the required permitting through the FAA and received determinations of no hazard from the FAA. Ball Hill also met with the local airport in Dunkirk and sited all turbines more than six nautical miles from the airport per the airport's request. Ball Hill cannot be held responsible for the use of non-registered airstrips, but invited the commenter to provide the property address to better understand and respond to the comment.

A copy of each public hearing transcript is attached to this FEIS in Appendix T, Public Participation.

After each public hearing, a 10-day public comment period remained open for concerned citizens to submit comments to the Town for inclusion in the FEIS. Seven written comment statements were received by the Town of Villenova after the October 13, 2016, meeting and no written comments were provided to Ball Hill during the 10-day period after the Town of Hanover Public Hearing on November 9, 2016. The official notice of public hearing, transcripts, and written comments received for the Amended Application for both Towns are included in this FEIS in Appendix T, Public Participation

The seven written comment statements received by the Town of Villenova after the October 13, 2016, meeting highlighted a variety of topics of concern, including visual and shadow flicker impacts, wildlife and birds, traffic and transportation, drinking water quality, economic benefit to the Town, setback concerns, property value, Project economics, and health effects from wind turbine syndrome and infrasound. This FEIS along with the 2016 SDEIS analyzes the impacts with respect to these concerns in the following sections:

- Visual and shadow flicker impacts: Section 2.7 and Appendix M of the 2016 SDEIS; updated analysis in Section 1.4.7 and Appendix I of this FEIS;
- Wildlife and bird impacts: Sections 2.5 and 2.6 and Appendices K and L of the 2016 SDEIS; updated analysis in Section 1.4.5 and 1.4.6 and Appendix H of this FEIS;
- Traffic and transportation: Section 2.11 and Appendix D of the 2016 SDEIS; updated analysis in Section 1.4.11 and Appendix M of this FEIS;
- Drinking water quality: Section 2.3 of the 2016 SDEIS and Section 1.4.3 and Appendix E of this FEIS;

- Economic benefit to the Town: Section 2.13 of the 2016 SDEIS and Section 1.4.13 of this FEIS;
- Setback concerns are included in the siting of the Project and are described in detail in Section 1.3 of this FEIS. The Project is in compliance with local setback laws and in addition, Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences, whenever practicable.
- Property value: A property valuation study is included in this FEIS as Appendix Q;
- Project economics: Ball Hill is the Project Sponsor and engaged in a detailed process of micrositing and analyzing engineering options and controls in order to minimize or avoid Project environmental impacts identified in the January 2016 SDEIS. The current layout reflects a balance of minimizing potentially negative environmental and human impacts while still providing an economically viable Project to produce energy from 100 MW of wind capacity to the electric grid; and
- Heath effects in relation to wind turbine syndrome and infrasound are discussed in the FEIS is Section 1.4.15; Health and Safety.

## 2.4 Response to Comments on the SDEIS

This FEIS includes copies of all public comments received during the public comment periods on the 2016 SDEIS and 2008 DEIS and Ball Hill's responses to them. The comments and responses are organized by topic and presented in Tables 2.4-1 and 2.4-2. Within the tables the agency comments are presented first, followed by written comments from concerned citizens in order of receipt, followed by the public hearing transcript. The topics are ordered by number of comments received with the topic receiving the most comments presented first. Each comment statement is given an identification number (i.e., SDEIS-0001 or DEIS-0001) and each comment within that statement is given a unique code (e.g., SDEIS-0001-1 and SDEIS-0001-2). These are given to comments in the order they are stated in the comment statement.

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Project Description and Design** | | | |
| SDEIS-0001-1 | Public Service Commission | The SDEIS describes one significant change in the project transmission line: the prior project included a 6-mile long transmission line rated at 115 kV, whereas the SDEIS describes a 6-mile long 230 kV transmission facility (SDEIS, pg. 1-8). As indicated in the SDEIS, this increase in design capacity makes the transmission facility subject to the jurisdiction of the New York State Public Service Commission (NYSPSC or PSC) under article VII of the Public Service Law (PSL) at §120, et. seq. Article VII supplants other procedural permits and approvals otherwise applicable to the major transmission facility including the 230 kV transmission line, and associated substation and switchyard components. While the identification of potential environmental impacts associated with the transmission facility as a part of the overall review of the "Ball Hill Wind Project" including cumulative impacts is appropriate in the EIS record, the EIS should acknowledge that Article VII reviews are classified as "Type 11 actions" in the SEQRA regulations, and thus are not otherwise subject to SEQRA procedural provisions (6 NYCRR 617.5(c)(35). | Since submitting the SDEIS for this Project Ball Hill has elected to revert to the original 115-kv design of its transmission facility. As currently proposed, the approximately 5.7-mile-long transmission line would follow the same route as the 230-kv line described in the SDEIS. As a 115-kv facility less than 10 miles in length, the currently proposed transmission line would not be subject to Article VII jurisdiction. |
| SDEIS-0001-2 | Public Service Commission | PSL Article VII essentially supplants other state and local permitting requirements and approvals of a procedural nature (PSL §130) for major transmission facilities, so certain statements in the SDEIS should be modified in the FEIS. For example, Section 2.4.3, under "Minimization of Impacts during Construction and Operation of the Project" the "NYSPSC" should be added to the statements "Ball Hill will follow all NYSDEC and USACE permit requirements regarding restoration of wetland impacts" and "An invasive Species Management Plan (ISMP) will be fully developed in consultation with NYSDEC and USACE" (SDEIS, pg. 2.4-15). Likewise, the New York State Department of Public Service staff (Staff) should be referenced at discussion of the Mitigation for Permanent [Wetland] Impacts (SDEIS pp. 2.4-16 and -17). | Please see response to SDEIS-0001-1, above. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0001-4 | Public Service Commission | At page 1-17, the SDEIS states that "underground collection lines would be installed via trenching or using a directional bore at stream locations. Streams that are not normally dry at the time of crossing would be temporarily dammed, and water would be pumped around the construction area to allow collection lines to be installed in dry conditions. The equipment that would be used to install the collection lines cuts a trench, places the cable, and backfills the trench in a single pass, thereby reducing the duration of stream disturbance. If directional boring machine is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore." DPS recommends that trenching machines not cross significantly classed streams (including classes C(T) and above and any intermediate waterbodies greater than 10 feet). Instead, during dam and pump around or similar installation methods, proper erosion control devices should be placed along the stream bank; the trench can then be excavated from either side of the control measures. | As discussed in Section 1.3.3 of this FEIS, underground collection lines would be installed via trenching or using a directional bore at stream crossings. Boring (and not dam and pump methods) will occur for stream crossings where required by permit condition or where specific site conditions (e.g. protected streams, steep slopes, unstable soils or other engineering challenges) necessitate its use." If directional bore is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore. Each bore will start and finish beyond stream banks. Aboveground junction boxes will be located at various locations to join multiple reels of cables for long runs and at one end of each directional bore location. |
| SDEIS-0001-5 | Public Service Commission | The SDEIS indicates on page 1-12 that there will be construction of an approximately 6 mile long overhead 230 kV transmission line which will transfer the energy produced by the Project from the new substation to the new switchyard. The switchyard would be constructed in the Town of Hanover. This switchyard would provide a connection to an existing 230-kV National Grid overhead transmission line. It would appear that there would be a potential for reduction in environmental impact (including reduction in forest clearing, land use, visual exposure, etc.) if the new collection substation were to be constructed north of its currently proposed location. By placing the substation in a more northerly location, the length of the overhead transmission facility and ROW area would be reduced. The FEIS should explain whether any alternative locations for the collection substation were explored, whether any reasonable alternatives were identified, and provide a comparison of potential impacts. | Since receipt of this comment, the proposed new collection substation has been moved to the north of its earlier proposed location. This open field location also satisfies landowner preferences. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0001-6 | Public Service Commission | Page 1-15 of the SDEIS notes that "this area (staging area) could be used as short term staging for verification of match marking, a quality receipt inspection, washing, and any necessary rigging adjustments prior to site delivery. Please provide an explanation of the term "match-marking." | Matchmarking is the process of marking equipment components so they can be assembled in the correct manner. |
| SDEIS-0001-7 | Public Service Commission | Page 3-5 of the SDEIS notes that "if overhead collection lines were to be required in future site design, it would reduce wetland impacts or be placed due to topography constraints. The transformers are interconnected through a collection system consisting of both underground and above ground power lines on wooden poles that will connect all of the turbines together electrically ... The majority of the collection system, as currently designed, will be installed underground ... As currently planned, the collection system is entirely underground in compliance with the Town's local law requirements. Accordingly, overhead collection lines will only be used if necessary in a few select areas to avoid drainage and wetland features or other areas where burial of collection lines is problematic from an engineering standpoint as contemplated by the towns." If available, provide a map with the potential collection line locations that may be installed overhead; an accompanying explanation would also be beneficial. Also, if available, provide the required clearing ROW width for installation of overhead collection lines. | No overhead collection line circuits are currently proposed for the Project. |
| SDEIS-0001-8 | Public Service Commission | Without repeating prior comments on the DEIS regarding potential impacts of the proposed transmission line, DPS remains concerned that the proposed location and design of the 230 kV line involves clearing and access road development on steep slopes and construction of transmission structures close to protected streams. The SDEIS does not provide any updated Transmission Line Plan and Profile drawings reflecting the upgrade of design from 115 kV to 230 kV (DEIS Drawings BH-T-301 Sheets 1 through 6 were for a 115 kV facility). Final facility design and location will be subject to the NYS PSC review pursuant to PSL Article VII. | As mentioned previously, the concerns of the NYSPSC have been reviewed and the proposed transmission line would be 115 kV, not 230 kV. Its constructability has been reviewed by RES engineers. Typical transmission line plan and profile drawings are included in Appendix C, Project Drawings in this FEIS. Further analysis of the potential environmental impacts of the proposed 115kv line are presented in the FEIS in Section 1.4. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0001-14 | Public Service Commission | OTHER PERMITS AND APPROVALS<br>The FEIS should acknowledge the appropriate jurisdictional role of the NYS PSC in the overall Ball Hill Wind Project development, siting and permitting program. In addition to the Article VII jurisdiction described above, the Wind Project will be subject to PSL §68(1) authority as an Electric Corporation if the final design exceeds 80 MW, as previously described in DPS correspondence to the Lead Agency from June 18, 2008, and November 10, 2008. If the final design will exceed 80 MW, the attached list of standard information requests regarding Wind Energy Project subject to PSL §68 CPCN Review should be addressed in a Petition for Issuance of a Certificate of Public Convenience and Necessity. To the extent that any of these questions relate to environmental findings, they should be addressed in the FEIS. | See response to comment ID SDEIS-0001-1, above.<br><br>Ball Hill will be submitting a petition to the NYSPSC pursuant to Section 68(1) of the Public Service Law seeking a Certificate of Public Convenience and Necessity for the Project. Ball Hill has reviewed the list of standard information requests regarding Wind Energy Projects subject to PSL Section 68 CPCN Review and will submit the information as part of the Petition for Issuance of a Certificate of Public Convenience and Necessity. Answers to the questions that relate to environmental findings are summarized and presented throughout the SDEIS and FEIS. |
| SDEIS-0002-1 | Public Service Commission | The Department of Public Service (DPS) Staff inadvertently neglected to attach a document referenced in submitted comments regarding the Supplemental Draft Environmental Impact Statement for the Ball Hill Wind Project, dated March 14, 2016. Please see the attachment entitled "Standard Information Requests for Wind Energy Project §68 CPCN Review" | See response to comment ID SDEIS-0001-14 above. |
| SDEIS-0003-1 | Department of Environmental Conservation | Executive Summary, Section Alternative Project Location and Design: This section states that the preliminary analysis of the Project Area was conducted in 2006 and later continued in 2015. Since conditions and potential constraints within the Project Area have changed during this time, the SDEIS should address how the alternatives analysis was updated given the length of time that has elapsed. | In the revised layout presented in this FEIS, the Project minimizes environmental impacts, taking into account the community's input while maintaining the Project's energy generation capacity and maximizing energy efficiency. Ball Hill engaged in a detailed process of micrositing and analyzing engineering options and controls in order to minimize or avoid Project environmental impacts identified in the January 2016 SDEIS. Please refer to the FEIS, Section 1.3, for a detailed comparison of the Project from the SDEIS to the FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-37 | Department of Environmental Conservation | As changes are made to the Project area, access roads, electric lines, and turbine layouts, the applicant should provide the most current GIS shapefiles to NYSDEC to facilitate a timely and accurate review of potential impacts. | Shapefiles of the updated Project layout were provided to NYSDEC as part of the submittal of the Wetland and Waterbodies Report for the Project. |
| SDEIS-0004-1 | Martin Huber | My name is Martin Huber, my family has lived on Round Top Rd. for over forty years. I am very concerned about the wind turbine project proposed for our town. | Ball Hill continues to work with the Towns of Villenova and Hanover to provide Project information and potential impact analysis on the positive and potentially negative impacts to the community from the Project. |
| SDEIS-0006-3 | Greg Snow | This project should be put on hold pending completion of the Arkwright wind project so Villenova residents can properly evaluate the impacts of an industrial installation of this magnitude. | The potential environmental impacts of the project, which are affected by the size and number of turbines and other Project facilities, are evaluated in the SDEIS and this FEIS. In addition, the cumulative impacts of this Project and other proposed wind projects in the area (including the Arkwright Project) are analyzed in Section 1.4.16 of this FEIS. |
| SDEIS-0007-1 | Christopher Warner | I am writing to express my frustration in supporting green energy, but being left out until the last minute in changes and size adjustments to an already very large change in our very rural land scape. As a result I must voice my strong opposition to the siting of extremely tall wind turbines on Ball Hill in the Town of Villenova unless some changes are put into place. My residence and farm is on Straight Road in the Town of Arkwright, less than 1.5 miles from turbine #2 | The public hearing and public comment period were scheduled after the SDEIS was submitted to the Lead Agency and made available online and at public locations to give members of the public and government agencies an opportunity to comment on the Project. All comments were made available for review and consideration by the Lead Agency and the Project developer prior to preparation and submission of the FEIS and the Project application. An additional public hearing was held in Villenova on October 13, 2016 and on November 9, 2016 in the Town of Hanover. Section 1 and Appendix A of the FEIS describe the final layout of turbine locations and other project facilities, including the final location for Turbine 2. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-9 | Christopher Warner | I care about producing green energy. I have recently installed solar panels at my residence to generate electricity without consuming fossil fuel. The solar panels do not move, do not tower over my house and trees, do not make noise and do not kill wildlife. I would have much rather seen a much smaller scaled green energy project developed to produce energy for use by local residents. One or two smaller turbines or a solar panel array could serve much of the energy need of the surrounding area, and provide benefit to all in the community that would bear the burden of having structures placed in or near our backyards. Instead, the power generated by these turbines will be transmitted outside of Chautauqua County, and due to the distance it will have to travel and the inefficiency of transmission lines, much of this energy produced on the backs of my community, will be lost before it reaches its final destination. I would like to know how much of the 100 MW of energy that would be generated by the Ball Hill Wind Project would be lost during transmission? While I want to see more green energy production, and less fossil fuel production, I am very concerned that green energy is being lost when wind power plants like Ball Hill Wind Project are not being sited closer to the cities that are using the power. | All electricity transmission is associated with some degree of lost power as the current travels along the line, whether the energy is generated through wind, solar rays, or another source. The amount or percentage of the energy generated by the project that will be lost during transmission will depend on where the electricity is ultimately used, which will not be decided by the Town or the Project Sponsor. As noted in the SDEIS, the availability and proximity of the high-voltage National Grid 230-kV Dunkirk-Gardenville transmission line that runs through the town of Hanover enhances the efficiency of the project, versus delivery at lower voltage, by reducing transmission line "losses." |
| SDEIS-0007-13 | Christopher Warner | I work evenings and have been unable to attend community meetings so far. This doesn't mean I'm not very interested and I believe that in order for projects like this to be a success, the entire community should be involved and benefit. Project developers want to build turbines on the Chautauqua Ridge, the town has more negotiating power than it thinks. | Thank you for your comment. |
| SDEIS-0009-1 | Doug Rumsey | I have heard a lot of talk of windmills being put In our community. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0011-2 | Priscilla Titus | In general, I believe the development of alternative energy production facilities is necessary and worthwhile, but appropriate siting is crucial both to the success of the facility and to appropriate minimization and mitigation of unavoidable adverse impacts. | The potential impacts of the Project on visual resources, sound, land use, socioeconomics, and cultural resources have been thoroughly considered in the SDEIS and FEIS. Please refer to the FEIS Section 1 and corresponding appendices for descriptions of the analysis that was conducted and conclusions regarding potential impacts. |
| SDEIS-0011-8 | Priscilla Titus | I do not agree that potential construction impacts would "generally be confined to properties of participating landowners, and would be temporary in nature". Obviously, neighboring property owners will be affected by the project both during and following construction in many ways, some of which are long-term. | Grading and fill activities resulting from construction of the Project would generally be confined to properties of participating landowners and would be temporary in nature. There is the potential for increased traffic on local roads from construction of the Project as described in Section 1.4.11 of this FEIS, which would also be temporary during construction. Restoration of areas impacted by construction will be conducted in accordance with commitments made in the SDEIS and FEIS. Other impacts from the construction and operation of the Project are analyzed in detail in this FEIS and attached reports. |
| SDEIS-0012-1 | Peter Calanii | I am an Arkwright resident. I feel this project is very bad and wrong. Outdated turbines, not enough bond money, lousy corporate secrets, the usual corruption. If these come any closer to Arkwright you will have the fight of your corporate lives. "The ultimate goal of farming is not the growing of crops, but the cultivation and perfection of human beings." Masanobu Fukuoka | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0013-6 | Jonathan Townsend | We cannot hope to tum the tide for our local bats if we keep justifying the need for projects such as this based on anthropo-centric minded values. While I applaud the desire to move away from fossil fuels, I do not think this is the right direction to take. As a consultant conducting post construction bat and bird fatality studies in WNY it wasn't unusual for me to drive 800 miles in a week to document fatalities, and when factoring in diesel truck operation for clearing, constructing and main-taining these facilities; as well as the removal of trees that store carbon; it becomes clear that the industry overall is anything but fossil fuel free. | Thank you for your comment. |
| SDEIS-0013-7 | Jonathan Townsend | Human activities have created immense tracts of developed land - parking lots, roof tops and streets, that we can utilize for less intrusive methods of electricity generation like solar, or smaller scale, more bat friendly, wind energy units. | Thank you for your comment. |
| SDEIS-0014-1 | Judy Phillips | This is the second letter I've submitted to the Villenova Town Board as the SEQRA lead agency for the proposed Ball Hill Wind Project. For the following reasons, I am asking the board members to stop this proposed industrial project from any further continuance by not accepting or approving the SDEIS and vote for the no build alternative. | Thank you for your comment. |
| SDEIS-0014-7 | Judy Phillips | Town of Villenova wind laws would have to be amended to allow 500 foot turbines. | Ball Hill is seeking a variance from the respective Town Boards to allow for construction of the turbines. The maximum height for the select-ed turbine is 492 feet when a rotor blade is at the top of its rotation. |
| SDEIS-0014-9 | Judy Phillips | I've spent many hours trying to understand this complex pro-ject, after reading the SDEIS, I am against this industrial pro-ject being constructed in the Towns of Villenova and Hanover. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-6 | Tina Graziano | But why hurry now? There is a new design for a bladeless turbine coming out soon, no blades. It is said it's cheaper and easier to maintain with less moving parts, bird friendly, and easier on the landscape. | The wind turbines that will be installed for the Project will be Vestas Model V126-3.45MW IEC IIA/IIB turbines (V126), each of which will have a capacity to produce approximately 3.45MW of electricity. Using these currently available, well tested turbines allowed Ball Hill to remove seven turbines which had been in the SDEIS Project layout, reducing the Project footprint and impacts as the total number of turbines was reduced from 36 to 29. Please refer to the FEIS Section 1 for additional information, including a comparison of the Project design with the SDEIS. Additionally, Appendix B provides the specifications for the selected turbine. |
| SDEIS-0015-11 | Angela Hughes | Just a thought. So -- but anyways, I'm for it and I can't see nothing but good things. | Thank you for your comment. |
| SDEIS-0015-13 | Angela Hughes | So I'm just for it. I am. And like I said, I can't stress enough, I was all the way down in North Carolina and I heard about the meeting. | Thank you for your comment. |
| SDEIS-0015-15 | Howard Crowell | I'm surprised there's this much opposition at all. I hadn't heard of any opposition across the townspeople that I talked to. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-26 | Lisa Brain | Like there's a lot of things I'm for, but you're talking a windmill is that is two hundred fifty foot by twenty-five foot per wing, is that what we're talking about, the real big ones? ... And five hundred feet tall. But the wing span itself, okay, and then so that's kind of major, I think, in my back yard. And then the post just being -- if it's here you're talking -- okay. | The wind turbines that will be installed for the Project will be Vestas Model V126-3.45MW IEC IIA/IIB turbines (V126), each of which will have a capacity to produce approximately 3.45MW of electricity. As described in the FEIS Section 1, the V126 turbine is a three-bladed, upwind, horizontal-axis wind turbine with a rotor diameter of approximately 413 feet. The nacelle is located at the top of the tower and contains the electrical generating equipment. The turbine rotor and the nacelle are mounted on top of a tubular tower giving a rotor hub height of 285 feet. The maximum height for the turbine is 492 feet when a rotor blade is at the top of its rotation. See Appendix B, Turbine Specifications, of this FEIS for additional information. |
| SDEIS-0015-34 | Richard Hagel | This power that the wind turbines generate, where will it be sold to? Who will this power go to? I was just hoping it would stay in New York State, but apparently you don't have any idea. We have the best power project in the country probably in Niagara Falls. What gets me is a lot of that energy goes to Ohio, you know, and it doesn't help our bills at all. | Ball Hill is seeking a contractual buyer for the power. Electrically, the power goes into the grid and the electrons flow to where they are needed on the grid, whether in or out of state, but the Project would help achieve New York State goals to increase the state's clean energy economy. |
| SDEIS-0015-37 | Barry Nobles | Another thing is I'm from a community that has a landfill and we have a host agreement with the landfill and from the landfill point of view management of that is very important and the company that does that does a very good job, but it's important for the community to understand what goes into that can see some of the benefits so that's a case where that does work well. It's a tough thing. I think it's really important when everybody can get the information everybody can look at it and get people that are willing to listen to that. I think energy independence is very important. I just try to push energy independence forward. We don't have to send people to the Middle East to try to get resources. | Ball Hill will enter into Host Community Agreements with the Towns of Villenova and Hanover that will be agreed to by Ball Hill and the Town Boards. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-38 | Dawn Ossont | Question, with the height of these turbines -- turbines, how close can they be to houses or cabins or that kind of -- any kind of structure? Are there requirements? I did go through some of the documentation online and I couldn't find that, but I imagine it's probably in there somewhere. So how close can they be? | The Towns require a minimum setback of 1,000 feet from residential structures. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences, whenever practicable. Structures, such as seasonal hunting cabins, that are not recognized by the Towns as residences would not be covered by the requirement. |
| SDEIS-0015-39 | Dawn Ossont | I also noticed that the 2012 layout to this proposed layout, there is some changes as to where they were. Because of the taller turbines will that -- does that change again? Because for example, in 2012 there was one that was very, very -- a hundred yards of my parents' property, which is not on their property but very close to it. In 2016 it isn't there. Once -- if this all happens, are they going to move around, it's suddenly going to appear again where it wasn't? Is it different if it's a full-time residential home versus a seasonal cabin? | Changes to turbine locations are described in Section 1 of the FEIS. The total number of turbines was reduced from 36 potential turbines when the SDEIS was submitted to 29 turbines. |
| SDEIS-0015-41 | Dawn Ossont | So how long do they -- what is -- how long do you expect them to be functional? | The useful life of the turbines is expected to be 25 years, but they could be operational for a considerably longer period if properly maintained. |
| SDEIS-0015-44 | Judy Phillips | Approval of this type of project could cause community discord and division among neighbors, as it has often been reported in other rural communities. | Thank you for your comment. |
| SDEIS-0015-53 | Michael Emke Walker | I hope nobody gets all pissed off because I'm for it and it seems like a lot of people are against it. | Thank you for your comment. |
| SDEIS-0015-57 | Greg Snow | I also would be interested in knowing how this project was transferred from Duke Energy, what the possibilities are of it getting transferred again before the project is complete. | Duke Energy ceased activity on the Project and Ball Hill has continued it as Duke's successor. It is anticipated that the Project ownership may change in the future, and any successor would be bound by the conditions of all permits from and agreements with the Town of Villenova. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-58 | Greg Snow | I have a question regarding these new much larger turbines. There are two proposed for this project and I'm going to assume we're going to get the largest of the two, the GE which is four hundred ninety-nine feet high. | The wind turbines that will be installed for the Project will be Vestas Model V126-3.45MW IEC IIA/IIB turbines, each of which will have a capacity to produce approximately 3.45MW of electricity. Using these currently available, well tested turbines allowed Ball Hill to remove seven turbines which had been in the SDEIS Project layout, reducing the Project footprint and impacts as the total number of turbines was reduced from 36 to 29. The maximum height for the selected turbine is 492 feet when a rotor blade is at the top of its rotation. Please refer to the FEIS Section 1 for additional information, including a comparison of the Project design with the SDEIS. Additionally Appendix B of this FEIS shows turbine specifications. |
| SDEIS-0015-60 | Greg Snow | Are you saying that we could get even larger turbines? | The turbines for the Project have now been chosen: Vestas Model V126-3.45MW IEC IIA/IIB. |
| SDEIS-0015-61 | Greg Snow | Part of my question there is how this project was transferred. | Duke Energy ceased activity on the Project and Ball Hill has continued it as Duke's successor. It is anticipated that the Project ownership may change in the future, and any successor would be bound by the conditions of all permits from and agreements with the Town of Villenova. |
| SDEIS-0015-64 | Chuck Luce | How fast of the wind can they handle? | The cut-out wind speed of the V126/3.45MW turbine is 22.5 meters per second. |
| SDEIS-0015-65 | Chuck Luce | A braking system? | When the wind hits the cut-out speed, the blades are feathered out of the wind so that they stop turning. |
| SDEIS-0015-66 | Chuck Luce | How many of these towers do you have up now, you know, the whole outfit? | RES Americas has built thousands of large-scale turbines capable of generating over 8,000 MW. |
| SDEIS-0015-67 | Greg Snow | How many in New York State? | Ball Hill would be one of RES Americas' first projects in New York State. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-75 | Howard Crowell | We have a lot of gas wells in the area and they have continued issues. Will these windmills have tenders, people that come around and check them every so often or daily or weekly or monthly? How often will they be in this area? | Ball Hill plans to operate the Project with a staff of up to six full-time employees who would perform routine, preventive maintenance and unplanned work on the wind turbines under an O&M contract. A facility manager and an administrative assistant would be responsible for all O&M of the site, including administration and direction of turbine maintenance, technical oversight as required by the manufacturer, and operational coordination with both the utility grid system and local landowners. If needed, large repair tasks would be accomplished using both Project employees and third-party contractors. |
| SDEIS-0015-77 | Chuck Luce | How many yards of concrete to hold one of them up? I know I put towers out in Tucson, Arizona, and we put like a hundred twenty-five yards just for small? How deep do they go down? We were more than forty-five feet deep. | Geotechnical surveys will dictate final design parameters of the foundations. Foundations for these turbines are generally octagonal, approximately 65 to 70 feet across at the base, and extend 7 to 10 feet below grade. The wind turbine foundation design will be developed by a registered professional engineer licensed to practice in the State of New York. See Section 1.3.3 and Appendix C, Project Drawings, for additional information. |
| SDEIS-0015-78 | Chuck Luce | What does that tower weigh without the concrete? | The total tower weight of the V126 would be 460,766 pounds or approximately 230 tons. See Appendix M, Transportation, for additional details on the size and weight of turbine components. |
| SDEIS-0015-79 | Chuck Luce | It doesn't seem very deep to hold up a five-hundred-foot tower. | See response to comment ID: SDEIS-0015-77. |
| SDEIS-0015-80 | Chuck Luce | You're going to do road pushes, running underground cable, or is it all overhead? Your transmission line is going to be above? | The collection system that will bring the electricity from the turbines to the substation will be constructed underground. An overhead transmission line will be constructed in Hanover to carry the electricity from the substation to a switchyard where it will be connected into the grid. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-81 | Chuck Luce | You're going to have some big transmission lines going across Villenova there. You're going to run everything underground through that? | The collection system that will bring the electricity from the turbines to the substation will be constructed underground. An overhead transmission line will be constructed in Hanover to carry the electricity from the substation to a switchyard where it will be connected into the grid. |
| SDEIS-0015-83 | Judy Phillips | Can it take as many as seven trailers to transport the components of one turbine and as many as sixty trailers to transport the large capacity crane? More than forty just to transport the crane, correct? | It is estimated that 348 truckloads (12 truckloads per turbine) will be required to deliver turbine components to the Project Area. See Appendix M, Transportation, for additional details on the size and weight of turbine components. |
| **Bird and Bat Resources** | | | |
| SDEIS-0003-15 | Department of Environmental Conservation | Although the shrubby young forest may provide valuable habitat to a suite of bird species after clearing, the forest interior species that depend on contiguous forest will be negatively impacted by the loss of cover and habitat fragmentation caused by turbines, roads, and other infrastructure. Any contiguous forest block of 150 acres or larger is valuable forest habitat-viable for many bird species that require interior forests for breeding. Most of these species are protected by federal and State laws such as the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Part 182 of New York Codes, Rules and Regulations (NYCRR), and Article 11 of the NYSE CL. | A habitat fragmentation analysis looking at direct and indirect impacts to "valuable" forested habitat has been conducted for the Project, the results of which are detailed in Section 1.4.5, Biological Resources, and 1.4.16, Cumulative Impacts. The analysis was conducted using guidelines presented in "NYSDEC direct and indirect impacts to interior wildlife species" and has been conducted following the NYSDEC document titled *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, June 2016. The analysis found there are 12 blocks of forested land greater than 150 acres in size. The Project would impact 118.9 acres of forested land in total, and would increase the number of forest blocks greater than 150 acres to 15 and would cut one forest block into a size smaller than 150 acres. More details can be found in Section 1.4.5 of this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-16 | Department of Environmental Conservation | The applicant should consider layout design and factors to minimize impacts to forest interior breeding birds and bats and to mitigate for unavoidable forest clearing. These may include but are not limited to, placing turbines as close as possible to forest/field edges to reduce impact to both habitat types, conducting all tree clearing outside of the primary bird nesting season (April 1-August 31) and bat emergence, roosting and swarming period (April 1-0ctober 31); and communicating with NYSDEC and USFWS about options to mitigate for direct and indirect loss of forest interior habitat. | Ball Hill engaged in a detailed process of micrositing and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the January 2016 SDEIS. Turbines were placed closer to forest/field edges where possible to reduce impact to both habitat types (such as Turbine 2 and 21). Table 1.3-2 in the FEIS identifies how turbines were re-sited from the SDEIS to the FEIS. Tree clearing will be conducted between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This range also minimizes potential impacts to birds since these dates are beyond the primary bird nesting season. Ball Hill is also preparing a Bird and Bat Conservation Strategy (BBCS) in coordination with NYSDEC and USFWS that will apply best management practices (BMPs) and other features to minimize potential impacts to these resources during construction and operation of the Project. |
| SDEIS-0003-17 | Department of Environmental Conservation | 2.6 Bird and Bat Resources<br>Breeding Bird Survey<br>It is unclear why information on existing bird and bat resources in the Project area would be located in Section 2.11, Traffic and Transportation. | There was a typographical error in the SDEIS and the wrong section was referenced. Details on Bird and Bat Resources were presented in Section 2.6 and Appendix J in the SDEIS and are presented in Section 1.4.6 and Appendix H, Bird and Bat Resources, in this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-18 | Department of Environmental Conservation | One grasshopper sparrow, a State species of special concern and grassland breeding species, was observed during the 2011 breeding bird survey. Information on precisely where the bird was observed, the duration of each observation, any breeding behavior seen, and other relevant notes should be provided to determine if any Project components may impact this species. | One Grasshopper Sparrow (New York State species of special concern) was detected during the 2008, 2011, and 2016 breeding bird surveys. Each location was different, but they shared being in agricultural locations dominated by tall grasses. In 2008 the Grasshopper Sparrow was sighted at a survey point (K) along Ball Hill Road in Villanova just south of the Town Line. This is closest to Turbines 30 and 29 (turbine 29 has since been dropped from the Project, see Table 1.3-2 in Section 1 of this FEIS). In 2011 the Grasshopper Sparrow was heard near Noble T65 along Route 39 in the Town of Hanover. The closest turbine was Turbine 38 in the SDEIS layout, although relatively far away. This turbine has since been dropped from the Project (see Table 1.3-2 in Section 1 of this FEIS). One Grasshopper Sparrow was also heard singing several times near the midpoint of transect PA-3 in 2016, which is dominated by tall grasses and scattered shrubs. |
| SDEIS-0003-19 | Department of Environmental Conservation | Eagle Surveys<br>The eagle population in the vicinity of the Project has increased significantly since eagle surveys were conducted and the number of eagle nests near the Project has also increased. Throughout this section, these changes in the eagle population should be incorporated into the discussion of potential impacts | Changes in the local eagle population were included in the discussion of potential impacts in the SDEIS. Additionally, Ball Hill initiated a second year of eagle point-count surveys at this site in March 2016. Results to date are included in the FEIS in Appendix H, Bird and Bat Resources. |
| SDEIS-0003-20 | Department of Environmental Conservation | Eagle surveys should be repeated within the project area with updated survey points that adequately sample the current proposed project layout. | Changes in the local eagle population were included in the discussion of potential impacts in the SDEIS. Additionally, Ball Hill initiated a second year of eagle point-count surveys at this site in March 2016. Results to date are included in the FEIS in Appendix H, Bird and Bat Resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-21 | Department of Environmental Conservation | Passive Bat Acoustical Study (2012) and Northern Long-Eared Bat Acoustic Survey (2015)<br>During the acoustic survey conducted in 2012, the two detectors placed on a meteorological tower recorded 2243 calls that were able to be identified, 469 (20.9%) of which were Myotis species. No further analysis of the Myotis species calls were conducted, as the northern long-eared bat (NLEB) was not listed as threatened at the time, so it is unknown how many of these calls may have been made by northern longeared bat. The 2015 survey determined probable presence of NLEB on the site, and it is possible the species was recorded in 2012 as well. NYSDEC requests the 2012 acoustic data be reevaluated to determine if NLEB were detected on site, and the date(s) of any potential NLEB calls. | The Myotis species calls from the 2012 acoustic data were reevaluated to determine the potential presence of northern long-eared bat. Six northern long-eared bat calls were detected at the low microphone. The analysis is included in Appendix H, Bird and Bat Resources. |
| SDEIS-0003-22 | Department of Environmental Conservation | 2.6.1 Construction Impacts<br>This section states, " .... it is uncertain when tree clearing activities would be conducted" and "tree clearing during the late spring, summer, or early fall would have the greatest potential to have an adverse impact on nesting birds." Sections 2.6.1.1 and 2.6.1.2 both declare that no significant adverse impacts are expected as a result of construction of the Project. The applicant should explain why no adverse impacts are expected during Project construction when the dates of tree removal have not been determined. | The exact timing of tree clearing is not known at the time an SDEIS is prepared. Ball Hill will conduct tree clearing between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This will also minimize potential impacts to breeding birds as these dates are beyond the primary bird nesting season. |
| SDEIS-0003-23 | Department of Environmental Conservation | Section 2.6.1.2 also states that the majority of construction activities would occur in agricultural fields; however, based on the maps provided in the SDEIS (e.g. Figure 1.1-2), over half of the turbines appear to be sited in forested areas. NYSDEC staff requires that no tree clearing take place between April 1 and October 31 to protect birds and bats during the breeding, migration, and fall swarming period | The layout was adjusted to reduce forest impacts. Also see previous response and response SDEIS-0003-16. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-24 | Department of Environmental Conservation | 2.6.1.3 Construction-Potential Impacts on Threatened or Endangered Bird Species<br>This section briefly discusses monitoring in grassland and forested areas for the presence of sensitive and listed species. NYSDEC requests more information on the protocols to be used during such monitoring, including the locations, timing and duration of surveys, number of personnel involved in the monitoring, and how notification of the discovery will be conveyed. The applicant should describe the proposed avoidance and minimization techniques if a nest is found. | See response to comment SDEIS-0003-22. As clearing will occur in the window of November 1 through March 31 to address concerns with bat habitat, this will also greatly reduce potential impacts with breeding bird species as most species breed later in the spring and summer. For proposed clearing of forested areas between January 1 and March 31 and grassland areas between March 1 and March 31, the environmental supervisor will traverse the areas to be cleared within two weeks of the scheduled start of clearing and search for bird nests. Should any active nests be located, the location will be documented and NYSDEC and USFWS will be consulted to discuss potential avoidance and minimization measures. This text has been added to the Environmental Monitoring Plan for the Project, see Appendix S of this FEIS. |
| SDEIS-0003-25 | Department of Environmental Conservation | As the project footprint, access road and turbine layout change, the applicant should provide the most current GIS shape files NYSDEC to facilitate timely and accurate review of potential impacts. | Updated Project shapefiles were provided to NYSDEC as part of the submittal of the Wetland Delineation Report for the Project. |
| SDEIS-0003-26 | Department of Environmental Conservation | 2.6.1.4 Construction-Potential Impacts on Bats<br>This section commits to minimizing adverse construction impacts on bats and their roost trees, should tree clearing take place during the spring, summer or early fall periods. In coordination with NYSDEC and USFWS, a qualified biologist(s) will conduct tree inventories and monitor for presence through the use of acoustic detectors and/or exit surveys. To date, NYSDEC has not participated in discussions about this activity and staff encourages the applicant to develop a protocol for such work, should tree clearing occur during the time bats may be active on the site. | The exact timing of tree clearing is not known at the time an SDEIS is prepared. Ball Hill will conduct tree clearing between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This will also minimize potential impacts on breeding birds as these dates are beyond the primary bird nesting season. It will not be necessary to conduct tree inventories or exit surveys with the proposed timing. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-27 | Department of Environmental Conservation | 2.6.1 .5 Construction-Potential Impacts on Threatened or Endangered Bat Species<br>As previously noted, tree clearing is prohibited between April 1 and October 31 if State and federally threatened northern long-eared bats occupy a site. Since the presence of northern long-eared bat has been determined to be probable in the Project area during the summer, DEC recommends no tree clearing take place during that time. | The exact timing of tree clearing is not known at the time an SDEIS is prepared. Ball Hill will conduct tree clearing between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This will also minimize potential impacts on breeding birds, as these dates are beyond the primary bird nesting season. It will not be necessary to conduct tree inventories or exit surveys with the proposed timing. |
| SDEIS-0003-28 | Department of Environmental Conservation | 2.6.2 Operational Impacts<br>DEC recommends an operational curtailment regime designed to minimize direct impacts to bats. The applicant should engage in discussions with NYSDEC and USFWS to determine the appropriate timing and environmental conditions during which curtailment should take place. | Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime. These discussions are continuing through development of the Ball Hill BBCS. With such a regime in place it, is anticipated that mortality of Myotis bats will be greatly reduced. |
| SDEIS-0003-29 | Department of Environmental Conservation | 2.6.2.1 Operational-Potential Impacts on Migratory Birds-Passerines<br>The Department does not agree with the statement that the Project area is not immediately proximate to any large waterbodies that nocturnal migrants would use as stopover areas because all of the turbines are less than 12 miles from Lake Erie and the northern portion of the Project area is less than five miles from the Lake shore. As migrant birds, particularly songbirds, moving north in the spring utilize the areas along both Lakes Erie and Ontario, there is the potential for a higher than average mortality rate to occur at the Ball Hill project. The applicant is encouraged to work closely with NYSDEC and USFWS to develop appropriate post-construction monitoring studies that estimate bird and bat mortality and avoidance levels. | There is scant evidence to support that turbines located between 7 and 12 miles from the Lake Erie shore would provide a higher than average avian mortality rate. Migrant birds moving north in spring will utilize stopover habitats everywhere in the state. Stopover habitats are of increased importance within a few miles of a lakeshore, but not 7 to 12 miles. Ball Hill is developing a post-construction monitoring approach as part of the BBCS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-30 | Department of Environmental Conservation | 2.6.2.2 Operational-Potential Impacts on Breeding Birds<br>Department staff believes that Figure 1.1-2 does not support the statement that the majority of the turbines would be sited in agricultural fields and open areas. In fact, Figure 1.1-2 shows approximately 19 turbines, or just over half, will be located in forested habitats. Additionally, some of the access roads, electric collection lines, and a large portion of the transmission lines are also located in forested areas. The post construction monitoring study will investigate the indirect impacts on birds in forested and grassland habitats from turbines and other project components and will be developed in consultation with NYSDEC and USFWS. | See response to SDEIS-0003-16. Ball Hill is developing a post-construction monitoring approach as part of the BBCS. A detailed protocol will be agreed upon with NYSDEC in advance of implementation, which is typically the first full year following construction completion. |
| SDEIS-0003-31 | Department of Environmental Conservation | 2.6.2.5 Operational-Potential Impacts on Threatened or Endangered Bat Species.<br>The applicant must discuss the need for an incidental take permit for northern long-eared bats with NYSDEC staff due to the potential risk of collision with turbines at Project. The applicant should coordinate with NYSDEC and USFWS to discuss avoidance, minimization and mitigation techniques that will provide adequate protection to northern long-eared bats. Appropriate turbine cut-in speeds may vary with the time of year, time of day, and weather conditions. | Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime that when implemented would make the potential take of a northern long-eared bat highly unlikely to occur. These discussions are continuing through development of the Ball Hill BBCS, which may make a state-level incidental take permit unnecessary. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-32 | Department of Environmental Conservation | 2.6.2.6 Bird and Bat Fatality Approximations<br>Table 2.6-4 should be updated to reflect all the available post-construction monitoring reports from New York available to date including the Steel Winds project. Steel Winds is the closest operating project to Ball Hill and is located on the shore of Lake Erie in Lackawanna. Bird mortality estimates at Steel Winds ranged from 7.15-8.46 birds per turbine and 2.89-3.38 birds per megawatt in 2012, and 6.92-15.5 birds per turbine and 2.77-6.2 birds per megawatt in 2013. This information should be used to calculate fatality estimates in this section and elsewhere in the SDEIS. | The tables have been updated and are included in Section 1.4.16 of the FEIS. The exclusion of the 2012 was an oversight and Ball Hill was unaware of a 2013 study. While the rates from these studies at Steel Winds were on the higher end of rates in New York State, it is also notable that many of the avian fatalities were of gulls from the adjacent Ring-billed Gull colony. When gulls are removed from the mix of avian species found, the avian fatality rates are not at the higher end of studies conducted in New York State and within the range of numbers used in the SDEIS. Thus, the high end rate used in the SDEIS is still applicable for avian fatality approximations. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-34 | Department of Environmental Conservation | Though DEC is unaware of exact roost locations for northern long-eared bats near the project area, the species is known to occur in Chautauqua County. Individuals have been captured in mist nets in the towns of Chautauqua and Ellington and the applicant's acoustic monitoring suggests northern long-eared bat is present on site. | Ball Hill engaged in a detailed process of micrositing and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the January 2016 SDEIS. Turbines were placed closer to forest/field edges where possible to reduce impact to both habitat types (such as Turbine 2 and 21). Table 1.3-2 in the FEIS identifies how turbines were re-sited from the SDEIS to the FEIS. Tree clearing will be conducted between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This range also minimizes potential impacts to birds since these dates are beyond the primary bird nesting season. Ball Hill is also preparing a BBCS in coordination with NYSDEC and the USFWS that will apply BMPs and other features to minimize potential impacts to these resources during construction and operation of the Project. Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime. These discussions are continuing through development of the Ball Hill BBCS. With such a regime in place it is anticipated that mortality of Myotis bats will be greatly reduced. |
| SDEIS-0003-35 | Department of Environmental Conservation | To reduce potential impacts to bats, NYSDEC recommends all tree clearing be conducted in the winter, between November 1 and March 31. DEC also recommends operational curtailment during periods when bats may be present and most active | Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime. These discussions are continuing through development of the Ball Hill BBCS. With such a regime in place, it is anticipated that mortality of Myotis bats will be greatly reduced. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-57 | Department of Environmental Conservation | Appendix K-Results of 2011 Breeding Bird Surveys at the Ball Hill Wind Energy Project Area, August 2011<br>Additional information on the grasshopper sparrow, a State species of special concern and grassland breeding species, should be provided. This species was recorded in the 2007, 2008, and 2011 surveys. Information on precisely when and where the birds were observed, the duration of each observation, any breeding behavior seen, and other relevant notes should be provided to determine if any project components may impact this species. | One Grasshopper Sparrow (New York State species of special concern) was detected during the 2008, 2011, and 2016 breeding bird surveys. Each location was different, but they shared being in agricultural locations dominated by tall grasses. In 2008 the Grasshopper Sparrow was sighted at a survey point (K) along Ball Hill Road in Villanova just south of the Town Line. This is closest to Turbines 30 and 29 (turbine 29 has since been dropped from the Project; see Table 1.3-2 in Section 1 of this FEIS). In 2011 the Grasshopper Sparrow was heard near Noble T65 along Route 39 in the Town of Hanover. The closest turbine was Turbine 38 in the SDEIS layout, although relatively far away. This turbine has since been dropped from the Project, see Table 1.3-2 in Section 1 of this FEIS. One Grasshopper Sparrow was also heard singing several times near the midpoint of transect PA-3 in 2016, which is dominated by tall grasses and scattered shrubs. |
| SDEIS-0003-58 | Department of Environmental Conservation | As all of the breeding bird surveys were conducted as points, rather than transects, post-construction surveys may not be directly comparable if done following current recommendations. The SDEIS should discuss the NYSDEC protocol that will provide the best data for post-construction breeding bird surveys. | An additional breeding bird survey was conducted in June 2016 following the current NYSDEC protocol of using transects. This will allow comparison for post-construction breeding bird survey results. The updated Breeding Bird Survey report is attached to this FEIS in Appendix H, Bird and Bat Resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-59 | Department of Environmental Conservation | Appendix K-Eagle Surveys at the Proposed Ball Hill Windpark, February 2013 There are currently 18 known bald eagle nests within 10 miles of the current Ball Hill Project boundary: 2 within 2 miles, 5 between 2 and 5 miles away, and 11 between 5 and 10 miles away. Nesting bald eagles in this area are known to use the proposed Project Area. The potential for significant impacts to these and other nesting pairs, exists if the operating Project causes a direct injury or mortality or if birds avoid the area due to the presence of turbines. The applicant is encouraged to request and review the most recent information available from the Natural Heritage Program regarding listed and sensitive species, and continue to communicate with NYSDEC and USFWS about avoidance, minimization and mitigation for any potential impacts to eagles as a result of the construction and operation of the Project. | Ball Hill continued to communicate with NYSDEC and the USFWS regarding eagle nests, sightings, and recent activities. An updated Natural Heritage Program letter was received and is included in this FEIS in Appendix G, Agency Correspondence. Ball Hill is preparing an Eagle Management Plan (Eagle MP) as part of the BBCS process. |
| SDEIS-0003-60 | Department of Environmental Conservation | Appendix L-Bat Acoustic Monitoring Report for the Proposed Ball Hill Windpark, February 2013 NYSDEC requests the 2012 acoustic data be reevaluated to determine if northern long eared bat were detected on site, and the date(s) of any potential northern long-eared bat calls. As 20.9% of all calls identified were Myotis calls, it is possible that northern long-eared bat were recorded during the 2012 surveys. | The Myotis species calls from the 2012 acoustic data were reevaluated to determine the potential presence of northern long-eared bat. Six northern long-eared bat calls were detected at the low microphone. The analysis is included in Appendix H, Bird and Bat Resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-61 | Department of Environmental Conservation | Appendix L-Bat Acoustic Survey Report for the Ball Hill Wind Project, November 2015 Acoustic monitoring conducted July and August, 2015 following USFWS 2015 guidance indicated the State listed threatened northern long-eared bat may be present on site. Since State regulations prohibit the taking or disturbance of a listed species within their habitat without a permit, NYSDEC encourages the applicant to discuss next steps to avoid, minimize and mitigate for impacts to this species as a result of the construction and operation of the Ball Hill project. Such avoidance and minimization measures may include date restrictions on tree clearing and operational curtailment during periods when bats are likely to be most active. | Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime. These discussions are continuing through development of the Ball Hill BBCS. With such a regime in place it is anticipated that mortality of Myotis bats will be greatly reduced. Ball Hill engaged in discussions with NYSDEC regarding an operational curtailment regime that when implemented would make the potential take of a northern long-eared bat to be highly unlikely to occur. These discussions are continuing through development of the Ball Hill BBCS, which may make a state-level incidental take permit unnecessary. Ball Hill engaged in a process of micrositing and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the January 2016 SDEIS. Turbines were placed closer to forest/field edges where possible to reduce impact on both habitat types (such as Turbine 2 and 21). Table 1.3-2 in the FEIS identifies how turbines were re-sited from the SDEIS to the FEIS. Tree clearing will be conducted between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This range also minimizes potential impacts to birds since these dates are beyond the primary bird nesting season. Ball Hill is also preparing a BBCS in coordination with NYSDEC and the USFWS that will apply BMPs and other features to minimize potential impacts to these resources during construction and operation of the Project. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-8 | Christopher Warner | I am concerned about the impact the turbines will have on birds. I have been feeding migratory ruby throated hummingbirds at my residence for 18 years. I have counted from 16-22 hummingbird individuals that feed on my property, and on average 6-8 pairs nest next to the feeders on my property each year. I am also aware of a nearby bald eagle nest, and am concerned that bird strikes will occur due to the size and speed of the turbines- 160 miles per hour. I care very much about the health of the wildlife, and do not want to see birds or bats killed by the turbines. | All forms of energy generation have some level of impacts on wildlife. For wind, avian mortality at New York State wind projects has ranged from 0.7 to 9.3 birds per turbine per study period (the 2013 study at Steel Winds was higher at 15 birds per turbine but many of those were gulls from a large breeding colony immediately adjacent to the site), or 0.4 to 5.63 birds per MW per study period. Hummingbirds have not demonstrated a high level of mortality from operating wind farms, and they would be expected to remain active in an operating Project Area, including breeding. The Bald Eagle nests in the vicinity of the Project were discussed in the SDEIS and updated in the FEIS and a second year of eagle surveys is underway (see Appendix H, Bird and Bat Resources); results to date have shown eagles flying in the Project Area, but not with great frequency. Ball Hill Wind is preparing an Eagle MP, which will include BMPs to reduce potential impacts to eagles from this Project. |
| SDEIS-0011-7 | Priscilla Titus | Adverse impacts to wildlife including birds and bats is inadequately addressed because it does not take into account the effects of habitat degradation and fragmentation and the effects of noise and visual disturbances including those involved in maintenance. | Ball Hill Wind took many factors into consideration when updating the layout and reducing the number of turbines to 29 for this Project. The forest clearing and habitat fragmentation values are updated and discussed in Section 1 of the FEIS. Ball Hill Wind is preparing a BBCS that will include BMPs to reduce potential impacts during construction and operation. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0013-3 | Jonathan Townsend | Construction activities are part of the process of habitat fragmentation. The Ball Hill SDEIS claims that construction activities "would not be expected to have a significant adverse effect on bat populations because bats are most active at night when construction is not taking place and because they can temporarily relocate". Bats ARE most active at night, but they still need to sleep, which occurs during the time that construction activities are occurring, so this will still have an impact. Bats CAN relocate - but this relocation puts stress on bats that would normally not occur, places them at an elevated risk of predation, and lowers their success in reproduction and foraging, which can potentially impact the entire local population. | Clearing will be conducted between November 1 and March 31 and, thus, will not impact northern long-eared bat or other species. |
| SDEIS-0013-4 | Jonathan Townsend | Long known for the impact on bird populations, the wind energy industry actually has greater impacts on bats. On average, around 500,000 individual bats are killed each year in the United States as a result of wind turbine operation. Couple this with the losses from White Nose Syndrome (WNS), a disease affecting cave hibernating bat species, and this becomes a very real conservation issue. Nearly 6 million bats have died in the US since WNS was discovered, also in that time an additional 5 million bats may have died from wind energy related fatalities. | There have been multiple bat studies at this site as well as similar results from studies at nearby proposed wind projects. The greatest potential of impacts on bats is through collisions with turbines. This most often occurs in the late summer and early fall time period. Ball Hill is coordinating with NYSDEC regarding BMPs during this period as part of a BBCS. The impact to bats will be greatly reduced through implementation of these BMPs. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0013-5 | Jonathan Townsend | Depending on whether you use the SDEIS estimates of bat fatality regarding individual turbines or based on the overall megawatts of turbine production, mortality rates of up to 1440 - 1630 individuals per survey season (roughly April to November) are possible. Bats reproduce slowly, generally having just one pup per year. When populations become impacted in this way, it becomes harder and harder for these species to replace those lost each year, and still maintain a viable, thriving population. Wind energy disproportionately impacts the migratory "tree" bats, while WNS largely impacts "cave" bats - between both of these major sources of mortality each group has been put under extreme pressure. These are just two sources, among dozens of other issues such as human persecution, environmental toxins (heavy metals, pesticides, herbicides etc), and an unstable, unpredictable climate. Each individual bat is crucial, especially for species such as the northern long eared and little brown bats - who have experienced dramatic declines (90-98%) in NYS resulting from WNS, and who are likely to inhabit or utilize the project area for this wind park | There have been multiple bat studies at this site as well as similar results from studies at nearby proposed wind projects. The greatest potential of impacts on bats is through collisions with turbines. This most often occurs in the late summer and early fall time period. Ball Hill is coordinating with NYSDEC regarding BMPs during this period as part of a BBCS. The impact to bats will be greatly reduced through implementation of these BMPs. |
| SDEIS-0013-6 | Jonathan Townsend | We cannot hope to tum the tide for our local bats if we keep justifying the need for projects such as this based on anthropocentric minded values. While I applaud the desire to move away from fossil fuels, I do not think this is the right direction to take. As a consultant conducting post construction bat and bird fatality studies in WNY it wasn't unusual for me to drive 800 miles in a week to document fatalities, and when factoring in diesel truck operation for clearing, constructing and maintaining these facilities; as well as the removal of trees that store carbon; it becomes clear that the industry overall is anything but fossil fuel free. | Thank you for your comment. |
| SDEIS-0013-7 | Jonathan Townsend | Human activities have created immense tracts of developed land - parking lots, roof tops and streets, that we can utilize for less intrusive methods of electricity generation like solar, or smaller scale, more bat friendly, wind energy units. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0013-8 | Jonathan Townsend | Projects like this one at Ball Hill will take a rural, agricultural, or forested region, and dot it with enormous, intrusive turbines that will irrevocably change the landscape. Bats everywhere are in deep, deep trouble. Not just locally, but worldwide. They are also extremely crucial organisms, and the more biologists study them, the more crucial they appear to be. In this age of spreading mosquito borne pathogens, destructive agricultural pests, or other insect related issues, it makes sense to conserve our bats, not add to their woes. If not for their intrinsic value, let's conserve them based on ecological economics, for bats provide billions of dollars in ecological services that often go unnoticed. I ask that you please consider the impact this project will have on bats - ANY impact is unacceptable when considering the mounting issues they currently face. | Thank you for your comment. |
| SDEIS-0015-3 | Tina Graziano | Not only will we constantly have this in our face, I have to observe every turbine killing and maiming our wildlife. I counted twenty-two turbines all around wet spots. What are you thinking? There's nothing on these turbines about the bats. | Less than one acre of wetlands is expected to be permanently filled by the Project. Wet areas within the Project are identified in detail in Appendix E of this FEIS, Water Quality and Wetlands. Ball Hill worked diligently to avoid wetland areas and minimize impacts on these areas. Ball Hill also sited turbines with the intent to minimize impacts on wildlife and the environment. Section 1.4.5 and 1.4.6 of the FEIS identifies the potential environmental impacts from the Project on wildlife and biological resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-4 | Tina Graziano | They will get a permit to allow them to cover the eagle kill. Just look up sometime and notice all the bird activity we enjoy. Our eagles are here, the herons, hawks, ducks, geese and songbirds will be executed or injured daily. Birds that get too close will have their lungs ruptured. This is disgusting, a cruel waste for nothing gained. | Project facilities have been sited to minimize impacts on wetlands. Please refer to Section 1.3 and Appendix E, Water Quality and Wetlands, and Appendix F, Conceptual Wetland Mitigation Plan, of the FEIS for more information. All forms of energy generation have some level of impacts to wildlife. For wind, avian mortality at New York State wind projects has ranged from 0.7 to 9.3 birds per turbine per study period, or 0.4 to 5.63 birds per MW per study period. The potential impacts of the Project on bats, eagles, and other avian species are analyzed and discussed in the SDEIS and the FEIS. Please see Section 1.4.6 and Appendix H, Bird and Bat Resources, of the FEIS regarding bats and avian species and mitigation to reduce potential impacts. |
| SDEIS-0015-9 | Angela Hughes | I'm retired military. I've traveled all over the world and they've had -- for many, many years overseas we have had them, and I have nothing but good things to say about them. Number one, if you're talking about -- I mean, it's cleaner than any other energy you can use. I really totally believe that with my whole heart. And if the birds are that darn stupid --I don't know. I mean, I'm not trying to be funny, but there's not that many birds killed compared to the, you know, environmental issue on it. | Thank you for your comment. |
| SDEIS-0015-16 | Howard Crowell | I remember reading one of the Burke Hill studies back then and the list of priority on what killed the birds, the automobile and the birds of prey, and the last thing the front of your house and all that stuff right down through there, your neighborhood kid with a BB gun, you get down about ten, twelfth place, about one or two percent of your bird kills that's where the windmills is. There's stuff killing birds long before any windmills kill birds. | Please refer to Section 1.4.6 and Appendix H, Bird and Bat Resources, of this FEIS for a detailed assessment of potential impacts on birds. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-47 | Judy Phillips | An eagle nest is located less than a mile from some of the proposed turbines. There are four eagle nests involved. Though it is a protected species, majestic bald eagles are killed by rotating blades, and other birds and bats. | All forms of energy generation have some level of impacts to wildlife. For wind, avian mortality at New York State wind projects has ranged from 0.7 to 9.3 birds per turbine per study period, or 0.4 to 5.63 birds per MW per study period. The potential impacts of the Project on bats, eagles, and other avian species are analyzed and discussed in the SDEIS and the FEIS (see Section 1.4.6 and Appendix H, Bird and Bat Resources). In addition, breeding bird, bat, and eagle surveys and analysis were conducted and are presented in Appendix J of the SDEIS and Appendix H of this FEIS. Ball Hill is preparing a BBCS and Eagle MP in coordination with the wildlife agencies to reduce avian impacts. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Socioeconomics** | | | |
| SDEIS-0004-2 | Martin Huber | I want you to know that I am very much against construction of these wind turbines. I believe that living literally right next to one of these towers will negatively effect my land value, and quality of life. I have lived near the wind farm near Warsaw NY while attending college, and I know firsthand that living in one of these farms is not pleasant. | An analysis of the potential effects of the Project on property values is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad-based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0005-4 | Marlene McNeight | Something was mentioned about property taxes being lowered, but the irony is that the property value would be greatly decreased. | The Project developer and the Towns of Villenova and Hanover will enter into Host Community Agreements that will include payments from Ball Hill to each Town. An analysis of the potential effects of the Project on property values is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad-based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0005-5 | Marlene McNeight | A lot of money must be involved in this deal, at a great expense to the property owners of Villanova. | The Project Sponsor is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. Please review Appendix Q, Property Valuation Study, which finds that there is no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. |
| SDEIS-0005-6 | Marlene McNeight | Why would the elected officials not be concerned about the people that elected them. This is definitely not in the interest of the property owners of Villanova but to all property owners of rural property. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-2 | Greg Snow | This project will permanently negatively impact the quality of our rural life and the monetary value of our homes. | An analysis of the potential effects of the Project on property values is presented in this FEIS in Appendix Q, Property Valuation Study.<br>Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |
| SDEIS-0006-15 | Greg Snow | Financial:<br>How will homeowners be compensated in the event they are unable to sell their homes or can't sell them at a fair price (their inflation adjusted pre wind farm value)? | The comment mistakenly assumes that construction of the wind farm is the only factor that affects property values. In reality, there are many factors that influence the final sale price of a particular residential property and how quickly a given property is sold, such as the asking price, the condition of the property, the number of potential buyers in the market, mortgage interest rates, property taxes, etc. While the effect of wind farms on property values can and has been studied at the community level as described above, it would not be possible to determine precisely how much the proximity or visibility of a wind turbine or project facility contributed to an increase or decrease in |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | | the sale price of a particular property.<br><br>An analysis of the potential effects of the Project on property values is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-2 | Christopher Warner | I purchased my property in Arkwright, which was an abandoned farm and farmhouse at the time of purchase, because I wanted to invest and improve in the property, invest in the community, be a good neighbor, and live and farm in a rural, quiet, beautiful and peaceful region of Western New York. | A Visual Resources Assessment (VRA) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. A VRA was submitted as part of the SDEIS, and a revised VRA is included in the FEIS as Appendix I. In addition, a Property Valuation Study was conducted for the Project based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State. The study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. Please refer to Appendix Q of this FEIS for additional information. |
| SDEIS-0007-7 | Christopher Warner | If I am forced to move due to the wind turbines negative impact on my family, I want to make sure that my property value has not decreased and recommend that as part of this review all residences within a 10 mile radius of the Project receive a current property assessment. The SDEIS says that studies show that there is no statistical difference in property values before and after turbines are constructed, but I am concerned about property values for residences like myself which are very close to turbines (O to 1.5 miles). A paper I looked up said that broadly there is no statistical negative impact on property values, but there is the possibility for negative impact to properties very close to the turbines (this information is from an article by Corey Lang, "The windy city: Property value impacts of wind turbines in an urban setting" Energy Economics 44 (2014)). I would like an assessment and a guarantee that if I have to sell because of the health of my children I will be compensated for the difference. | The comment assumes that the construction of the wind farm is the only factor that affects property values. There are many factors that influence the final sale price of a particular residential property and how quickly a given property is sold, such as the asking price, the condition of the property, the number of potential buyers in the market, mortgage interest rates, property taxes, etc. While the effect of wind farms on property values can and has been studied at the community level as described above, it would not be possible to determine precisely how much the proximity or visibility of a wind turbine or project facility contributed to an increase or decrease in the sale price of a particular property.<br><br>The Property Valuation Study conducted for the |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | | Project (Appendix Q) analyzes home sales data out to 5 miles of wind farms, and also includes a literature review of other studies of the impact of wind farms on property values. According to the report, one such study, "Impacts of Windmill Visibility on Property Values in Madison County, New York" produced in 2006 by Ben Hoen of the Bard Center for Environmental Policy, "found no measurable effect of windmill visibility on property values and even indicated that this evidence holds when concentrating on homes within 1 mile of the turbines and on those that sold immediately following construction of the facility in 2001. This is by far the most extensive and soundly designed study completed to date."<br><br>In addition, based upon investigation of potential health risks from proximity to the proposed wind turbines, as described in the FEIS, and Project design to avoid proximity impacts, no health effects are reasonably expected. Should health effects be determined to be caused by wind turbine operations, they would be addressed through the Complaint Resolution Procedure to be agreed upon with the Towns of Villenova and Hanover. Preconstruction real estate value assessments are not planned, nor are they seen to be necessary as property valuations are based on a wide range of factors. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-11 | Christopher Warner | All the communities within and near the three projects should receive benefits, as we are those that will be living with the turbines every day. Compensation to property owners within the broader footprint of these three projects could be given such as free green energy, to help retain or improve properties and residences for those living near the turbines. This could aid to the ability of those attempting to go green with greenhouses operate and improve our community. Green energy and other benefits to nearby properties, not only those properties where the turbines are actually sited, should be negotiated by all the impacted towns, together. I think the town, and the residents could gain much more for what the impacted community is losing and risking. I don't think the impacted residents' needs are currently being represented well enough, and strongly encourage the town to work for better protections for us. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0007-14 | Christopher Warner | These are long-term impactful changes proposed for our community; I feel the town should negotiate for higher community compensation, compensation benefiting all individuals that are impacted visually, audibly and physically. Without this I feel we are getting the very short end of a very big stick. | Thank you for your comment. |
| SDEIS-0009-3 | Doug Rumsey | Our hills look fine like they are. Plus the decrease in property values for this. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-2 | Jonathan Titus | 1. It is very important that a foolproof guarantee be associated with the project such that if the project is abandoned or decommissioned Renewable Energy Systems is obligated to restore all of the sites to the highest possible standards. This must be a large enough bond such that a clean-up will occur regardless of the status of Renewable Energy Systems. A lack of protection to local communities from abandoned energy projects has been a problem across the country. | In 2008, a decommissioning plan for the Project was reviewed and accepted as complete by the Villenova Town Board as (New York) State Environmental Quality Review Act (SEQRA) Lead Agency. The decommissioning plan has been updated and is included in the FEIS as Appendix R, Decommissioning Plan. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |
| SDEIS-0012-1 | Peter Calanii | I am an Arkwright resident. I feel this project is very bad and wrong. Outdated turbines, not enough bond money, lousy corporate secrets, the usual corruption. If these come any closer to Arkwright you will have the fight of your corporate lives. "The ultimate goal of farming is not the growing of crops, but the cultivation and perfection of human beings." Masanobu Fukuoka | Thank you for your comment. |
| SDEIS-0014-6 | Judy Phillips | Wind power is intermittent, unreliable and heavily subsidized by taxpayer awards (surcharges on electric bills) though the NYSERDA renewable energy contract. | Ball Hill will enter into lease agreements with property owners and Host Community Agreements with the Towns. The financial aspects of these agreements will not be dependent on the amount of Ball Hill's revenue from the Project, so any risks associated with variable winds and changing subsidies will be assumed by the Project Sponsor. |
| SDEIS-0015-5 | Tina Graziano | Cuomo is going to hand out a hundred and seventy-five million dollars for five New York State projects with Ball Hill listed as the largest bill. That's all money from us. You can find it right on your electric bill. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-12 | Angela Hughes | Number one, I believe, and I may not be speaking right, but it's going to help us with our taxes. It's going to help us with our historic properties here, and we've got to admit this town is really going down and it needs some help and everyone could use some tax money here. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-18 | Richard Crowell | I think this is something the town could use. They need this money to do some work for the buildings and our roads, get them up to where they ought to be. And we had a gentleman there back in 2008, he was -- I can't remember his name, but he was the supervisor in the Town of Eagle. He came up and talked to us on the town board at that time and he was talking about how it helped them drop their tax rate to almost nothing and with all the extra money they could spend on the buildings and roads and stuff, and I think we could use it up here and we've needed it for a long time. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-20 | Cliff Rumsey | We hear a lot about the things where they are supposed to help townships and county -- I don't know if anybody has really done any homework. In the Pike area you see a lot of them up there. How much has it affected their area? Have their taxes been -- do they have a reduction in their taxes up there or is it just the landowners that made money or what is it? There's a lot to this. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-22 | Cliff Rumsey | And we're going to have the same thing here, but the benefit to them is that it's -- it's gonna help the township a lot I could understand, but what from I've read about these I don't think so. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-25 | Lisa Brain | The money issue, the town could benefit. Great. I'm for that. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-34 | Richard Hagel | This power that the wind turbines generate, where will it be sold to? Who will this power go to? I was just hoping it would stay in New York State, but apparently you don't have any idea. We have the best power project in the country probably in Niagara Falls. What gets me is a lot of that energy goes to Ohio, you know, and it doesn't help our bills at all. | Ball Hill is seeking a contractual buyer for the power. Electrically, the power goes into the grid and the electrons flow to where they are needed on the grid, whether in or out of state, but the Project would help achieve New York State goals to increase the state's clean energy economy. |
| SDEIS-0015-36 | Barry Nobles | Is there some kind of bond that's put up that these will be maintained? | The law requires the creation of a decommissioning bond that is updated on a regular basis, so that the town could remove the Project facilities if the company failed to do so. The decommissioning plan for the Project has been updated from the original 2008 version and is included the FEIS as Appendix R. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-45 | Judy Phillips | There are people that have lived here all their lives, recently moved here, built or renovated their homes, own a summer home, pay their mortgages or plan to sell their home within twenty years. Their home may be the largest lifetime investment towards their retirement. The building of industrial wind turbines could devalue the property. They will tell you that it might not. Common sense dictates that given two identical properties in a rural area, one that is next to an industrial turbine versus one whose view does not include such a facility is likely considered more valuable. | An analysis of the potential effects of the Project on property values is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to proximate location or location in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad-based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |
| SDEIS-0015-50 | Judy Phillips | Serious financial issues have surfaced for the town hosting the aging -- which is the oldest, fifteen-year-old New York Madison wind farm and problems are also foreseeable in the near future for New York State's largest and now technology outdated Mapleridge wind turbine facility. And I have been there. I hope the board has researched problems in other rural communities due to wind turbine facilities. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-54 | Michael Emke Walker | There is some people that are probably set with their money, but I am trying to farm and taxes are going up every year and I can't afford to keep paying them. That's the reason I'm trying to farm, because I would like to have a bigger chunk of land so I could farm. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-55 | Robert Crowell | I think I'm in favor of it. I'd love to go down to the Pike and Warsaw areas and see them. I've talked to quite a lot of farmers down there. I know quite a few in that area who have them on their own land, and I have two sisters that live right in the middle of the area. They say nothing but good things about them. We talk about their taxes and what they do to the community. And I read the articles, the things about the hills, and connect it a little bit with the Arkwright to know what's going on there. I know that it will bring a lot of revenue to the town and also I think there's probably at least two school districts and maybe the third that will benefit from the income that would be helping our taxes, and so I really -- I got to say that I don't know when they moved them now, but I did have one on the original proposal on Ball Hill. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| SDEIS-0015-56 | Greg Snow | I'd like to know if the town gets a percentage of the generating money, the actual power that's generated. | The Host Community Agreements would specify the host community fees to be paid to the Towns, which would not be dependent on the amount of power generated. This approach allows the Towns to make budgetary decisions based on a predictable revenue stream from operation of the wind farm. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-62 | Greg Snow | Whether or not the town gets a percentage of the generation. | The Host Community Agreements would specify the host community fees to be paid to the Towns, which would not be dependent on the amount of power generated. This approach allows the Towns to make budgetary decisions based on a predictable revenue stream from operation of the wind farm. |
| SDEIS-0015-68 | Chuck Luce | You're paying royalties by what, you're metering it somewhere? Like a meter station or is every power metered? That's what you base your royalties on, right? | Power generation will be metered for each turbine and at the substation. Dan Boyd, RES Americas, responded directly to this comment at the Public Hearing and stated: ["It's [the royalties] usually a percentage of the whole Project, just so if one has a shutdown for a while somebody doesn't get the bad deal" The Public Hearing Transcript from the March 2, 2016, public hearing in the Town of Villenova is included in this FEIS as part of Appendix T, Public Participation |
| SDEIS-0015-70 | Chuck Luce | Are any of the local people going to be involved in the construction? | Ball Hill has committed to hiring local construction and operation workers to the maximum extent practicable. |
| SDEIS-0015-74 | Angeal Hughes | Are you saying that it's going to bring more local jobs? I'm really for it even more, so -- and I do have to add, I love our community, Chautauqua County. I was born, raised, went into the military, paid my taxes to Chautauqua County while I did my twenty years and I came back, bought a place, put a lot of money into this town of my own, just to fix up a place that was falling down. And I love this town. And I'm really -- I agree with you. We've got to look for the youth. We have to. And we need to look -- if we can get a few jobs here that's fabulous. | Construction of the Project would result in direct employment of up to 64-full-time equivalent employees of electrical workers, crane operators, equipment operators, and other construction workers and create up to approximately 320 additional indirect and induced full-time equivalent jobs region-wide. Once built, the wind turbines and associated components operate in almost a completely automated fashion. The Project will, however, permanently employ up to six on-site full-time equivalent technicians. Ball Hill has committed to hiring local construction and operation workers to the maximum extent practicable. For additional details see Section 2.13, Socioeconomics, of the 2016 SDEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Biological Resources** | | | |
| SDEIS-0003-13 | Department of Environmental Conservation | 2.5 Biological Resources<br>Section 2.5.1 Construction Impacts-Upland Vegetation This section erroneously states that Section 2.2 discusses Biological Resources and this should be changed to "Soils." | There was a typographical error in the SDEIS stating that Biological Resources was Section 2.2. In the SDEIS impacts associated with Biological Resources was summarized in Section 2.5. In the FEIS, updates to the impacts on biological resources can be found in Section 1.4.5. |
| SDEIS-0003-14 | Department of Environmental Conservation | Table 2.5-1 provides a detailed description of expected impacts to various habitat types in the Project area. This section indicates that a large portion of the Project area is forested, particularly in the southern areas, and the habitat fragmentation due to construction of the Project is described as "minor in comparison with the overall acreage of forested land within the Project Area." NYSDEC staff notes that the dominant cover type within the Project footprint and surrounding area is forest and more than half of the turbines are currently proposed to be built in these forested areas. Table 2.5-1 indicates that a total of 155.6 acres of forest would incur temporary impacts and 81.5 acres would sustain permanent impacts. NYSDEC staff considers the clearing of all forested habitat to be a permanent impact due to the time it takes a forest to regenerate to pre-construction conditions. The applicant should amend Table 2.5-1 and all other vegetation impact analyses to reflect that the construction and operation of the Project will result in 155.6 acres of permanent loss of forest. | The impacts on forested land from the Project have been updated in the FEIS per the new Project layout. As noted by NYSDEC, all impacts on forested land should be considered permanent. Ball Hill engaged in a process of micro siting and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the January 2016 SDEIS. Turbines were relocated and/or dropped to decrease impacts on forested lands. In the SDEIS, 155.6 acres of forested habitat was determined to be permanently impacted. In the updated layout presented in this FEIS (see Section 1.4.5) a total of 118.9 acres of forested land would be permanently impacted by the Project. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-15 | Department of Environmental Conservation | Although the shrubby young forest may provide valuable habitat to a suite of bird species after clearing, the forest interior species that depend on contiguous forest will be negatively impacted by the loss of cover and habitat fragmentation caused by turbines, roads, and other infrastructure. Any contiguous forest block of 150 acres or larger is valuable forest habitat-viable for many bird species that require interior forests for breeding. Most of these species are protected by federal and State laws such as the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Part 182 of New York Codes, Rules and Regulations (NYCRR), and Article 11 of the NYSE CL. | A habitat fragmentation analysis looking at direct and indirect impacts to "valuable" forested habitat has been conducted for the Project, the results of which are detailed in Section 1.4.5, Biological Resources, and 1.4.16, Cumulative Impacts. The analysis was conducted using guidelines presented in "NYSDEC direct and indirect impacts to interior wildlife species" and has been conducted following the NYSDEC documented titled *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, June 2016. The analysis found there are 12 blocks of forested land greater than 150 acres. The Project would impact 118.9 acres of forested land in total, and would increase the number of forest blocks greater than 150 acres to 15 and would cut one forest block into a size smaller than 150 acres. More details can be found in Section 1.4.5 of this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-16 | Department of Environmental Conservation | The applicant should consider layout design and factors to minimize impacts to forest interior breeding birds and bats and to mitigate for unavoidable forest clearing. These may include but are not limited to, placing turbines as close as possible to forest/field edges to reduce impact to both habitat types, conducting all tree clearing outside of the primary bird nesting season (April 1-August 31) and bat emergence, roosting and swarming period (April 1-0ctober 31); and communicating with NYSDEC and USFWS about options to mitigate for direct and indirect loss of forest interior habitat. | Ball Hill engaged in a process of micrositing and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the January 2016 SDEIS. Turbines were placed closer to forest/field edges where possible to reduce impact to both habitat types (such as Turbine 2 and 21). Table 1.3-2 in the FEIS identifies how turbines were re-sited from the SDEIS to the FEIS. Tree clearing will be conducted between November 1 and March 31 to avoid impacts during the bat emergence, roosting, and swarming period. This range also minimizes potential impacts on birds since these dates are beyond the primary bird nesting season. Ball Hill is also preparing a BBCS in coordination with NYSDEC and the USFWS that will apply BMPs and other features to minimize potential impacts on these resources during construction and operation of the Project. |
| SDEIS-0003-42 | Department of Environmental Conservation | An acceptable invasive species plan must detail survey methods to identify existing invasive species, listed in NYSDEC regulations found at 6 NYCRR Part 575, in the Project area to ensure that these areas can be avoided. At a minimum, the plan must:<br>• Specify the method used to ensure that imported fill and fill leaving the site will be free of invasive species to the extent practicable, and whether fill within the site will either be free of invasive or only used within the area infested with the same invasive species;<br>• Address how site grading and erosion and sediment control will work together to prevent invasive;<br>• Detail all cleaning procedures to remove invasive species from equipment, preferably with a power-washer, including personnel, location of designated equipment cleaning stations, location of off-site disposal (if the material is not ren- | An updated invasive species management plan (ISMP) was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | dered incapable of growth or reproduction) which must be either a landfill, incinerator or State-approved disposal facility. The procedures must ensure that the equipment will arrive and leave the site clean and all equipment and clothing-cleaning stations must be constructed so that invasive species seeds are removed<br>• Describe the Best Management Practices or procedures that will be implemented to ensure that Project activities do not result in introduction or spread of. invasive species, especially in or near regulated areas of special interest to NYSDEC Natural Resources staff such as areas containing protected species or habitats within the Project area; Provide measures for educating workers about invasive species and how to prevent their spread, identify work areas which trigger cleaning activities (such as prior to using mats in streams and wetland and wetland adjacent areas) and identify methods to prevent and control the transport of invasive species as well as how to clean equipment and clothing using acceptable methods; List all planting and seeding materials to be used; Detail post-construction monitoring and survey approaches, preferably for at least 5 years, which would ensure that the objective of no net increase in invasive species was accomplished . If areal coverage of invasive species in the ROW Project area increases over the baseline survey level, remedial action should be considered in consultation with NYSDEC and USACE. If the goals of the invasive species control plan are not met within five years post-construction, a revised control plan containing additional control actions for an additional monitoring term must be submitted. | |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-43 | Department of Environmental Conservation | A major shortfall of the proposed ISMP limits survey work and area of concern to NYSDEC jurisdictional areas. The ISMP should extend to the whole Project area involving soil disturbance such as access roads, collection lines, staging/laydown areas, and all turbine sites. Pre-construction surveys of the entire Project corridor (in addition to wetlands and riparian areas) should be conducted to document infestations of invasive species that should be contained. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-44 | Department of Environmental Conservation | The Plan should include employee/staff invasive species training. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-45 | Department of Environmental Conservation | References to "post-construction surveys" of the area for invasive species should be changed to post-restoration surveys. In other words, surveys should be scheduled from the point that restoration is complete - not from when construction ends. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-46 | Department of Environmental Conservation | "Comprehensive surveys" of the area should be extended to the whole Project area (to include upland areas) and specifically target garlic mustard in addition to the other species listed. Areas of infestation should be mapped using GPS and coordinates included in the survey report- along with a GPS shapefile. The shapefile of infested areas will be included on construction drawings - where applicable. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-47 | Department of Environmental Conservation | References to the Federal and NYSDEC regulated wetlands, riparian areas, and NYSDEC adjacent areas (FORA) should be changed to "Project site" in all references in the document. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-48 | Department of Environmental Conservation | BMPs should be used to clean equipment, etc. when leaving an infested area in order to prevent spread to non-infested areas. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-49 | Department of Environmental Conservation | BMP 2 "Inspection of Fill Sources", fill sources should be from certified weed free facilities only. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-50 | Department of Environmental Conservation | 8) BMP 3, "Coordination with Agencies", the phrase, "all chemical treatments will be undertaken ..... " should be changed to "all chemical treatments will be applied .... " And "removal of topsoil to a depth of 16 inches ... " should be changed to "removal of topsoil to a depth of three feet. ... " When Japanese knotweed is concerned. References to "infected" should be changed to "infested ... " and infested soil should be only disposed of in a certified sanitary landfill - not in upland areas. Eurasian milfoil is not the only plant that should be removed by hand and placed into 3-mm thick black containers but also phragmites, garlic mustard, Japanese knotweed, and purple loosestrife. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-51 | Department of Environmental Conservation | 9) Post-construction surveys should extend to the entire Project site and cover crops should be non-invasive. As mentioned above "infection" should be replaced with "infestation" and "undertaken" should be replaced with "applied." Annual rye should be defined as "Lolium perenne". | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-52 | Department of Environmental Conservation | 10) BMP 4 "Equipment Sanitation", the sentence "Earth moving and excavation equipment used in an FORA where invasive species are present will be cleaned free of debris and soil within an upland area near the infected area prior to the removal of the equipment from the FORA" should be changed to read "Earth moving and excavation equipment used where invasive species are present will be cleaned free of debris and soil prior to moving the equipment to an uninfested area." | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-53 | Department of Environmental Conservation | 11)BMP 5, "Restoration", the term "FORA" should be replaced with "Project site" as mentioned above. The second sentence should read "An appropriate seed mixture shall be used." An upland seed mix should be defined as is the wetland seed mix. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-54 | Department of Environmental Conservation | 12)BMP 6, "Restoration Monitoring", the applicant should provide the NYSOEC with annual monitoring reports and FORA should be replaced with "Project site." | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-55 | Department of Environmental Conservation | 13) BMPs 8 and 9, the term "areal" should be replaced with "aerial". And - as should all references in the document, FORA should be replaced with "Project site." Post-construction should be replaced with post-restoration. The last sentence of Condition 9 should read "If the goal of this ISMP is not met within the first two years of post-restoration monitoring, Ball Hill will review its control efforts with NYSOEC and USACE, submit a revised ISMP plan, and implement applicable control actions and an additional monitoring term." | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0005-3 | Marlene McNeight | The noise alone would be deafening and intolerable, let alone the damage to the countryside and to the animals. | All forms of energy generation have some level of impacts to wildlife. Potential impacts from this Project on wildlife and biological resources were described in detail in Section 2.5 and 2.6 of the SDEIS and are updated in Section 1.4.5, Section 1.4.6, and supporting appendices in this FEIS for the new Project layout. |
| SDEIS-0008-2 | Charles Leone | They are an eyesore and a danger to wildlife. I strongly oppose going forward with their construction. | All forms of energy generation have some level of impacts on wildlife. Potential impacts from this Project on wildlife and biological resources were described in detail in Section 2.5 and 2.6 of the SDEIS and are updated in Section 1.4.5, Section 1.4.6, and supporting appendices in this FEIS for the new Project layout. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-3 | Jonathan Titus | 2. Our property in Villenova is subjected to constant invasions by non-native invasive species, which we have to pull so that the woods do not become completely overrun. These non-native species are spreading due to dispersal along roads often by construction vehicles. The invasive species appendix of the EIS is insufficient in that no mechanism is proposed to stop the spread of invasive species which will occur along the access roads during and after the construction process. Cleaning the construction vehicles will help but the invasive species will spread along the roads and into the nearby woods, regardless. The invasive species section is also out of date having been written in 2008. New data and an updated analysis are needed. | Appendix S, Environmental Monitoring Plan, of the FEIS includes an updated ISMP. The ISMP describes the BMPs Ball Hill will implement to ensure that its activities do not increase the presence of the invasive species within the Project Site. The goal of Ball Hill's invasive species management efforts will be to prevent the introduction and spread of invasive species listed above to new locations resulting from Project activities within the Project site and a 0% net increase in the areal coverage of invasive species resulting from Project activities within the limits of the Project site for two years post-restoration. For more details on the Project ISMP, see Appendix 13 within Appendix S of this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-4 | Jonathan Titus | 3. The bird surveys detected some important grassland bird species such as bobolinks, savanna sparrows and one grasshopper sparrow to name a few. The most recent survey was 5 years ago in 2011. In section 2.12.2.2 " Potential Impacts on Breeding Birds" the EIS states that impacts on breeding birds will be minimal, however, no evidence is presented as to why this is the case. Likewise in the next few sections impacts to raptors and bats are minimized. These sections need current data and evidence to support these statements. | Ball Hill conducted another breeding bird study in June 2016 and the results are included in the FEIS in Appendix H, Bird and Bat Resources. Bobolink and Savannah Sparrow are two of the more common species breeding in grassland habitats in the Project Area, while Grasshopper Sparrow is present in low numbers, which is consistent with the occurrence of these species in western New York. Grasshopper Sparrow sightings are discussed in more detail in the Breeding Bird Study report (see Appendix H). Additionally, a second year of eagle surveys was initiated and the results to date are included in the FEIS in Appendix H, Bird and Bat Resources. Impact to birds from wind projects in New York and elsewhere has largely been through collisions of nocturnal migrants in fall and to a lesser extent during spring migration. Avian collisions occur over a broad range of species with typically only one or a few of each individual in a given year. The potential impacts on other birds and to bats were discussed in the SDEIS and updated in the FEIS in Section 1.4.6 and Appendix H, Bird and Bat Resources. Ball Hill Wind is also preparing a BBCS in coordination with NYSDEC and the USFWS that will apply BMPs and other features to minimize potential impacts on these resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-6 | Jonathan Titus | The species lists on the wetland data sheets are incomplete as is stated in the appendix. It is clear that the work was conducted outside of the growing season and the plant lists on the wetland data sheets are lacking in detail. To adequately assess wetland impacts and plan appropriate mitigation measures more data from growing season wetland assessments is needed. The mitigation plan proposed in the EIS is not adequate. | While it is acknowledged that delineations occurred outside of the growing season in the fall of 2015, the information contained on the datasheets is complete and accurate. Species data collected was adequate to both determine if an area met the criteria for delineation as a wetland and to inform the determination of the wetland cover type (e.g., scrub-shrub, emergent, and forested). This information is used to assess the type of impacts and resultant mitigation that may be required. These delineations were supplemented in 2016 during the growing season and were field verified by the New York State Department of Environmental Conservation (NYSDEC) and the United States Army Corps of Engineers (USACE). Appendix E, Water Quality and Wetlands, of this FEIS provides details of the results of the delineation.<br><br>A conceptual wetland mitigation plan is provided in this FEIS as Appendix F. This plan describes Ball Hill's planned approach for mitigating Project-related impacts. It includes both direct mitigation (in the form of wetland restoration/enhancement) and purchase of mitigation credits through an in-lieu fee program. As part of the Project's Joint Application for Permit, a final mitigation strategy will be implemented in consultation with NYSDEC and the USACE. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0011-3 | Priscilla Titus | This modified project comprises the construction and operation of 36 wind turbines, each of which is nearly 500 feet tall, in an area that is rural in nature and not appropriate for a project of this magnitude. The invasive species management plan needs to be updated to reflect the spread and introduction of additional invasive species in the area since the time of the 2008 survey, and adaptive management plans for the maintenance roads and the areas around the structures should be developed. | Appendix S, Environmental Monitoring Plan, of the FEIS includes an updated ISMP. The ISMP describes the BMPs Ball Hill will implement to ensure that its activities do not increase the presence of the invasive species within the Project Site. The goal of Ball Hill's invasive species management efforts will be to prevent the introduction and spread of invasive species listed above to new locations resulting from Project activities within the Project site and a 0% net increase in the areal coverage of invasive species resulting from Project activities within the limits of the Project site for two years post-restoration. For more details on the Project ISMP, see Appendix 13 within Appendix S of this FEIS. |
| SDEIS-0011-7 | Priscilla Titus | Adverse impacts to wildlife including birds and bats is inadequately addressed because it does not take into account the effects of habitat degradation and fragmentation and the effects of noise and visual disturbances including those involved in maintenance. | Ball Hill Wind took many factors into consideration when updating the layout and reducing the number of turbines to 29 for this Project. The forest clearing and habitat fragmentation values are updated and discussed in Section 1 of the FEIS. Ball Hill Wind is preparing a BBCS that will include BMPs to reduce potential impacts during construction and operation. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0013-1 | Jonathan Townsend | Habitat fragmentation, while admittedly is less of an issue for bats as opposed to birds or other organisms, will still result in a net loss of roosting habitat or direct loss of roosts through clearing of forests to put in access roads or transmission lines. It will also result in bat fatalities, stress on bat populations through construction activities, and a change in the landscape that will have an impact on the bat populations found there. Yes, bats do often forage in open areas in the canopy, and yes this project will create such openings. However, forests in the County are already fragmented, and there are no lack of forest clearings for bats to exploit. | Ball Hill Wind took many factors into consideration when updating the layout and reducing the number of turbines to 29 for this Project. The forest clearing and habitat fragmentation values are updated and discussed in Section 1 of the FEIS. Only one forest block greater than 150 acres will be fragmented and the amount of clearing is only 2.3% of the available forest in the area. Northern long-eared bat was identified in very low numbers in 2012 and 2015 in the area. Ball Hill Wind is preparing a BBCS that will include BMPs that will likely eliminate potential impacts on this species during operation. |
| SDEIS-0013-2 | Jonathan Townsend | There IS a lack of contiguous mature forest for roosting habitat, which is exactly the type of habitat that species such as the northern long eared bat utilize. As you may know, the northern long eared bat is a species that was recently listed as "Threatened" by the USFWS, and from bat surveys associated with this project has been deemed likely to be living within the project area. Additionally, bats can travel well over 10 miles in an evening while out foraging, so there is the potential to impact bat populations not surveyed for or quantified in the SDEIS. | There have been multiple bat studies at this site as well as similar results from studies at nearby proposed wind projects. The greatest potential of impacts on bats is through collisions with turbines. This most often occurs in the late summer and early fall time period. Ball Hill is coordinating with NYSDEC regarding BMPs during this period as part of a BBCS. The impact on bats will be greatly reduced through implementation of these BMPs. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0014-5 | Judy Phillips | Construction and operation of this project would cause damaging, irreversible, wildlife and plant habitat fragmentation, considerable long term environmental and major negative visual impacts to our rural community. | A habitat fragmentation analysis looking at direct and indirect impacts to "valuable" forested habitat, as defined by NYSDEC, has been conducted for the Project, the results of which are detailed in Section 1.4.5, Biological Resources, and 1.4.16, Cumulative Impacts. The analysis was conducted using guidelines presented in "NYSDEC direct and indirect impacts to interior wildlife species" and has been conducted following the NYSDEC documented titled *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, June 2016. The analysis found there are 12 blocks of forested land greater than 150 acres in size. The Project would impact 118.9 acres of forested land in total, and would increase the number of forest blocks greater than 150 acres to 15 and would cut one forest block into a size smaller than 150 acres. More details are presented in Section 1.4.5 of this FEIS.<br>A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Section 1.4.7 and Appendix I of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-3 | Tina Graziano | Not only will we constantly have this in our face, I have to observe every turbine killing and maiming our wildlife. I counted twenty-two turbines all around wet spots. What are you thinking? There's nothing on these turbines about the bats. | Less than 1 acre of wetlands is expected to be permanently filled by the Project. Wet areas within the Project are identified in detail in Appendix E of this FEIS, Wetland and Waterbodies. Ball Hill worked diligently to avoid wetland areas and minimize impacts on these areas. Ball Hill also sited turbines with the intent to minimize impacts on wildlife and the environment. Section 1.4.5 and 1.4.6 of the FEIS identifies the potential environmental impacts from the Project on wildlife and biological resources. |
| SDEIS-0015-16 | Howard Crowell | I remember reading one of the Burke Hill studies back then and the list of priority on what killed the birds, the automobile and the birds of prey, and the last thing the front of your house and all that stuff right down through there, your neighborhood kid with a BB gun, you get down about ten, twelfth place, about one or two percent of your bird kills that's where the windmills is. There's stuff killing birds long before any windmills kill birds. | Please refer to Section 1.4.6 and Appendix H, Bird and Bat Resources, of this FEIS for a detailed assessment of potential impacts on birds. |
| **Water Quality and Wetlands** | | | |
| SDEIS-0001-3 | Public Service Commission | Likewise, discussion of the transmission facility Article VII permitting for protected stream crossings should reference NYSPSC rather than NYSDEC permitting (SDEIS pp. 2.5-10; 2.5-14 and -15; and 3-1). | Please see Response to SDEIS-0001-1, above. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0001-4 | Public Service Commission | At page 1-17, the SDEIS states that "underground collection lines would be installed via trenching or using a directional bore at stream locations. Streams that are not normally dry at the time of crossing would be temporarily dammed, and water would be pumped around the construction area to allow collection lines to be installed in dry conditions. The equipment that would be used to install the collection lines cuts a trench, places the cable, and backfills the trench in a single pass, thereby reducing the duration of stream disturbance. If directional boring machine is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore." DPS recommends that trenching machines not cross significantly classed streams (including classes C(T) and above and any intermediate waterbodies greater than 10 feet). Instead, during dam and pump around or similar installation methods, proper erosion control devices should be placed along the stream bank; the trench can then be excavated from either side of the control measures. | As discussed in Section 1.3.3 of this FEIS, underground collection lines would be installed via trenching or using a directional bore at stream crossings. Boring (and not dam and pump methods) will occur for stream crossings where required by permit condition or where specific site conditions (e.g. protected streams, steep slopes, unstable soils or other engineering challenges) necessitate its use." If directional bore is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore. Each bore will start and finish beyond stream banks. Aboveground junction boxes will be located at various locations to join multiple reels of cables for long runs and at one end of each directional bore location. |
| SDEIS-0003-2 | Department of Environmental Conservation | 2.3 Water Quality<br>Section 2.3.1 Construction Impacts A detailed discussion of each individual stream crossing is required to demonstrate that the proposed construction impacts could not be avoided or further minimized. An elaboration of the specific and necessary impacts would allow NYSDEC to weigh costs and benefits in our SEQR Findings. As part of this process, photos and plans for the access road crossing and buried collection line crossing sites are essential and site visits by NYSDEC staff to examine the crossings may be required. | Discussions and crossing details for specific stream crossings as well as associated avoidance and minimization measures will be provided in the Joint Application for Permit package. The wetland delineation report **(**included in this FEIS in Appendix E, Water Quality and Wetlands) contains photos of the streams delineated within the Project Area. A site visit with Region 9 staff was conducted on September 14, 2016. |
| SDEIS-0003-3 | Department of Environmental Conservation | In general terms, permanent roads will require bridges or culverts. If the crossings are temporary, a timber mat or other temporary equipment crossing is acceptable. No inwater crossings will be allowed such that equipment cannot be driven through streams unless the work is performed in dry conditions. | Comment noted. All permanent roads will be designed with appropriately sized culverts or will utilize existing culverted crossings. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-4 | Department of Environmental Conservation | With respect to stream crossings, the applicant shall abide by our document "Stream Crossings: Guidelines and Best Management Practices" found at http://www.dec.ny.gov/permits/49066.html. Stream crossings should be designed to protect stream continuity. All crossings of class C(T) or higher streams should be completed using temporary or permanent crossing structures. The use of bridges is preferred over culverts, however, if culverts are used, they must meet the guidelines referenced above. Likewise, if NYSDEC regulated streams are impacted, the Project must meet standards established by NYSECL Article 15 (Protection of Waters) unless directional drilling is used to avoid all disturbance to the bed or banks of protected streams. If buried collection lines are to be placed by trench method, the work area must be isolated by damming and pumping, or similar method, and the work must be performed in dry conditions. | Comment noted. Ball Hill will abide by the NYSDEC document *Stream Crossings: Guidelines and Best Management Practices*. |
| SDEIS-0003-5 | Department of Environmental Conservation | 2.4 Wetlands<br>Section 2.4 Delineated Wetlands Regional NYSDEC staff conducted field verification site visits in 2008 and 2012 for previous Project delineations. However, the jurisdictional determinations associated with these site visits were either not finished or have expired. These "historic" delineations must be re-visited and updated where needed and combined with new delineation information before submission to NYSDEC for updated field verification. The delineation report should also include delineation shapefiles | Revised wetland delineations have been conducted for the entire Project Area. As noted in Appendix C of the SDEIS, wetland delineations were not fully completed in 2015. As planned, delineations were completed in 2016 for the Project Site. Appendix E, Water Quality and Wetlands, of this FEIS provides details of the results of the delineation.<br><br>A field verification was conducted with NYSDEC Region 9 staff on September 14, 2016. In addition, shapefiles were provided to NYSDEC as part of the submittal of the Wetland and Waterbodies Report for the Project. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-6 | Department of Environmental Conservation | The potential for unmapped wetlands that meet State jurisdictional criteria must be evaluated. For example, a wetland found to be >12.4 acres or otherwise meeting State criteria for jurisdiction, is a NYDDEC regulated wetland. Further, any delineated wetland found to be part of the same wetland complex as a currently mapped State jurisdictional wetland is also regulated. Thus, NYSDEC regional staff must validate all wetland delineations | NYSDEC staff attended a field visit to the Project Area on September 14, 2016. While no additional unmapped state jurisdictional wetlands were identified, the boundaries of Freshwater Wetland (FWW) SC-12 and SC-13 were expanded to reflect additional areas delineated adjacent to the mapped boundaries. |
| SDEIS-0003-7 | Department of Environmental Conservation | Section 2.4-1 Construction Impacts Upon field verification, confirmation of NYSDEC jurisdiction of wetlands, and additional avoidance and minimization measures, calculations of impacts such as in Table 2.4-2 should be updated and included in the FEIS. Impacts to NYSDEC wetlands must be explained including why each impact could not be avoided and how impacts have been minimized. | Temporary and permanent impacts on wetlands from construction and operation of the Project have been updated to reflect the current wetland delineations and Project layout, see Tables E.2-1 through E.2-3 in Appendix E, Water Quality and Wetlands, of this FEIS for more details. Resource specific avoidance and minimization discussions will be provided in the Joint Application for Permit. |
| SDEIS-0003-8 | Department of Environmental Conservation | Under NYSDEC policy, wetland impacts are not permitted, even with mitigation, until other alternatives have been explored, including avoidance, minimization or reduction of impacts. Generally, applicants are required to examine alternative project designs that avoid and reduce impacts to wetlands, develop plans to create or improve wetlands or wetland functions to compensate for unavoidable impacts to wetlands, and demonstrate overriding economic and social needs for the project that outweigh the environmental costs of impacts on the wetlands. | An alternatives analysis discussion relative to the Ball Hill Wind Project was provided in Section 1.3 of the SDEIS. A site-specific alternatives analysis relative to the transmission line crossing of FWW SC-12 and SC-13 will be presented in the Joint Application for Permit. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-9 | Department of Environmental Conservation | DEC recommends that information regarding potential wetland impacts should be formatted such that wetland and adjacent area impacts are listed by wetland (including wetland name and agency jurisdiction) and include the type of impact (road, tower, transmission line, etc.). Preliminary plans of each area of impact which includes a written description of the impacts, both temporary and permanent, to the wetland and adjacent area must be provided. This description should also include the name, size and class of the wetland, the type of habitat impacted, the type and size of impact, a discussion of the restoration planned after construction, a justification of the impacts, and the steps taken for avoiding and minimizing these impacts. | Wetland impact details are included in Appendix E, Water Quality and Wetlands, of this FEIS. |
| SDEIS-0003-10 | Department of Environmental Conservation | Moreover, when developing the Project plan, the Applicant must consult the following manual and guidelines:<br>• "New York State Department of Environmental Conservation Wetland Delineation Manual (1995)." The applicant should refer to DEC's Wetland Delineation Manual when delineating freshwater wetlands regulated under 6 New York Codes Rules and Regulations (NYCRR) Part 624 (Freshwater Wetlands).1<br>• "Wetlands Regulation Guidelines on Compensatory Mitigation (1993)." If unavoidable wetland impacts are expected to result from project construction activities, compensatory mitigation may be required to demonstrate compliance with the 6 NYCRR Part 624. Proposed mitigation should conform to DEC wetland mitigation guidelines2 | The Project consulted the New York State Department of Environmental Conservation Wetland Delineation Manual (1995) when delineating wetlands presented in Appendix E, Water Quality and Wetlands. The Project also consulted the *Wetlands Regulation Guidelines on Compensatory Mitigation* (1993) when developing proposed mitigation guidelines for the Project. |
| SDEIS-0003-11 | Department of Environmental Conservation | Section 2.4-2 Operational Impacts Same comments as 2.4-1 , above | See response to comment SDEIS-0003-7. |
| SDEIS-0003-12 | Department of Environmental Conservation | Section 2.4-3 Mitigation<br>Mitigation for Permanent Impacts In addition to proposed USAGE mitigation, the SDEIS should also detail proposed NYSDEC mitigation. | The Conceptual Wetland Mitigation Plan included in Appendix F of this FEIS includes details on proposed mitigation for the impacts to NYSDEC Freshwater Wetland SC-12 and SC-13. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-38 | Department of Environmental Conservation | Appendix C-Draft Progress Wetland Delineation Report Although Regional NYSDEC staff has conducted field verification site visits in 2008 and 2012 for previous delineations for the proposed Project, the jurisdictional determinations associated with these site visits were either not finished or have expired. These "historic" delineations must be re-visited, updated and combined with the new delineation information before submission to NYSDEC for updated field verification. | As noted in Appendix C of the SDEIS, wetland delineations were not fully completed in 2015. As planned, delineations were completed in 2016 for the Project Area. These delineations were field verified by NYSDEC and the USACE on August 24, 2016, and September 14, 2016, respectively. Appendix E, Water Quality and Wetlands, of this FEIS provides details of the results of the delineation. |
| SDEIS-0003-39 | Department of Environmental Conservation | When the delineation report is submitted, NYSDEC requests updated Project and wetland delineation shapefiles. | Shapefiles of the delineated wetlands and streams have been provided to NYSDEC. |
| SDEIS-0003-40 | Department of Environmental Conservation | Appendix E Stormwater Pollution Measures Before commencing construction activity, the applicant must obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. The SWPPP subject to the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) shall include Erosion and Sediment Controls designed, installed and maintained in accordance with the most current version of the "New York Standards and Specifications for Erosion and Sediment Control." | Prior to construction, Ball Hill will obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002), which will include Erosion and Sediment Controls designed, installed and maintained in accordance with the most current version of the *New York Standards and Specifications for Erosion and Sediment Control*. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-41 | Department of Environmental Conservation | Additionally, for projects that include the construction of permanent gravel access roads, the SWPPP shall include post-construction stormwater management practices designed in accordance with the most current version of the "New York State Stormwater Management Design Manual (Manual)" (see Table 2, Appendix B of GP-0-15-002). Chapter 4 of the Design Manual should be used to determine the minimum sizing criteria for these post-construction controls | Prior to construction, Ball Hill will develop a Stormwater Pollution Prevention Plan (SWPPP) designed in accordance with the most current version of the *New York State Stormwater Management Design Manual*. Prior to construction, Ball Hill will obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002), which will include Erosion and Sediment Controls designed, installed, and maintained in accordance with the most current version of the *New York Standards and Specifications for Erosion and Sediment Control Manual* including Chapter 4 of the manual, which will be used to determine the minimum sizing criteria for post construction controls. |
| SDEIS-0003-43 | Department of Environmental Conservation | 1) A major shortfall of the proposed ISMP limits survey work and area of concern to NYSDEC jurisdictional areas. The ISMP should extend to the whole Project area involving soil disturbance such as access roads, collection lines, staging/laydown areas, and all turbine sites. Pre-construction surveys of the entire Project corridor (in addition to wetlands and riparian areas) should be conducted to document infestations of invasive species that should be contained. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |
| SDEIS-0003-47 | Department of Environmental Conservation | 5) References to the Federal and NYSDEC regulated wetlands, riparian areas, and NYSDEC adjacent areas (FORA) should be changed to "Project site" in all references in the document. | An updated ISMP was prepared for the Project and addresses the topics covered by these comments. The updated ISMP is included in this FEIS as Appendix 13 within Appendix S, Environmental Monitoring Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-56 | Department of Environmental Conservation | Appendix J-Conceptual Wetland Mitigation Measures The applicant must work closely with NYSDEC and Army Corps of Engineers in developing appropriate mitigation with the understanding that mitigation is only an option after avoidance and minimization have been exhausted as possibilities. | Ball Hill has been in close contact with both NYSDEC and the USACE while developing the Conceptual Wetland Mitigation Plan provided in Appendix F of this FEIS. The final mitigation strategy will be dependent on availability of suitable land for Project implementation, availability of appropriate plant material, and the final impacts approved for the Project through the Joint Permit process with NYSDEC and the USACE.<br><br>Ball Hill understands that mitigation is only allowable after consideration of avoidance of potential impacts and minimization of unavoidable impacts. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-6 | Jonathan Titus | The species lists on the wetland data sheets are incomplete as is stated in the appendix. It is clear that the work was conducted outside of the growing season and the plant lists on the wetland data sheets are lacking in detail. To adequately assess wetland impacts and plan appropriate mitigation measures more data from growing season wetland assessments is needed. The mitigation plan proposed in the EIS is not adequate. | While it is acknowledged that delineations occurred outside of the growing season in the fall of 2015, the information contained on the datasheets is complete and accurate. Species data collected was adequate to both determine if an area met the criteria for delineation as a wetland and to inform the determination of the wetland cover type (e.g., scrub-shrub, emergent, and forested). This information is used to assess the type of impacts and resultant mitigation that may be required. These delineations were supplemented in 2016 during the growing season and were field verified by the New NYSDEC and the USACE. Appendix E, Water Quality and Wetlands, of this FEIS provides details of the results of the delineation.<br><br>A conceptual wetland mitigation plan is provided in this FEIS as Appendix F. This plan describes Ball Hill's planned approach for mitigating Project-related impacts. It includes both direct mitigation (in the form of wetland restoration/enhancement) and purchase of mitigation credits through an in-lieu fee program. As part of the Project's Joint Application for Permit, a final mitigation strategy will be implemented in consultation with NYSDEC and the USACE. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0011-6 | Priscilla Titus | The wetland analysis is incomplete. | As noted in Appendix C of the SDEIS, wetland delineations were not fully completed in 2015. As planned, delineations were completed in 2016 for the Project Site. These delineations were field verified by NYSDEC and the USACE on August 24, 2016, and September 14, 2016, respectively. Appendix E, Water Quality and Wetlands, of this FEIS provides details of the results of the delineation.<br><br>In addition, between the publishing of the SDEIS and FEIS, Ball Hill has engaged in a process of micrositing and analyzing engineering options and controls in order to minimize or avoid the Project's environmental impacts identified in the SDEIS. Section E-2 in Appendix E, Water Quality and Wetlands, outlines the decrease in wetland impacts from development of the FEIS layout. |
| SDEIS-0015-76 | Lisa Brain | Will this affect -- a lot of people have wells. Will that affect their wells at any cost, drilling, like you know, the water mains and stuff? | The Project will be designed to avoid all known underground features, such as lines to wells and drainage tiles. If any public or private lines or drainage tiles were disturbed during construction, Ball Hill would be responsible for repairing them. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Public Participation** | | | |
| SDEIS-0005-1 | Marlene McNeight | The Town Council of Villanova held a meeting with (RES), country unknown, without the knowledge of property owners in Villanova. Little is known about the meeting except that the RES would like to set up an industrial wind farm in Villanova with windmills being 500' tall having the span of 2 football fields. | The Lead Agency held a public hearing related to the Ball Hill Project on March 2, 2016. A transcript of the meeting was recorded, and responses are provided below in Section 2 to comments made during the meeting. Large wind turbines produced by Vestas, like the ones proposed for the Project, have been constructed at other wind farms in western New York and elsewhere in the United States. In addition, this FEIS presents turbine specification drawings of the proposed turbine. See Appendix B, Turbine Specifications, of this FEIS. |
| SDEIS-0005-6 | Marlene McNeight | Why would the elected officials not be concerned about the people that elected them. This is definitely not in the interest of the property owners of Villanova but to all property owners of rural property. | Thank you for your comment. |
| SDEIS-0006-4 | Greg Snow | Questions:<br>Public access to information: We have made repeated attempts to download and view Appendix A volumes I, II and III, the downloads never finish and we keep getting "file is damaged and cannot be opened", why is this important information unavailable to the public? Why are the .pdfs of the SDEIS and appendices secured (locked) documents? This has made them extremely difficult for us to work with as we are unable to print and copy/paste these files. | The 2008 DEIS files are very large files (two files are larger than 300MB, and one file is larger than 175MB), such that it may be hard to download them. Print copies of the 2016 SDEIS were provided to the town offices in Villenova and Hanover to be made available for public review. The towns also retain print copies of the 2008 DEIS. |
| SDEIS-0006-12 | Greg Snow | What is the process for filing complaints on noise problems? How can we be certain all complaints will be addressed and resolved? | The complaint resolution procedure proposed in the Project Application, will provide a mechanism for filing and resolving complaints about noise and other matters. The Host Community Agreement will address noise monitoring requirements during Project operations. The Complaint Resolution Plan is included in this FEIS as Appendix L. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-13 | Greg Snow | Will a turbine be shut down during critical times ( eg. overnight) if noise problems cannot be resolved? | If a turbine is determined to be non-compliant with applicable noise limits, and it cannot be corrected, it would be shut down as non-compliant. |
| SDEIS-0007-1 | Christopher Warner | I am writing to express my frustration in supporting green energy, but being left out until the last minute in changes and size adjustments to an already very large change in our very rural land scape. As a result I must voice my strong opposition to the siting of extremely tall wind turbines on Ball Hill in the Town of Villenova unless some changes are put into place. My residence and farm is on Straight Road in the Town of Arkwright, less than 1.5 miles from turbine #2. | The public hearing and public comment period were scheduled after the SDEIS was submitted to the Lead Agncy and made available online and at public locations to give members of the public and government agencies an opportunity to comment on the Project. All comments were made available for review and consideration by the Lead Agency and the Project developer prior to preparation and submission of the FEIS and the Project application. An additional public hearing was held in Villenova on October 13, 2016, and likewise an additional public hearing will be held in Hanover during November 2016. Section 1 and Appendix A of the FEIS describe the final layout of turbine locations and other project facilities, including the final location for Turbine 2. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-12 | Christopher Warner | I believe that a computer model should be created that can show every resident within a 10 mile radius of the Ball Hill Wind Project what the turbines will look like and sound like, when the turbines are in motion, from their actual property. I believe this kind of virtual reality model will help our impacted community better understand what it will be like living with tremendously large turbines, every minute of every day. | Ball Hill does not possess such a modeling tool. However, one purpose of the FEIS, of many, is to provide the Town Boards and community members with tools to understand what the Project will look and sound like once operational. Please refer to the following sections of this FEIS: Section 1 (Project Description) for a detailed description of the Project components; Appendix C, Project Drawings, for on the ground disturbance and construction plans; Appendix I, Visual Resource Assessment, for a description of the visual impacts from the project and photo simulations, which are provided to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova; and Appendix J, Sound Level Assessment Report, for an impact analysis of the sound levels from operation of the Project. |
| SDEIS-0007-13 | Christopher Warner | I work evenings and have been unable to attend community meetings so far. This doesn't mean I'm not very interested and I believe that in order for projects like this to be a success, the entire community should be involved and benefit. Project developers want to build turbines on the Chautauqua Ridge, the town has more negotiating power that it thinks. | Thank you for your comment. |
| SDEIS-0010-1 | Jonathan Titus | I am writing this letter to express my concern with the Ball Hill Wind Energy Project. We are supporters of alternative energy projects, however, appropriate siting is critical to any project. My first concern is that even though we are taxpayers who own property in Villenova we only found out about the project a few days ago. We were then surprised to find out that the EIS public comment period ended today. Our property is adjacent to one of the project sites and I believe we should have found out about the project much earlier in the process. We then found it difficult to download sections of the EIS - it appears that some of the sections are corrupted. I urge you to | Prior to the March 2, 2016, public hearing in the Town of Villenova on the SDEIS, Ball Hill prepared a notice of public hearing (which also advised that written comments would be accepted by the Lead Agency up to and including March 14, 2016) that was published in the *Dunkirk Observer* as required under the Villenova Wind Law, and in the Environmental Notice Bulletin as required under SEQRA. Ball Hill also mailed notices of the Public Hearing to residents within the distance specified under the Villenova Wind Law. Ball Hill |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | please extend the public comment period and be sure that the EIS is easily accessible and neighbors notified. | appreciates that not all residents of Villenova or other parties interested in the Project may have received such notices, however, Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held additional public hearings in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. The Notice for these hearings will specify the Project, its amended application, and requests for the adoption of a local law for the creation of a Wind Overlay District and a local law amending the provisions of the towns' wind laws to increase the maximum height restrictions to 495 feet. |
| SDEIS-0010-7 | Jonathan Titus | Thank you for considering my comments. Please consider lengthening the comment period and increasing access to the EIS. | Thank you for your comments. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0011-1 | Priscilla Titus | As a landowner in the Town of Villenova, I was dismayed to learn from a friend that the deadline for comments regarding the Ball Hill SDEIS was today. Our property lies within the project area and two structures are proposed within sight of our property. Although I live in the Village of Fredonia, the tax bill for our Villenova property always arrives on time. Why was no written notice sent regarding the comment period for this analysis? To further complicate my review of the analysis, I was unable to access Appendices Volumes I, II, and Ill of the DEIS from the website because the files are apparently corrupt; and, because I am recovering from surgery at this time, I am unable to travel to the Town offices in order to look at hard copies. I see no evidence that this project was listed in the NYS Department of Environmental Conservation's Environmental Notice Bulletin. Thus, I feel the public review process for this project is inadequate and the period for public review should be extended to a date not less than 90 days after a notice has been sent to every landowner in the project area describing the current analysis and avoiding detailed instructions that enable access to review documents. | Ball Hill prepared and distributed a public meeting announcement but appreciates that not all interested residents and parties were aware of the meeting. Fortunately, the resident property owner became aware of the public comment period and had the opportunity to provide comments. |
| SDEIS-0014-2 | Judy Phillips | Many Villenova residents are not well informed about the details of the industrial Ball Hill Wind Project and how their involvement can affect it, the procedures and steps involved with its approval, host agreement and PILOT incentives, other agencies involved in the project, and the timelines and deadlines that influence the outcome. | Ball Hill prepared and distributed a public meeting announcement, print copies of the SDEIS and Amended Applications were provided to the Towns to make available for public review, and the Project documents were posted on a public website, but Ball Hill appreciates that not all interested residents and parties were aware of the public meeting or opportunity to comment. Fortunately quite a few comments were received, making it more likely that the most common and important concerns of community members have been expressed. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0014-3 | Judy Phillips | For residents with the limited forms of access in our area to the internet, the slow download of the many appendixes is frustrating and may deter residents from reading about the project on the Ball Hill web site. | Print copies of the SDEIS were provided to the Towns to make available for public review. |
| SDEIS-0015-1 | Tina Graziano | A lot of people I'm sure didn't even know this was available online or anything like that. That's kind of an issue I have right now. I would like to request another public hearing and have the deadline for written comments extended until after the next public hearing. The reason for this request is a lack of notification to the residents of this township. Town law states it only requires to place a legal notice in a local paper. Well, very few here received this paper, and even so, who looks in the legal notices? It all appears when you do it to be sneaky and private. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held additional public hearings in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-8 | Greg Snow | I heard her comment on notification and at the second meeting. I have to agree with that. Most of my neighbors I've spoken to received no notification, had no idea that this meeting was happening or that this project was even a thing. I believe we should have another meeting with proper notification for all other residents of the town. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held an additional public hearing in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |
| SDEIS-0015-10 | Angela Hughes | And plus I'm saying I was down in North Carolina and I heard about this meeting and I know -- I seen it as well online because I was keeping up with this, so if I'm coming from North Carolina, so I have the other aspect. You could be right in what you're saying, but my issue is that if I heard it from North Carolina, why didn't the other people hear it? | Thank you for your comment. |
| SDEIS-0015-13 | Angela Hughes | So I'm just for it. I am. And like I said, I can't stress enough, I was all the way down in North Carolina and I heard about the meeting. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-14 | Richard Hagel | If she got it online there's a whole bunch of us old timers that don't even have a computer, so that puts us right out of that equation right there. I'm for it, by the way, but if it takes a computer to find out there's a meeting, there's a whole bunch of old farts like me that don't have a computer. | Thank you for your comment. |
| SDEIS-0015-19 | Charlie Brecht | We knew about it in 2008, but we had no notification of this meeting at all tonight. So you know, we have a small piece of property. We only have five acres, but if it wouldn't have been for him we wouldn't be here. And I'm not saying for or against or anything like that, but I agree that the notification should go out to everybody that's -- that has to do with this project. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held additional public hearings in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover, in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-29 | Lisa Brain | Also, we were never notified of this meeting. I only know about this going on because my neighbor who I work with, he's getting one on his property and so he was informing me of stuff as we went along. But no, I never received a letter or anything. And as everyone knows, computer service, Internet where we live is like near to impossible, so putting it on the Internet is not going to do nothing. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held additional public hearings in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |
| SDEIS-0015-31 | Judy Phillips | I have a question for this company, because we were once landowners that were approached back in 2008 for leasing. Our family discussed this project when it fell through with Noble. I wasn't aware of it, but when I tried to reach representatives, because our family had more questions, we weren't able to. | With developments in turbine technology and with the continued development of the Project by Ball Hill in 2015, the layout of the Project has changed including negotiations with individual landowners. The final layout to the Project is outline in Section 1 of this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-35 | Barry Nobles | I would agree with the letter thing. We only found out about it from hearing from my parents. We never received a letter. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held additional public hearings in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |
| SDEIS-0015-37 | Barry Nobles | Another thing is I'm from a community that has a landfill and we have a host agreement with the landfill and from the landfill point of view management of that is very important and the company that does that does a very good job, but it's important for the community to understand what goes into that can see some of the benefits so that's a case where that does work well. It's a tough thing. I think it's really important when everybody can get the information everybody can look at it and get people that are willing to listen to that. I think energy independence is very important. I just try to push energy independence forward. We don't have to send people to the Middle East to try to get resources. | Ball Hill will enter into Host Community Agreements with the Towns of Villenova and Hanover that will be agreed to by Ball Hill and the Town Boards. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-51 | Judy Phillips | Some Villenova residents own seasonal homes, other residents are snowbirds. They are not in our community at this time of year and would be unaware of this project or unable to attend this meeting. | Ball Hill prepared and distributed a notice for the March 2, 2016, public hearing in the Town of Villenova, and public comments regarding the SDEIS were accepted until March 14, but Ball Hill appreciates that not all interested residents and parties became aware of the meeting or the opportunity to comment. Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held an additional public hearing in the Town of Villenova on October 13, 2016, and November 9, 2016, in the Town of Hanover in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. |
| SDEIS-0015-52 | Judy Phillips | Some Villenova residents own seasonal homes, other residents are snowbirds. They are not in our community at this time of year and would be unaware of this project or unable to attend this meeting. | Thank you for your comment. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Sound** | | | |
| SDEIS-0001-9 | Public Service Commission | Regarding discussion of facility Noise impacts, DPS previously identified operational noise of major electric substation equipment as having a potential significant impact. In comments on the DEIS submitted in November, 2008, DPS identified the need to assess tonal noise from transmission grade transformers. The SDEIS does not provide analysis of potential for tones from the substation. The substation analysis is based on "one MVA, 120 kV utility scale transformer" rather than a 230 kV transformer as now proposed for the Ball Hill Project (SDEIS, Appendix 0 , page 6-3, footnote 1 to table 6-7). | Epsilon Associates, Inc. developed a technical memo in response to sound comments received from the NYSPSC. This technical memo includes responses on tonal noise from transmission grade transformers and is attached to this FEIS in Appendix J, Sound Level Assessment Report. |
| SDEIS-0001-10 | Public Service Commission | Furthermore, DPS considers that the sound power level estimates for the transformer need supporting information either by supplementing their derivation or by documenting with sound tests. Given the proximity of the 50 dBA noise contour line the likelihood of occurrence of a prominent tone should be analyzed as well as the potential to exceed local law limits or cause annoyance or complaints at closer noise sensitive receptors. Please see attached Appendix A for details. | Epsilon Associates, Inc. developed a technical memo in response to sound comments received from the NYSPSC. This technical memo includes responses on tonal noise from transmission grade transformers and is attached to this FEIS in Appendix J, Sound Level Assessment Report. |
| SDEIS-0001-15 | Public Service Commission | Ball Hill Wind Project – Substation Noise Assessment | Epsilon Associates, Inc. developed a technical memo in response to sound comments received from the NYSPSC. This technical memo includes responses on all comments received as part of Appendix A of the NYSPSC comment letter on the 2016 SDEIS and is attached to this FEIS in Appendix J, Sound Level Assessment Report. |
| SDEIS-0005-2 | Marlene McNeight | This [a turbine with the height of 500 feet]] has not been accepted anywhere else in the United States to our knowledge. | Large wind turbines produced by Vestas, like the ones proposed for the Project, have been constructed at other wind farms in New York (such as the Marble River Windfarm in Clinton and Ellenburg, New York) and elsewhere in the United States. In addition, this FEIS presents turbine specification drawings of the proposed turbine (see Appendix B, Turbine Specifications). |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0005-3 | Marlene McNeight | The noise alone would be deafening and intolerable, let alone the damage to the countryside and to the animals. | As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines may be audible at times, but would be far from "deafening," and within the sound-level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. In addition, all forms of energy generation have some level of impacts on wildlife. Potential impacts from this Project on wildlife and biological resources were described in detail in Section 2.5 and 2.6 of the SDEIS and are updated in Section 1.4.5, Section 1.4.6, and supporting appendices in this FEIS for the new Project layout. |
| SDEIS-0006-5 | Greg Snow | Sound and vibration:<br>Our area is extremely quiet and our average sound levels, especially at night, are far below those typically encountered in most suburban and rural areas. Was this reality actually measured here and taken into account when calculating the sonic impacts? | Yes, ambient sound levels were measured in the proposed Project Area at six locations by Hessler Associates in 2008. NYSDEC guidelines specify that increases in noise levels 3 to 6 dB above ambient may have potential for adverse noise impact only in cases where the most sensitive of receptors are present. Sound modelling for the Project demonstrates that ambient levels in the Project Area would not increase more than 6 dB as a result of sound produced by the proposed wind turbines. For additional details of the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-6 | Greg Snow | What are the very low frequency and subsonic sound emissions (1 to 31.5Hz) of the proposed turbines at most critical wind speed? | As shown in Table 7-3 of Appendix J, Sound Level Assessment Report, the predicted maximum levels of Project sound at 31.5 Hz at the 10 highest modeling receptors are all 63 dB or lower - well below the 74 dB level prescribed by the noise criterion established for private home interiors by NC-30, and the 71 dB equivalent level for moderately perceptible vibration and rattle (see Appendix J, p. 7-4). For additional details of the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |
| SDEIS-0006-7 | Greg Snow | Since low frequency noise is a primary problem with wind turbines and the most difficult to mitigate, why was C weighting or very low frequency data not used in the modeling? | As discussed on page 7-2 of Appendix J, Sound Level Assessment Report, for the Vestas V126-3.45 turbine, the maximum C-weighted sound level at any of the modeling receptors is predicted to be less than or equal to 63 dB, less than applicable problem thresholds. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-8 | Greg Snow | Please detail sound measurement methodology employed by the turbine manufacturers, this information is not on their web-sites or addressed in the SD EIS. | The procedures of the standard IEC 61400-11 *Wind Turbine Generator Systems – Part 11: Acoustic Noise Measurement Techniques* are used by all wind turbine manufacturers to measure sound levels from their wind turbines. This standard provides a technique to measure sound power level information on broadband (A-weighted), octave band, one-third octave band, and tonality under a variety of wind conditions. For each wind turbine selected, a microphone is mounted according to IEC 61400-11 on a circular, flat hard board "ground board" a horizontal distance Ro of (H + D/2) meters from the wind turbine vertical centerline. H is the vertical distance from the ground to the turbine rotor center, and D is the diameter of the rotor. The microphone is mounted on a groundboard in order to have uniform reflections from the board at all frequencies and since wind at the surface is lower than elevated. The microphone is equipped with one-half of a 7-inch wind screen to reduce the effect of wind noise including low frequency wind noise. For additional details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-9 | Greg Snow | Per the noise study, where can we find the "modeling receptor ID#" applicable to our home so we can determine who is in the top "worst case for low frequency sound levels"? | Based on the address provided as part of the comment letter, the Receptor ID #269 for the commenter is #269. As shown on Table 7-3 of Appendix J, Sound Level Assessment Report, Receptor ID #269 is not in the top 10 of the Predicted Worst-Case Low Frequency Sound Levels. Receptor ID #269 would experience lower levels than presented on Table 7-3 of Appendix J since the receptor is farther away from Project facilities. In addition, the worst-case sound level for this receptor is 33 dBA (L10) and 32 dBA (Leq) (see Table A-1 in Appendix J, Sound Level Assessment Report). |
| SDEIS-0006-10 | Greg Snow | The GE 2.3-116 turbines have a "low noise trailing edge technology" option, if these turbines are selected will the low noise option be included and installed on all turbines? | The GE turbine formerly under consideration has not been selected, but the Sound Level Assessment Report details the V126 turbine's compliance with all applicable noise limits and guidelines, see Appendix J, Sound Level Assessment Report. |
| SDEIS-0006-11 | Greg Snow | Since all machinery produces vibrations and the turbine's generator, transmission, bearings and blade vibrations and imbalances will produce vibrations that will be transmitted into and through the ground, where is the study that addresses this issue applicable to local stratum? | Under normal operation, there is no perceptible vibration from a wind turbine at these setback distances. In addition, each wind turbine is fitted with vibration monitoring sensors so that if an imbalance is detected in the operation of a wind turbine, it will be shut down, and the operator notified for evaluation and/or possible repair. For additional details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-14 | Greg Snow | The sound level assessment states that no pure tones were identified in sound spectra, what about swept tones, low frequency sounds that are produced by rotating blades plus the Doppler effect? | As discussed in Section 7.3 of Appendix J, Sound Level Assessment Report, low frequency sound will be produced by the proposed wind turbines, same as any other piece of mechanical equipment. However, it will be below levels that are problematic. It is unclear what the commenter means by "swept tones" and the "Doppler effect" with regard to wind turbine sound. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |
| SDEIS-0007-5 | Christopher Warner | I oppose the siting of turbines where I will hear the repetitive or low frequency sound of blades turning. This will destroy the quiet atmosphere rural residents are accustomed to. The SDEIS says the noise will be like an uepisodic event such as passing of cars or barking of dogs" (page 2.8-1). The regular, repetitive, or low-frequency drumming of turbine noise is not appropriate to compare to dog and car noise I experience because of the frequency. I only hear one car drive up my dirt road every hour or two, or hear a dog bark a few times once or twice a day if at all. | As discussed in Section 7.3 of Appendix J, Sound Level Assessment Report, low frequency sound will be produced by the proposed wind turbines, same as any other piece of mechanical equipment, for example, an air conditioner or fan. However, it will be below levels that can induce vibration or rattle. While sound produced by the turbines may be audible at times, it is a "whooshing" sound of the blades turning through the air which is not low frequency sound. The sound modelling predicts that no residence will be within the 50 dB noise limit imposed by local law. Table A-1 in Appendix J, Sound Level Assessment Report, shows that Project sound levels would range from 20 to 49 dB at the 335 modelled sensitive receptors sites within the proposed Project Area. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-6 | Christopher Warner | I am very concerned about the health of my children, age 6 and 7, with the turbines so close to the house. One of my sons has recently been diagnosed with a learning disability and sensory issues, and I do not want the repetitive turbine motion or repetitive sound to create negative stimulus for him, and cause me to have to move to keep my family healthy. | As noted in Appendix I, Visual Resource Assessment, evidence from operational turbines suggests that the intensity of shadow flicker is only an issue at short distances. Shadow flicker is typically not found to occur at distances greater than 10 rotor diameters from a wind turbine. Beyond 10 rotor diameters, a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it. As shown in Figures 5 and 6 of the VRA (see Appendix I), properties on Straight Road are located at distances greater than 10 rotor diameters from Project wind turbines, so shadow flicker would not be anticipated to be an issue at the commenter's property. Please refer to Appendix I to review the shadow flicker study.<br><br>Regarding sound caused by operation of the Project, please refer to Appendix J, Sound Level Assessment Report. All sound levels from the wind turbines, no matter where you live, will be less than 50 dBA outside the house. Sound from outside the house is reduced approximately 15 dBA to inside the house with open windows. Therefore, sound level from the wind turbines will be less than 35 dBA. Ball Hill will take into account landowners concerns in accordance with the Project complaint resolution process described in Appendix L, Complaint Resolution Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0010-5 | Jonathan Titus | 4. I am concerned that the noise analysis does not adequately address low frequency sounds. | As shown in Table 7-3 of Appendix J, Sound Level Assessment Report, the predicted maximum levels of Project sound at 31.5 Hz at the 10 highest modeling receptors are all 63 dB or lower - well below the 74 dB level prescribed by the noise criterion established for private home interiors by NC-30, and the 71 dB equivalent level for moderately perceptible vibration and rattle Appendix J, p. 7-4). |
| SDEIS-0011-5 | Priscilla Titus | The noise impacts are not adequately analyzed to reflect low frequency sound anticipated with the current project design. | As shown in Table 7-3, of Appendix J, Sound Level Assessment Report, the predicted maximum levels of Project sound at 31.5 Hz at the 10 highest modeling receptors are all 63 dB or lower - well below the 74 dB level prescribed by the noise criterion established for private home interiors by NC-30, and the 71 dB equivalent level for moderately perceptible vibration and rattle (see Appendix J, p. 7-4). |
| SDEIS-0015-24 | Lisa Brain | I'm concerned very much about the noise because from my house on that map I think there is twenty-eight, and I think four of them are literally going to be wrapped around my property. | According to Figure A2 of the Visual Resource Assessment for the Project (see Appendix I of this FEIS) 16-25 turbines would be visible from the corner of Villenova Road and North Hill Road when the Project is fully operational. As detailed on Figure 6-1 of the Sound Level Assessment Report (see Appendix J of this FEIS), the receptors located at the corner of Villenova Road and North Hill Road would experience Sound levels less than 50 dB outside the house. Sound from outside the house is reduced approximately 15 dBA to inside the house with open windows. Therefore, sound level from the wind turbines would be less than 35 dBA inside the house. For additional details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-28 | Lisa Brain | Also like I said, the noise. I'm worried about so many. Am I even going to be able to hear the TV if I have my windows open in the summer? What else did we have? | All sound levels from the wind turbines, no matter where you live, will be less than 50 dBA outside the house. Sound from outside the house is reduced approximately 15 dBA to inside the house with open windows. Therefore, sound level from the wind turbines will be less than 35 dBA inside which will not interfere with watching television. For more details on the Sound Level Assessment for the Project (see Appendix J, Sound Level Assessment Report). |
| SDEIS-0015-59 | Greg Snow | I'd like to know where I can go and see and hear one of these GE's for myself. I'm very concerned about the noise, is pretty much the only thing that bothers me about this project. | The GE turbine was not selected for this Project. The Vestas V112 turbine is in operation at the Marble River Wind Project in Clinton County, New York. Siting of the V126 turbines in the Towns of Villenova and Hanover has resulted in all sound levels from the wind turbines, no matter where you live, being less than 50 dBA outside the house. Sound from outside the house is reduced approximately 15 dBA to inside the house with open windows. Therefore, sound level from the wind turbines will be less than 35 dBA inside. |
| SDEIS-0015-82 | Becky Laberi | You mentioned RES has its own turbines up in Canada and the radio stations that I listened to they were taking them down because of the noise. Because of the noise, the health issues related to the noise. | RES Americas does not own any machines in Canada. No Projects that RES Americas has been involved with have had any noise complaints resulting in turbines being dismantled. The only Project in Canada that RES Americas, Inc., is aware of that was threatened with having machines removed was the Erieau project in southern Ontario. Three years ago the project received a complaint due to the proximity of an airport. The complaint was not withheld and the machines stayed in operation. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Visual Resources** | | | |
| SDEIS-0001-11 | Public Service Commission | VISUAL<br>The depiction of an existing substation at the SVRA may not be fully representative of the scale of facilities needed for the proposed 230 kV transmission line (SDEIS, Appendix M, Section 3.8. photograph "Substation Example", pg. 55). The "Substation Example" photograph depicts the Bliss Windpark substation from the Wyoming County NY Town of Eagle. DPS notes that the Bliss substation is a 115 kV facility, not a 230 kV facility as proposed for the Ball Hill Project. The scale of certain equipment is typically larger on higher voltage installations. The FEIS should provide appropriate representations and descriptions of proposed facilities so that appropriate characterization and consideration of cumulative impacts of the Ball Hill Wind project and associated major electric transmission facility is documented. | The concerns of the NYSPCS have been reviewed and the proposed transmission line would be 115 kV, not 230 kV. Its constructability has been reviewed by RES engineers. A picture of a typical 115 kV and 230 kV substation is included in the VRA (see Appendix I of this FEIS). Typical Transmission Line Plan and Profile Drawings are included in Appendix C, Project Drawings, in this FEIS. Cumulative impacts from this Project, its associated transmission facilities and other wind projects including their associated transmission facilities in the region are analyzed in the FEIS as Section 1.4.16. |
| SDEIS-0001-12 | Public Service Commission | DPS previously provided specific recommendations for substation lighting design and impact minimization. The SDEIS addresses certain aspects of these recommendations, but does not fully address impact minimization through requiring lighting design specifications (e.g., SDEIS Section 2.6.3.4, pg. 2.6-32). DPS repeats its recommendations: fixtures should be specified as full-cutoff with no drop-down optics. Task lighting should be controlled by manual switches to allow workers to light areas appropriate as needed to accomplish tasks. Motion triggered lighting can be inappropriately triggered by wildlife, blowing trash or vegetation, and is not recommended. Manufacturer's cut sheets should be provided, which specify lighting illuminance levels and pattern, and which list features as discussed above regarding light cutoff, shields, and optic criteria. | During construction and operation, lighting at the substation and O&M facility will consist of manually activated full-cutoff exterior lighting and temporary work lighting, with no drop down optics. During normal operations the substation will not be lit except as required for site security and/or as required by federal, state, or local agencies. Routine maintenance work at the substation is expected to occur during daylight hours; however nighttime work (requiring lighting) may be required in an emergency or for reliability reasons. Manufacturer cut sheets are not available at this time, as a specific manufacturer has not yet been chosen. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0004-2 | Martin Huber | I want you to know that I am very much against construction of these wind turbines. I believe that living literally right next to one of these towers will negatively effect my land value, and quality of life. I have lived near the wind farm near Warsaw NY while attending college, and I know firsthand that living in one of these farms is not pleasant. | The SDEIS and FEIS contain all studies conducted to analyze the impact of the Project, including in areas that may affect the quality of life of community members, such as impacts on visual resources, sound, and socioeconomics. The Project will be constructed in accordance with all applicable regulations that serve to protect community members' quality of life. |
| SDEIS-0004-3 | Martin Huber | If you want to see what will happen to our town just take a ride up route 20a near Warsaw and take a look around. There are windmills as far as the eye can see in every direction. This has completely destroyed the beautiful landscape that area once had. I sincerely hope that you take into consideration the feelings of your constituents before any decisions are made. | The Visual Resource Assessment (Appendix I) contains a detailed study of the visual impact of the Project, including a number of visual simulations of how the turbines will appear from different vantage points in the towns, so that Town Board members and community members can comment on the Project based on an informed understanding of its impact on the appearance of the landscape. |
| SDEIS-0006-1 | Greg Snow | I am opposed to the Ball Hill Wind project, the proposed turbines are too large to be sited near people. | The Project adheres to the Towns' setback requirements of 1,000 feet from the nearest off-site residence and 500 feet from the nearest public road. Additionally, per Ball Hill policy, whenever practicable there are be setbacks of at least 500 meters (1,642 feet) from existing residences to ensure maximum screening benefit of existing woodland vegetation, where such exists, and minimize sound impact and the potential for extended duration shadow flicker on nearby residences. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-3 | Christopher Warner | The construction of large wind turbines, that are taller than every building or tower in Chautauqua, Cattaraugus and Erie County, except for the HSBC tower in downtown Buffalo, will dramatically change the landscape, in particular, imposing a constant visual and audial disturbance in this rural area. I live on a farm, with barns, farm animals, fields and wooded land. The Ball Hill Wind Project proposal should not be called a wind "farm" proposal, it is a proposal to install extremely large industrial power generators in a farming area. It will change the area significantly and at least for the rest of my lifetime. | A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Whenever practicable, turbines have been sited in accordance with local Town laws, which require minimum setback distances. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences whenever practicable. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists, and minimizes the potential for shadow flicker on nearby residences. Section 1.4 and Appendix I, Visual Resource Assessment, of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS.<br><br>As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines may be audible at times, but would be within the sound-level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-4 | Christopher Warner | I oppose the siting of turbines where I will be able to see from my property large blades turning, constant motion will be a visual distraction. I am also concerned with the potential for turbine "flicker" if sun is behind the turbines, and do not agree the statement within the Ball Hill Supplemental Draft Environmental Impact Statement (1/19/2016) that flicker that occurs shortly after sunrise will not impact residents because they "are typically asleep with the shades drawn" (page 2.7-12). The SDEIS apparently wasn't written by farmers or residents who wake up early or don't need shades for privacy or want shades in the house like myself. | Evidence from operational turbines suggests that the intensity of shadow flicker is only an issue at short distances. Shadow flicker is typically not found to occur at distances greater than 10-rotor-diameters from a wind turbine. Beyond 10-rotor-diameters, a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it. As shown in Figures 5 and 6 of the VRA (Appendix I), properties on Straight Road are located at distances greater than 10-rotor-diameters from Project wind turbines, so shadow flicker would not likely be perceived at the location identified, i.e. whether or not the resident's windows are shaded, shadow flicker would not be expected to occur. For additional information on shadow flicker definition and analysis see Section 1.4 of this FEIS and Appendix I, Visual Resource Assessment. |
| SDEIS-0008-1 | Charles Leone | My name is Charlie Leone and I am a concerned property owner in Hanover and Villanova. I have been looking over these beautiful hills for 52 years and am devastated that the landscape is in danger of losing that beauty. The proposed windmills are a monstrosity. | A VRA was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. The VRA provides a description of the visual impacts from the Project and photo simulations to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova. Please refer to Appendix I, Visual Resource Assessment, of this FEIS for additional information and simulations. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0009-2 | Doug Rumsey | All I can say is. I am not for it. If I have to pay taxes. Then I shouldn't have to look out my window and see this. | A VRA was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. The VRA provides a description of the visual impacts from the Project and photo simulations to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova. Please refer to Appendix I, Visual Resource Assessment, of this FEIS for additional information and simulations. |
| SDEIS-0009-3 | Doug Rumsey | Our hills look fine like they are. Plus the decrease in property values for this. | An analysis of the potential effects of the Project on property values is presented in this Final Environmental Impact Statement (FEIS) in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0014-5 | Judy Phillips | Construction and operation of this project would cause damaging, irreversible, wildlife and plant habitat fragmentation, considerable long term environmental and major negative visual impacts to our rural community. | A habitat fragmentation analysis looking at direct and indirect impacts to "valuable" forested habitat , as defined by NYSDEC, has been conducted for the Project, the results of which are detailed in Section 1.4.5, Biological Resources, and 1.4.16, Cumulative Impacts. The analysis was conducted using guidelines presented in "NYSDEC direct and indirect impacts to interior wildlife species" and has been conducted following the NYSDEC documented titled *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, June 2016. The analysis found there are 12 blocks of forested land greater than 150 acres in size. The Project would impact 118.9 acres of forested land in total, and would increase the number of forest blocks greater than 150 acres to 15 and would cut one forest block into a size smaller than 150 acres. More details can be found in Section 1.4.5 of this FEIS.<br><br>A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Section 1.4.7 and Appendix I of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-2 | Tina Graziano | We finished it in 2001. From the front steps we can see Arkwright to Round Top to North Hill to Ball Hill and on, and guess where the turbines are going according to the map of the project -- which was also online that tells you what you can see, we will see over twenty-five. Our beautiful view will be full of steel. I had no idea this would ever happen. I always thought we would preserve our wonderful landscape. It's what we're known for here. That's why we are here and that's why we are living here. If we wanted a man-made skyline we would live in a city. | A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Whenever practicable, turbines have been sited in accordance with local Town laws, which require minimum setback distances. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences whenever practicable. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists, and minimizes the potential for shadow flicker on nearby residences. Section 1.4 and Appendix I, Visual Resource Assessment, of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. |
| SDEIS-0015-3 | Tina Graziano | Not only will we constantly have this in our face, I have to observe every turbine killing and maiming our wildlife. I counted twenty-two turbines all around wet spots. What are you thinking? There's nothing on these turbines about the bats. | Less than one acre of wetlands is expected to be permanently filled by the Project. Wet areas within the Project are identified in detail in Appendix E of this FEIS, Water Quality and Wetlands. Ball Hill worked diligently to avoid wet areas and minimize impacts to these areas. Ball Hill also sited turbines with the intent to minimize impacts to wildlife and the environment. Section 1.4.5 and 1.4.6 of the FEIS identifies the potential environmental impacts from the Project on wildlife and biological resources. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-17 | Howard Crowell | And if you look at something -- you're talking about maybe afraid they're going to ruin their view, as far as I understand, I think they are beautiful. I got pictures of the sunrise on my cell phone with the background and the windmills and I think they are beautiful. | A VRA was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. The VRA provides a description of the visual impacts from the Project and photo simulations to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova. Please refer to Appendix I, Visual Resource Assessment, of this FEIS for additional information and simulations. |
| SDEIS-0015-21 | Cliff Rumsey | Myself personally, I can remember the Pike area when they didn't have any and it doesn't look too pretty up there no more, so -- and there's a lot of them there. | A VRA was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. The VRA provides a description of the visual impacts from the Project and photo simulations to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova. Please refer to Appendix I, Visual Resource Assessment, of this FEIS for additional information and simulations. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-23 | Lisa Brain | Yes, I agree the global everything, but as far as yeah, they do look beautiful but not in my back yard. Maybe in the far distance. | A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Whenever practicable, turbines have been sited in accordance with local Town laws, which require minimum setback distances. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences whenever practicable. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists, and minimizes the potential for shadow flicker on nearby residences. Section 1.4 and Appendix I, Visual Resource Assessment, of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-30 | Judy Phillips | I've also read the entire binder. I do not see a picture up here of the photo simulations of Route 93, the photo simulations that were taken from up on top of Flipper Hill. | A VRA was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and in combination with other proposed wind energy projects. The VRA provides description of the visual impacts from the Project and photo simulations to represent what the V126 wind turbine would look like from certain vantage points in the Towns of Hanover and Villenova. Please refer to Appendix I, Visual Resource Assessment, of this FEIS for additional information and simulations. In Appendix I, Figures A 15-a through A 15-i show photo simulations on Flucker Hill Road and Figures A 16-a through A 16-i show photo simulations along Route 93. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-32 | Don Chase | If shadow flicker is not covered under the SDEIS, what is covered under it? | A VRA (see Appendix I of this FEIS) was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy "Assessing and Mitigating Visual Impacts" (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Whenever practicable, turbines have been sited in accordance with local Town laws, which require minimum setback distances. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences whenever practicable. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists, and minimizes the potential for shadow flicker on nearby residences. Section 1.4 and Appendix I, Visual Resource Assessment, of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-43 | Judy Phillips | They talked in the winter a lot about mitigating -- making things less destructive or interfering. The one thing that cannot be mitigated, in my opinion, is that I believe our community's greatest asset and most valuable resource is our picturesque landscape. It helps define the self-image of our residents who choose to inhabit. They choose it and it gives them a sense of place to the change in seasons. It is a dynamic backdrop to people's lives. I hope many of our residents, tourists and hunters value the aesthetic unadulterated view of our own scenic rolling hills with some views as far as Lake Erie. Building this industrial project would exploit and ruin our landscape and irreplaceable aesthetic. RES Americas is the company in charge of constructing this project and will request amendment of Villenova and Hanover's wind laws, four hundred twenty feet limitation on maximum turbine height increased to four hundred and ninety-eight feet. The year-round visual impact would be significant and cannot be mitigated due to the introduction of thirty-six five-hundred-foot turbines, the height of a fifty-story building. The large area of our town involved with the project, the ongoing movement of a hundred and eight massive rotor blades and the project's total seven-point-five-mile view. | Ball Hill is now proposing to construct 29 turbines, rather than the 36 turbines proposed in the SDEIS. Appendix I, Visual Resource Assessment, of the FEIS was prepared to evaluate the visual impact of the Project at particular locations, including residences, and in the surrounding area, both on its own and cumulatively with other proposed wind energy projects. The VRA was prepared according to NYSDEC Program Policy Assessing and Mitigating Visual Impacts (NYSDEC 2000) (DEC Visual Policy) and SEQRA criteria to minimize impacts on visual resources. Whenever practicable, turbines have been sited in accordance with local Town laws, which require minimum setback distances. Ball Hill's policy is to site turbines beyond the minimum setback to distances of at least 500 meters (1,642 feet) from existing residences whenever practicable. Such separation of uses assures maximum screening benefit of existing woodland vegetation, where such exists, and minimizes the potential for shadow flicker on nearby residences. Section 1.4 and Appendix I, Visual Resource Assessment, of this FEIS provide a thorough review of potential visual impacts as compared to the layout presented in the SDEIS. The Project expects to get a Finding of Adverse Affect from the State Historic Preservation Officer (SHPO) with respect to impacts on historic structures. Ball Hill is consulting with SHPO under Section 106 of the National Historic Preservation Act of 1966 in order to identify a mitigation plan for the Project. Potential mitigation plans are outlined in Appendix N of this FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Safety** | | | |
| SDEIS-0003-62 | Department of Environmental Conservation | Required Items Not Provided A Spill Control and Countermeasure Plan must be provided. Based on NYSDEC's experience with similar wind energy projects, spills of petroleum and other chemicals may occur during the construction and operational phases of the project. As such, the applicant should develop a spills management plan that is consistent the Department's regulations regarding petroleum bulk storage, chemical bulk storage and spill response and remediation. As guidance, the applicant can refer to the Department's guidance document entitled "Leaks, Spills and Accidents Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State," found at the following link: www.dec.ny.gov/docs/water pdf/leaksspillsbmp.pdf. The applicant can also refer to spill management plans that have been developed for other recent wind energy projects such as the Marble River Wind Project. The applicant should work with Regional NYSDEC spill response staff to ensure that the plan is adequate. | Ball Hill will develop and implement a construction spill prevention and control (SPCC) plan prior to construction. In addition, prior to operation of the Project, Ball Hill will develop an operational SPCC plan, pursuant to 40 Code of Federal Regulations (CFR) Part 112, because oil on site would be greater than 1,320 gallons. Sources of oil could include the main power transformer, gear oils, and hydraulic fluids located in the turbines, and any oil or fuel storage as part of construction. Ball Hill general policies for the implementation of environmental monitoring practices are included in the Environmental Monitoring Plan in Appendix S. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0007-6 | Christopher Warner | I am very concerned about the health of my children, age 6 and 7, with the turbines so close to the house. One of my sons has recently been diagnosed with a learning disability and sensory issues, and I do not want the repetitive turbine motion or repetitive sound to create negative stimulus for him, and cause me to have to move to keep my family healthy. | As noted in Appendix I, Visual Resource Assessment, evidence from operational turbines suggests that the intensity of shadow flicker is only an issue at short distances. Shadow flicker is typically not found to occur at distances greater than 10 rotor diameters from a wind turbine. Beyond 10 rotor diameters, a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it. As shown in Figures 5 and 6 of the VRA (see Appendix I), properties on Straight Road are located at distances greater than 10 rotor diameters from Project wind turbines, so shadow flicker would not be anticipated to be an issue at the commenter's property. Please refer to Appendix I to review the shadow flicker study.<br><br>Regarding sound caused by operation of the Project, please refer to Appendix J, Sound Level Assessment Report. All sound levels from the wind turbines, no matter where you live, will be less than 50 dBA outside the house. Sound from outside the house is reduced approximately 15 dBA to inside the house with open windows. Therefore, sound level from the wind turbines will be less than 35 dBA. Ball Hill will take into account landowners concerns in accordance with the Project complaint resolution process described in Appendix L, Complaint Resolution Plan. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0014-4 | Judy Phillips | This project would cause health problems for residents. | Ball Hill is not sure what health problems the commenter feels may occur as a result of the Project. Section 2.15 of the SDEIS (Health and Safety) and Appendix P of the FEIS (Health and Safety Plans) discuss health and safety measures to be taken during construction and operation of the Project. |
| SDEIS-0015-7 | Tina Graziano | Right now the proposed turbines hold about a hundred gallons of oil, just an environmental<br>hazard waiting. We can wait and see how everyone handles Arkwright's project. Let them be a sacred cow. Once you have them in your face you might change your mind. | Appendix P, Health and Safety Plans, of the FEIS discusses how Ball Hill will recognize and address safety hazards, and Appendix D includes Material Safety Data Sheets. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-27 | Lisa Brain | I have done reading and research because it is important to me, something with the sun reflecting on it like a strobe-type lighting reflection. I have two people that have epilepsy in my house and worry about them. | Shadow flicker is discussed in Section 1.4.7 and in the VRA (Appendix I). Modern, commercial-sized wind turbines do not cause flicker that is fast enough to cause epileptic seizures. Flicker frequency due to a turbine is on the order of the rotor frequency (i.e., 0.6 to 1.0 Hz), which is harmless to humans. According to the Epilepsy Foundation, only frequencies above 10 Hz are likely to cause epileptic seizures. This has been documented by the following resources:<br><br>National Research Council. 2007. Environmental Impacts of Wind-Energy Projects. Washington, DC: The National Academies Press. Accessed online at: https://www.nap.edu/catalog/11935/environmental-impacts-ofwind-energy-projects<br><br>Massachusetts Departments of Environmental Protection and Public Health. January 2012. Wind Turbine Health Impact Study: Report of Independent Expert Panel January 2012. Accessed online at: http://www.mass.gov/eea/docs/dep/energy/wind/turbine-impact-study.pdf |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-42 | Lisa Brain | What about ice build-up on that? We live in wintery stuff. How would that -- I know you said you set them back so far, but like I mean, that's like a big icicle heading your way. | Ice shed and the prevention measures to be taken to effectively minimize risks to safety if icing were to occur are discussed in Section 2.15.6 of the SDEIS. Academic research and risk analyses have been conducted on the subject of ice shed and throw, primarily in Europe. The general conclusion is that wind turbines should not cause risks as they are normally set back from residences and roadways and that the hypothetical risk of being struck by ice is small, particularly by large and/or long ice fragments, which experience more drag and will hit the ground closer to the turbine. |
| SDEIS-0015-46 | Judy Phillips | What benefits some should not harm others. Infrasound sound disturbances caused by air pressure variances and shadow flicker generated by blade rotation may cause negative health effects and quality of life issues. These environmental problems may be difficult to prove, but with approval of this project these problems could adversely affect our own community. Are you willing to roll the dice? | Whenever practicable, the Project will adhere to the Towns' setback requirements of 1,000 feet from the nearest off-site residence and 500 feet from the nearest public road. In addition, per Ball Hill policy, whenever practicable there will be setbacks of at least 500 meters (1,642 feet) from existing residences to ensure maximum screening benefit of existing woodland vegetation, where such exists, and minimize sound impact and the potential for extended duration shadow flicker on nearby residences. In 2016, Epsilon Associates, Inc., conducted computer modeling to predict future sound levels when the proposed wind turbines and associated electrical transformers would be operational, based on the revised Project design. The results of this analysis and an evaluation of compliance with applicable criteria are presented in Appendix J, Sound Level Assessment Report. In addition, the topic of infrasound is responded to in Section 1.4.15 of this FEIS.<br><br>As noted in Appendix I, Visual Resource Assessment, evidence from operational turbines suggests |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | | that the intensity of shadow flicker is only an issue at short distances. Shadow flicker is typically not found to occur at distances greater than 10 rotor diameters from a wind turbine. Beyond 10 rotor diameters, a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it. Please refer to Appendix I for a discussion of shadow flicker. There are no regulations or guidelines that establish an acceptable degree of shadow flicker impact on a potential receptor. For residences where shadow flicker is greatest, mitigation of the disturbance in a specific room may be implemented by the use of window shades or vegetative screening. Mitigation will be taken on a case-by-case basis where shadow flicker or other adverse visual impacts pose a significant problem for a landowner in accordance with the Project complaint resolution process described in Appendix L, Complaint Resolution Plan |
| SDEIS-0015-63 | Chuck Luce | Did you ever have one of these towers come down? I know they recently had one in Denmark, the wind over-speeded it and it come off the blade and chopped the tower off. | No project that RES Americas is operating has experienced a wind turbine that came down. There have been a very limited number of turbine failures worldwide where proper setbacks have prevented any significant damage. |
| SDEIS-0015-73 | Judy Phillips | Am I correct in what I'm reading here, that RES Americas has a balance of plant contractor --<br>balance of plan contractor at the Mehoopany wind farm in Pennsylvania? Was there -- it says here that a blade crashed I believe in 2014 and it was operational in 2012. | RES Americas was the contractor responsible for constructing the “balance of project” at the Mehoopany Wind Farm. This includes civil work but not turbine manufacture or installation. RES Americas has no special knowledge of the cause of the blade failure on a GE 1.6MW turbine in November 2014. |
| **Decommissioning** | | | |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0006-13 | Greg Snow | Will a turbine be shut down during critical times ( eg. overnight) if noise problems cannot be resolved? | If a turbine is determined to be non-compliant with applicable noise limits, and it cannot be corrected, it would be shut down as non-compliant. |
| SDEIS-0010-2 | Jonathan Titus | 1. It is very important that a foolproof guarantee be associated with the project such that if the project is abandoned or decommissioned Renewable Energy Systems is obligated to restore all of the sites to the highest possible standards. This must be a large enough bond such that a clean-up will occur regardless of the status of Renewable Energy Systems. A lack of protection to local communities from abandoned energy projects has been a problem across the country. | In 2008, a decommissioning plan for the Project was reviewed and accepted as complete by the Villenova Town Board as SEQRA Lead Agency. The decommissioning plan has been updated and is included the FEIS as Appendix R, Decommissioning Plan. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |
| SDEIS-0011-4 | Priscilla Titus | I have concerns regarding long term maintenance of the structures in the event that this project does not yield the financial rewards that are anticipated. Who will be responsible for decommissioning the structures should they fail to perform as desired? | In 2008, a decommissioning plan for the Project was reviewed and accepted as complete by the Villenova Town Board as SEQRA Lead Agency. The decommissioning plan has been updated and is included the FEIS as Appendix R. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0014-8 | Judy Phillips | Decommissioning agreement may be very difficult to enforce with another perhaps oversees located wind company. Turbines could be rebuilt or replaced on land after their 20 year "lifespan". Wind farms are often sold multiple times because any new owner will receive tax incentives based upon the higher, original start-up value of a turbine. | In 2008, a decommissioning plan for the Project was reviewed and accepted as complete by the Villenova Town Board as SEQRA Lead Agency. The decommissioning plan has been updated and is included the FEIS as Appendix R. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |
| SDEIS-0015-40 | Barry Nobles | What was the answer to the long-term shutdown twenty years from now and when everything is rusty? | The law requires the creation of a decommissioning bond that is updated on a regular basis, so that the Town could remove the Project facilities if the company failed to do so. The decommissioning plan for the Project has been updated from the original 2008 version and is included the FEIS as Appendix R. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-49 | Judy Phillips | Am I correct in understanding Villenova does not have a comprehensive plan but includes decommissioning requirements in our local zoning laws? Do we have a removal clause for non-operation for a specific time so that non-removal would then become a zoning enforcement matter? If so, what does that specify? The industrial projects are frequently sold multiple times to different corporations. After twenty years the town's decommissioning agreement may not be signed with the current owner of the industrial turbine facility. It could prove difficult to impose the town's agreement with a large corporation that may be based overseas. Can there be re-evaluation, replacement or re-powering of the turbines after twenty years? Mr. Norton, Arkwright town supervisor, made reference to Article 10 of the public service law in his December 15, 2015 letter to The Observer. The Arkwright project may be the last to generate the funding through host agreements associated with the local community. Do we have a host agreement and can it be still be implemented? | The law requires the creation of a decommissioning bond that is updated on a regular basis, so that the Town could remove the Project facilities if the company failed to do so. The decommissioning plan for the Project has been updated from the original 2008 version and is included in the FEIS as Appendix R. The updated plan, prepared in accordance with the Town of Villenova Local Law No. 1 of 2007: Wind Energy Facilities Law, the Town of Hanover WECS Law (2008), and the terms and conditions of any agreements with the Towns, reflects current costs and numbers associated with decommissioning activities.<br><br>The Project Sponsor is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective Towns. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Cumulative Impacts** | | | |
| SDEIS-0001-13 | Public Service Commission | CUMULATIVE IMPACTS<br>In consideration of cumulative estimates of bird and bat fatalities, the SDEIS refers to the Cassadaga Wind project as proposing "70" turbines (SDEIS Section 4.2.2 Avian and Bat Species, including Table 4.2-2, pg. 4-6; Table 4.2-3, pg. 4-7; and discussion at pp. 4-8 and -9). DPS suggests that the calculation of total cumulative fatalities of birds and bats be reviewed based on the current proposal by Everpower Inc. for the Cassadaga Wind Project currently in development of an Application pursuant to PSL Article 1 O in Case 14-F-0490. Pre-application materials identify the Cassadaga Wind facility as a "proposed 126 megawatt" project including construction and operation of "up to 62 wind turbines" (Cassadaga Wind Project Preliminary Scoping Statement, September 2015). | This change has been made. Cumulative visual impacts of the Ball Hill Wind Project, and the proposed Arkwright Summit and Cassadaga Wind Projects (up to 62 turbines) are described, illustrated and discussed in the Ball Hill Wind Project Final Visual Resource Assessment, beginning at page 54 (attached to this FEIS as Appendix I). In addition an updated cumulative impact analysis is included in the FEIS as Section 1.4.16. |
| SDEIS-0003-33 | Department of Environmental Conservation | 4 Summary of Cumulative Impacts. While the section discusses aspects of cumulative impacts from the proposed Cassadaga and Arkwright wind projects, this section should further elaborate on the issues raised in the above comments with respect to bird and bat impacts, cumulative loss of habitat, and habitat fragmentation as a result of the construction of all proximate projects. The SDEIS states multiple times that cumulative impacts to habitat are not expected to be significant and that "wildlife would likely relocate to adjacent suitable habitat during construction or, upon cessation of construction, make use of areas temporarily disturbed, as revegetation takes place." No further information is provided to support this and it is unlikely that interior forest bird species will utilize cleared areas for breeding purposes since those areas will take decades to return to pre-construction conditions. | The cumulative impacts assessment has been updated to reflect updated information on the Cassadaga Wind Project and the updated Project layout in Section 1.4.16 of the FEIS. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0003-36 | Department of Environmental Conservation | The proximity of the Project to the proposed Cassadaga wind project to the south/southwest and the Arkwright project to the west/southwest collectively covers a large area of northern Chautauqua County. The applicant should thoroughly describe and evaluate the cumulative impacts of all these projects on birds, bats, and their habitats, including estimated mortality levels and the indirect effects of fragmentation of contiguous forests, grassland, and wetlands. | The cumulative impacts assessment has been updated to reflect updated information on the Cassadaga Wind Project and the updated Project layout in Section 1.4.16 of the FEIS. Impacts on wildlife and habitat (including fragmentation) has been added to the analysis. |
| SDEIS-0007-10 | Christopher Warner | I am concerned about the cumulative impacts multiple large Wind Projects will have along the Chautauqua Ridge. I participated in public hearings on the Arkwright Summit Wind Farm years ago and thought the project was not moving forward until newspaper articles announced that it would be constructed in 2017. I have heard there are other projects planned in the area, such as the Cassadaga Wind Project, in addition to the Arkwright Summit Wind Farm and the Ball Hill Wind Project, and believe that in an effort to get their project approved, any individual project developer will minimize and underestimate the combined, cumulative negative impact on community residents who will be surrounded by turbines, as well as birds and bats that migrate along the ridge and through the area. The Ball Hill Wind Project and the Arkwright Wind Farm are so close (the closest turbines are 1.4 miles apart according to the SDEIS, page 4.1) that the projects environmental impact should be assessed together, as once constructed residents and wildlife will just be living within and migrating through and around one extremely large industrial wind project. | Cumulative impacts associated with construction and operation of the Ball Hill Wind Project, Arkwright Summit Wind Farm Project, and Cassadaga Wind Project are discussed in the following documents: (1) Section 4 of the SDEIS and Section 1.4.16 of this FEIS for the Ball Hill Wind Project; (2) The SEIS2 and FEIS for the Arkwright Summit Wind Farm (https://s3.amazonaws.com/Citations/arkwright/Arkwight+Summit_SEIS2_Text.pdf); and (3) The Article 10 application for Cassadaga Wind Project (https://everpower.com/cassadaga-wind-project-ny/). In summary, as described in Section 14.16 of the FEIS, the final project designs for the Ball Hill Wind Project and Cassadaga Wind Project both include fewer turbines than had been proposed earlier. The projects together will have a smaller project footprint and less negative environmental impact, and thus less cumulative impact. Cumulative impacts to wildlife and other cumulative impacts are discussed in each project's submittals, and each project is subject to permitting reviews in which the permitting agencies are responsible for considering the cumulative impacts, both positive and negative. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Transportation** | | | |
| SDEIS-0015-69 | Chuck Luce | Where are these built, the windmills even installed? | The Vestas turbines are manufactured at a facility in Colorado and will be transported to the site in large pieces, as described in Section 2.11 of the SDEIS and Section 1.4.11 and Appendix M, Transportation, of this FEIS. Each turbine will be delivered by the manufacturer on up to 12 truck-loads including the blades, the nacelle, drive train, hub, cooer top, and the tower. Appendix M, Transportation, provides details on the size and weight of the cargo associated with each V126 turbine. |
| SDEIS-0015-71 | Chuck Luce | Is that tower trucked in then in pieces or is it -- how many pieces does it come in? | Each turbine will be delivered by the manufacturer on up to seven truckloads. Each blade will arrive on a separate truck, the nacelle, drive train, hub, and cooler top, on separate trucks, and the tower will arrive in four separate sections. Appendix M, Transportation, provides details on the size and weight of the cargo associated with each V126 turbine. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| SDEIS-0015-72 | Chuck Luce | A pretty good roadway to haul that up to the sites then. | Traffic associated with the construction of the Project would consist of delivery vehicles for turbine components, materials associated with turbine site construction and assembly, and personal vehicles for workers. Delivery vehicles would range in size from oversized load tractor-trailers (used to deliver tower sections, turbine nacelle, rotor blades, and cranes) to smaller vehicles, such as dump trucks, concrete trucks, fuel delivery trucks, vans, and pickup trucks. Personnel vehicles would consist of automobiles and light trucks. Some improvements to local roads and expansion of intersection turns would be required to facilitate the use of OS/OW vehicles. Details on roads likely to be used, types of OS/OW vehicles to be utilized and estimated numbers of OS/OW inbound loads are provided in Appendix M, Transportation, of this FEIS. No road traffic impacts are expected once the Project becomes operational. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Communication Surveys** | | | |
| SDEIS-0015-48 | Judy Phillips | It is upsetting to learn turbine blade rotation can cause loss of my over-the-air TV reception. That basically means that I use an antenna to receive TV signals. I asked the board to inquire and make public whether known weather signals are also disrupted. | The FEIS presents updated communication signal studies based on the Project layout, see Appendix K, Communication Surveys, of this FEIS as well as a summary in Section 1.4. While it is unlikely that the Project turbines would disrupt off-air television reception at a given location, if such disruption were to occur, residents could contact Ball Hill for assistance addressing the concern, as described in Appendix L, Complaint Resolution Plan, of this FEIS. With respect to impacts on weather signals, the commenter is correct, as it is known that the operation of commercial wind turbines can be interpreted as weather events on Doppler radar. While it is not known whether the Ball Hill wind turbines will show up on Doppler radar, radar technicians can take note of their presence and readily interpret them as non-weather phenomena. |

**Table 2.4-1 Ball Hill Response to Comments Received on the 2016 SDEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Land Use** | | | |
| SDEIS-0015-33 | Don Chase | What about vacant land you were planning to develop? Now the top of the thing is at four ninety-five and the total is four ninety-five where previously it was four twenty? | A shadow flicker analysis was conducted for the 241 existing structures identified within 4,134-feet of any turbines. The potential shadow impact could be calculated for other locations where new structures might be built. The shadow flicker analysis is presented in Section 3.6 of Appendix I, Visual Resource Assessment, of this FEIS and is summarized in Section 1.4 of the FEIS.<br><br>The wind turbines that will be installed for the Project will be Vestas Model V126-3.45 MW IEC IIA/IIB turbines, each of which will have a capacity to produce approximately 3.45 MW of electricity. As described in the FEIS Section 1, the V126-3.45 MW turbine is a three-bladed, upwind, horizontal-axis wind turbine with a rotor diameter of approximately 413 feet. The nacelle is located at the top of the tower and contains the electrical generating equipment. The turbine rotor and the nacelle are mounted on top of a tubular tower giving a rotor hub height of 285 feet. The maximum height for the turbine is 492 feet when a rotor blade is at the top of its rotation. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Project Description and Design** | | | |
| DEIS-0001-1 | Public Service Commission | The description of the proposed Switch yard facility to be installed at the northern end of the transmission line is incomplete. The proposed Substation will step-up voltage from 34.5 kV to 115 kV via transformers. The 115 kV line will connect to the proposed Switchyard, which interconnects the overall Project to the existing 230 kV transmission line. The description of facilities in the DEIS does not indicate that an additional 115 to 230 kV step-up transformer is necessary at the proposed Switchyard. DPS Staff notes that the Preliminary Switchyard Site Plan (Drawing RP-SY-1, in DEIS Appendix A) indicates a transformer will be installed at the site. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-3 | Public Service Commission | The location of steel gas pipelines should be determined when planning the location of wind turbines and grounding systems, and electric collection and transmission lines. The DEIS identifies major gas transmission facilities, but does not identify the location of gas gathering lines. (See Fig. 2.23-3 -- Setbacks from Utilities.) Appropriate\ avoidance and mitigation measures to avoid induced voltages and lightning protection system grounding issues should be developed in project layout and detailed design.<br><br>This is information that DPS requested in comments on the scope of studies appropriate for the project (as indicated at DEIS Appendix D, page D-87). | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0001-4 | Public Service Commission | Substation site:<br>The details indicated at Preliminary Substation Site Plan (Dwg. RP-SR-I) indicate the access road to the site is at a steep slope, with grade at approximately 10% at sections. The Substation site itself has a cross slope of I 0% with a long slope above.<br><br>Siting the Substation should address provisions for cut and fill of slopes, site stabilization and compaction, and permanent drainage control features. The footprint of the substation will be larger to accommodate cut and fill slopes, unless retaining walls are installed at the indicated footprint. The uphill cut slope will intercept subsurface drainage; this should be addressed in permanent site drainage design, which should also address surface drainage for the site and the uphill slope and access road. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-5 | Public Service Commission | Underground electric lines:<br>Underground electric collection lines should be installed with provisions to avoid effects of subsurface "piping" of subsurface water creating and expanding voids around the electric cables running down steep slopes. Underground trench-breakers with surface water control features should be specified for underground lines installed on slopes. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-6 | Public Service Commission | Switchyard site -- Drawing RP-SY-1:<br>The access road to the proposed Switchyard appears to be located within a grape vineyard. Alternative locations should be investigated, in order to reduce or avoid the permanent reduction or displacement of productive grape vineyard acreage for access road installation. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0001-7 | Public Service Commission | Transmission Line Plan and Profile -- Drawings BH-T301, Sheets I through 6:<br>Transmission line clearance at road and railroad crossings should be specified in accordance with appropriate design standards and code requirements. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-8 | Public Service Commission | Transmission line angle structure number 5 (Drawing BH-T301, Sheet 1) is proposed to be located within a NYS-regulated wetland (reference Appendix G, Wetlands Map Sector F). An alternative location for structure 5 to the south should be considered to avoid permanent impact to the wetland for location of the structure, as well as additional temporary impacts related to clearing for construction (including angle structure laydown and wire pulling at this location). (Note that this type of alignment appears to have been identified in an earlier project layout, as indicated in Appendix T, Figure 5.1.) | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-10 | Public Service Commission | The Transmission Line Plan and Profile figures (as well as wetland and stream location figures in Appendix G) do not indicate locations of access roads for construction of the transmission facilities. Streams, ravines, wetlands and other features appear to create impediments to continuous through-access along the transmission line right-of-way. Access road locations, including off-right-of-way locations should be specified. Appropriate consideration of clearing, wetland fill, stream crossings, agricultural land practices, soils and slopes constraints, as well as erosion control and site stabilization measures for the access roads should be addressed within the EIS. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-2 | Department of Agriculture and Markets | The Description of the Proposed Action section describes pad-mounted junction terminals which will be utilized to tie buried collector cables together into one or more sets of larger feeder conductors. Based on the Department's observation from the Applicant's other two working commercial wind projects in western New York, these junction boxes have, in several cases, presented a significant unanticipated impediment to field cropping patterns. The Project Applicant should provide more detail on the proposed placement of these junction boxes and graphically identify the locations for such facilities in agricultural fields. Locations of the junction boxes proposed in agricultural fields should be identified on the project drawings. This information should be made available to the Department for review purposes prior to the Town's acceptance of the FEIS, the Town's issuance of its Findings Statement and Permit. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017 and has, to the maximum extent practicable, limited impacts on agricultural land with micrositing practices. New York State Department of Agriculture and Markets (NYSDAM) did not provide public comment on the 2016 SDEIS. In addition, Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |
| DEIS-0002-3 | Department of Agriculture and Markets | Section 1.2.2 discusses a 3-acre off-site equipment staging area located along Route 39 near the intersection with Empire Road in Hanover. This proposed laydown area appears to be sited in an active agricultural field. If this area is to be used for laydown purposes, it should be constructed and restored in accordance with Department Guidelines. | Please see response to comment ID: DEIS-0002-2. Any temporary impacts to agricultural land would be restored using NYSDAM guidelines. |
| DEIS-0002-4 | Department of Agriculture and Markets | On-site laydown areas are depicted on figure 1.1-2. The report indicates that the final locations will be identified in the FEIS. The identification of laydown areas in the FEIS does not allow the Department an opportunity to review potential impacts to agricultural resources and provide additional comments (if necessary). As a result, the Department requests that the laydown area locations be identified and the information be provided for review prior to the issuance of the FEIS. | Please see response to comment ID: DEIS-0002-2. Any temporary impacts to agricultural land would be restored using NYSDAM guidelines. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-5 | Department of Agriculture and Markets | Section 1.2.2 discusses the installation of underground electrical collection lines and Right of-Way (ROW) widths. ROW widths will range between 22 feet for one circuit to up to 60 feet where four circuits will be installed in parallel. The Applicant proposes that the buried cables be installed along proposed access roads within a 60-foot ROW. Drawing No. BH-E- 103 (Typical Underground Trench Alignment) depicts collection schematic drawings. The schematics for three and four circuits show a "1 0-foot Buffer Work Access". Based on the Department's observations of construction activities on the Applicant's Wethersfield Windpark, greater ROW widths will be required in locations. Specifically, additional work space (ROW widths) will be required for the temporary stockpiling of topsoil. A ten- foot width linear temporary workspace is not adequate for the temporary storage (stockpiling) of topsoil removed to a minimum 8-inch depth from a 50-foot ROW. Linear topsoil stockpiles shall be appropriately coordinated with the placement/installation of underground collector cables (including other potential underground utilities) installed adjacent to access roads. Wider ROW widths will eliminate the need to handle stockpiled topsoil more than once; thus reducing the potential for additional soil resource impacts including topsoil subsoil mixing and soil compaction. | Please see response to comment ID: DEIS-0002-2. |
| DEIS-0002-6 | Department of Agriculture and Markets | Section 1.2.2 discusses the installation of "ditch plugs" in wetlands for the purpose of preventing migration of shallow groundwater in linear excavations. Trench breakers are typically installed for the dual purpose of preventing trench washouts during construction and abating water piping and "blowouts" subsequent to trench backfilling. In this case, the installation of trench breakers in buried collector line trenches is critical due to the fact that the Project site is dominated by dense | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | glacial till and glacio-lacustrine soils. Penetration (excavation) will create a subsurface drainage envelope along the linear expanse of the trench unless such flows are alleviated or removed via miificial drainage from the trench. Thermal sand used as bedding will further exacerbate this condition. Because of this, the applicant should install trench breakers in agricultural fields in accordance with the spacing intervals as detailed on the Sample Drawing A-12 "Trench Breaker Spacing" (Attached). The Project Applicant shall also record each installed trench breaker location by map referenced station number. In agricultural lands, the top of trench breaker will not be closer than two feet from the restored surface. Additional subsurface drainage may be required following installation of buried electrical collector cables to effectively convey trench water to a stable surface outlet (see #26 below). Electrical collector cable runs will require close monitoring for evidence of seeps and waterboils during the 2-year monitoring period.<br><br>Because of the proposed method of buried electrical collector cable installation (trenching), and the inherent difficulties associated with the installation of trench breakers during cable installation, the Department recommends that the Project Applicant closely monitor the toe of slope areas in agricultural fields for wet areas or signs of seeps and waterboils in cases where trench water is exfiltrating to the ground surface. If encountered, new interceptor drain lines should be installed in order to alleviate wet areas. The Applicant should make necessary provisions for post-construction drainage repairs in agricultural fields. Because of potential limitations on slope, topography and other surface features, it may be necessary to install drainage structures and correspond- | |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | ing outlets in locations outside of the Applicant's "permitted" ROW. The Department recommends that the Applicant make necessary arrangements with the Town, other Permitting Agencies and with individual landowners to allow for flexibility to install drainage features outside of the "permitted" ROW. In some cases, drainage easements may be required for off-ROW outlets. | |
| DEIS-0002-7 | Department of Agriculture and Markets | The proposed project includes the construction of approximately 6 miles of overhead 115 kV transmission line; much of it located in active agricultural fields. While the project drawings show the general transmission line route, they do not depict temporary, or off right-of-way access routes to the proposed transmission line ROW. Project drawings should be revised by the Applicant (prior to issuance of the FEIS) to indicate exact locations and routes where off ROW access will be located. This will allow Department Staff the ability to identify and assess potential impacts (if any) to active agricultural fields utilized for off ROW access. | Please see response to comment ID: DEIS-0002-2. |
| DEIS-0002-8 | Department of Agriculture and Markets | Drawing RP-SY-1 shows the switchyard access road crossing through what appears to be an active vineyard. In accordance to Department Guidelines, unique agricultural lands, i.e., specialty croplands, orchards, vineyards, etc. should be avoided. Avoidance routing should be explored in order to reduce or avoid permanent impacts (conversion to non-agricultural use) to the active vineyard from access road construction. | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-9 | Department of Agriculture and Markets | Some sections of the off right-of-way access roads are likely to utilize existing farm access paths. The majority of which are located along field edges that are typically utilized infrequently by the farm operator for field access. Unless the proposed off right-of-way access route is a well-defined farm road (i.e., heavily compacted, no vegetation, gravel or crushed stone surface etc.), topsoil stripping or timber matting shall be required. Unless "tractor paths" or "unimproved roads" appear like the farm driveway, they should be treated the same as an agricultural field. Anything that is determined to be a legitimate or clearly defined farm road should be restored to at least original condition. Under no circumstances should the right-of-way clearing crews or electrical contractor be allowed vehicle/equipment access onto or along agricultural fields (including field edges, or unimproved tractor paths) without first stripping the topsoil (or through the use of timber matting). All construction activities in agricultural fields, including equipment and vehicle access for clearing, shall be conducted on topsoil stripped or timber matted travel and work areas. If questions arise as to the designation of, or status of the proposed use of field edges, "unimproved roads", or "tractor paths" for vehicle and equipment access, the Department shall be notified and the area in question will be field reviewed by Staff and a mutual determination will be made prior to construction. | Please see response to comment ID: DEIS-0002-01. |
| DEIS-0002-11 | Department of Agriculture and Markets | At the end of construction on the transmission line, the ROW and respective work areas, including guying wire assembly and disassembly sites, shall be thoroughly cleared of construction debris such as nuts, bolts, spikes, wire, etc. | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-12 | Department of Agriculture and Markets | Page 1-17 of the DEIS discusses access road construction and the installation of culverts to "maintain a water table elevation below the base material to ensure roadbed stability". According to this Section, roadside ditches will be constructed as dictated by the terrain to convey stormwater runoff away from roadways. Culverts, fords, roadside ditches or other stormwater collection and conveyances should not be constructed so as to allow direct discharge into active agricultural fields. Culverts and other water conveyance devices should be designed and implemented to divert flows away from active agricultural areas into existing or new water conveyance systems (i.e., drainage ditches, grassed waterways, swales, diversion ditches or other appropriate water control structures). | Please see response to comment ID: DEIS-0002-2. |
| DEIS-0002-14 | Department of Agriculture and Markets | Section 2.4 discusses potential construction impacts on site soils. The section describes a 5- acre O&M facility for which a final location is unknown at this time. The DEIS states that the final location and impacts will be identified in the FEIS. Inclusion of this information in the FEIS does not allow the Department sufficient opportunity to thoroughly review the potential impacts to agricultural resources and provide additional comments (if necessary). As a result, the Department requests that potential locations be provided for review prior to the issuance of the FEIS. | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-19 | Department of Agriculture and Markets | Section 2.4.2 describes the potential for permanent impacts associated with project -related facilities on agricultural lands and the total acreage of prime farmland and farmland of statewide importance that will be permanently impacted by the proposed Project through conversion to non-agricultural uses. The consultant for the Applicant states that the conversion of these agricultural soils is "minimal and will not significantly affect these soil resources in the Towns and county". While these acreages may appear to be minimal to the DEIS preparer, facilities such as permanent gravel crane pads, junction boxes, guying wires, permanent access roads and, in some instances, improperly designed and implemented stormwater practices can present significant adverse affects to the long-term viability of farm operations in the Project area. Construction of these facilities can create serious impediments to established field cropping systems, field access and drainage patterns. These potential impacts should be included in this section and discussed in more detail in the FEIS. | Please see response to comment ID: DEIS-0002-2. |
| DEIS-0002-21 | Department of Agriculture and Markets | Section 2.4.3 discusses mitigation activities. The section states that impacts to agricultural lands will be minimized by restricting project ·equipment and access to the approved construction ROW. The Department requests that the Project Applicant provide a more detailed description of the anticipated methods intended to restrict equipment access to nonapproved (active agricultural) areas of the project site during construction. | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-25 | Department of Agriculture and Markets | Section 2.27.5 discusses the installation of collection system components. This section should include a more detailed description of the need for placement of collector system junction boxes in active agricultural fields. Because of the potential adverse impacts these junction boxes pose to the viability of farm operations in the project area, the Applicant should, to the fullest extent practicable, locate these above ground junction boxes outside of active agricultural areas. | Please see response to comment ID: DEIS-0002-2. |
| DEIS-0002-26 | Department of Agriculture and Markets | In Section 2.4.3, subsurface drainage is discussed. The Section states that "New subsurface drain lines will meet or exceed the condition of existing installed structures ... " In accordance with Department Guidelines, new subsurface drain lines shall be AASHTO M252 single wall drain line or equivalent and shall be installed in accordance with the applicable USDA Natural Resources Conservation Service (NRCS) Conservation Practice Standard for "Subsurface Drain" (608). F405 may not be used in agricultural lands for this drain tile application. Tile outlets shall be constructed of Schedule 80 PVC and steel animal guards should be installed far enough in the pipe to allow it to swivel up and let debris pass without exposing the animal guard beyond the pipe outlet. A "splash rock" should be installed beneath the pipe outlet to dissipate the erosive forces of the discharge water from the drain tile and to prevent additional scouring from occurring beneath the outlet. Installation of substandard materials may warrant the removal and replacement with the required materials identified above. Department field staff should be notified when existing subsurface drain lines are first encountered during construction and also be notified in advance to witness drain tile repair activities. | Please see response to comment ID: DEIS-0002-2. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-3 | Diana Robinson | Is their a guaranteed market for the power especially in light of lower oil/gas prices, new clean coal technology and the abundance of natural gas. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |
| DEIS-0004-4 | Diana Robinson | We are concerned that Noble was under investigation by NYS attorney general's office and also that the attorneys retained by Noble are "criminal case" attorneys. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |
| DEIS-0004-5 | Diana Robinson | What would happen if Noble sells out to another company? Is there any bond or assurance that the next company will be compliant to the original agreement? | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |
| DEIS-0004-15 | Diana Robinson | Additionally, it should be noted that T-4 is shown to be located within a 500 ft distance of a residence not shown on the master map and located on a property that is less than 50 acres. We were told by a Noble representative (Tim Marvich) that owners must have at least 50 acres to have a wind turbine. This is also the turbine of greatest concern to us being the closest for noise, causing the greatest degree of shadow flicker, and affecting our primary view. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |
| DEIS-0004-17 | Diana Robinson | *Mitigation .. the only realistic mitigation for us is setback distance due to noise, shadow flicker, health, primary view affected along with domination of the general landscape 360 degrees seven days a week for many years to come. Our particular property) due to our location being at the highest elevation on Round Top Rd and the openness surrounding our residence, will be adversely affected whether we remain as residents or choose to sell. I know of no other property in the project that will be affected as greatly as ours. It should also be noted prevailing winds come from the west of our house with the closest of turbines T2, T3, and T 4 in line with the prevailing winds and our home. | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-18 | Diana Robinson | *Setback for permanent residences should be reconfigured to .96 mile (5068 ft.) Note; Even for only half the distance or a .50 mile (2640 ft) the following turbines near our home would have to be disallowed: T-2 (2500 ft), T-3 (2000 ft), T-4 (1200 ft) T·5 (2000 ft), T-7 (1500 ft). | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-19 | Diana Robinson | *T-4 should not be allowable. There is a residence within 500 feet not shown on master map Figure 2.23 - 2 Setback Map. This is too close a proximity whether a seasonal or permanent residence. And, this property is less than a fifty acre parcel. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-20 | Diana Robinson | *Set back -distance for seasonal homes should be established due to health concerns, blade failure, ice on blades etc. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-21 | Diana Robinson | *Our frontage is incorporated within T-4's 1000 ft. setback circle. This would be a detriment to our building a home or selling lots along our road frontage. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-24 | Diana Robinson | * Research multiple options, such as the new wind silos, geothermal, etc. Obtain some competing studies for our township and then choose direction. | Section 1 of this FEIS outlines the proposed Project layout for this Project. |
| DEIS-0004-25 | Diana Robinson | • Negotiating - take plenty of time to ensure full compensation for a project that will drastically change our area for many years to come. There are always other options. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0005-1 | Kathryn McGraw | We are off-site Bartlett Hill Road property/home owners who will be directly impacted by the Ball Hill wind turbines. Specifically, T45 will be located only 1075' from our house and less than 1000' from other portions of our property according to information found on Noble's website. Having researched wind turbines and their impacts on nearby residents and having visited the Bliss windpark, it is our informed opinion that a minimum setback of 1000' is very inadequate. Our property will be impacted visually and by the noise and flicker associated with 400' wind turbines sited so closely.<br><br>We request that T45 be positioned further south so as to increase its distance from our house. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0006-2 | JD Robinson | My first comment or question/comment would be we live on Round Top and we have several turbines that are listed on the maps that we looked at in the books, but we find a discrepancy as to how many turbines would be across the road from us.<br><br>And we wonder if we can get that cleared up at some point, whether you know for sure, yourselves, or anyone here knows. | Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |
| DEIS-0006-7 | JD Robinson | Do we have a way of plans of transitioning from one company to another should Noble go into bankruptcy or they just want to sell out to another company where the things that have been planned out carry across to the next company? | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "The law that was passed by this town requires that they get approval for any transfers of the company and the basic requirement is that the new company assume the obligations of the old. For the decommissioning for the security. It's up to them to propose something. Usually it's a bond, but it could be a letter of credit." The updated Project Decommissioning Plan is included in the FEIS as Appendix R. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-8 | JD Robinson | The next question is, the snowmobile trails. We have one that runs the perimeter of the back of our property, around the 50 acres that we own and comes out towards the front. I just wanted to know what the effect is here with the turbines, whether there is a setback distance to the trails or snowmobile riders. I know we talked at the last meeting, we mentioned about ice coming off the turbine blades and even a possibility of the failure. And these things run through the woods, I assume ii would be, you know, all season. | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "The law [wind law] does not have a setback requirement for the snowmobile trails." This FEIS presents the updated Project layout for Town and public review. Ball Hill provided an updated Ice and Blade Throw Analysis in the Amended Application to the Town of Villenova in September 2016, which states that "Implementation of best practices safety procedures during operation of the wind farm can reduce the risk of ice throw, including, but not limited to: visual inspections, de-icing and anti-icing systems, regular and routine maintenance by full-time turbine technicians assigned to wind farm operations, curtailment of turbines in hazardous conditions, educating staff/landowners on specific weather conditions and associated throw risks, standard safety protocols where icing is imminent, and public safety warning signs near public areas and project boundaries." The buildup of ice on the blades impacts the ability of the turbine to function as designed. The weather conditions and decreased turbine performance will be observed in the SCADA center and the identified turbine or turbines will be adjusted to avoid or minimize both ice throw and damage to the turbine itself. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-11 | JD Robinson | We have a view of Prospect, Pope Hill, and then we're on Round Top, so we're going to be surrounded. So we're going - the back of our house, we look out and we see Pope Hill and Prospect. They are farther away from Round Top. But on Round Top we look out the front, we're going to be surrounded by them. You know, people would say you are for it and we are for this project. But, you know, they are going to say, well , they might say, yeah, but not in your backyard, right? It's not just our backyard, it is our front yard, our side, it's 360 degrees for us plus the flicker effect. Se we are definitely concerned about it, especially what's going to be across the street from us, the five or six turbines. And again, too, we're year round residents. Some people that own property that will maybe have turbines maybe are not even full-time residents. They are just here and gone off for hunting, whatever. So I guess that's pretty much the gist of it for us. We tend to object to the turbines across the road from us on the west side. The rest of the Project I think we could live with but that kind of sums it up for us. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment of this FEIS. |
| DEIS-0006-22 | Dana Bennett | Another thing I have, now this is from the Internet, something that Glen Cramer, a councilman from Sheldon, had mentioned. l don't know who did the wind farm out there (Invenergy). But it said that they brought in 2,000 loads of industrial waste from Bethlehem Steel and worked it into the thousands of other loads of crushed stone. I want to know, did that happen? Can that happen here? | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |
| DEIS-0006-24 | Diana Ermer | I had heard that there is something -- that Noble was being investigated by the Attorney General's office of New York State. Do you know anything about that. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-27 | Nadine McCarthy | It was just the -- about the noise and people don't like what they look like. The generators. l just -- I had a lot of questions and what the revenue was going to be from them.<br>And actually the first fellow that I talked to, I got different answers from him than the second person that came around. And the second person when I told him, what about ~- well, you're way lower than the first guy. He shook his head and said, well, we don't have those kind of turbines up there. Those are bigger ones that are going to generate that kind of revenue. So it was like, I'm thinking, you guys are not on the up and up. You seem like you are kind of scamish or something and you are already out of the Fredonia office, so from -- And then when we make phone calls, you don't get return calls. And you hear the beep on the answering machine that they must have several. And then the response is, when you do get a call back, well, I'm busy going around on other projects. I don't like as a business how they deal with people and the landowners. And, again, there's specific landowners that have to deal with this and J think they should be compensated somehow. And whoever said the fair - the good neighbor agreement or something just because you're being inconvenienced. And not to be compensated, l think is wrong. And the people who are pushing for it, don't see that. Their properties are not affected by it other than the fact they might get a tax break or something, but they are not dealing with these things right in their back door. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns.<br><br>As detailed in Appendix J, Sound Level Assessment Report, of this FEIS sound produced by the wind turbines may be audible at times, but would be within the sound-level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-28 | Robert Barnes | I'm Robert Barnes. I live on Pope Hill Road. I would say for probably 15 years we love our farm. We love the area. And I can tell some of the people that we're -- we're -- I researched it for about a year because our property is included. so -- and it sounds like the Town will be making a little bit more than us, which is fine, you know, because they disburse it around. And another reason I was glad about this was because, not apart from money, but aesthetically a lot people don't think about this, but I lived in West Valley for 14 years and all the farms there were cut up into little parcels. And everyone has a dog. Everyone has got noisy cars. And this will actually really benefit all the fanners becau.se you'll have a little bit extra income and it is hard to make.-- I'm trying to make money as a fanner. And all my neighbors are trying to make money as fanners. We won't have to sell off five acres to pay the taxes. Taxes in New York State, for the same sized farm, they are $850 for 150 acre farm for the school and the Town tax-es. And out here, I won't have to tell you that it will probably be a lot more than that. Ten times that. All the· farm that I've talked to, not just including this one, but they are all very happy for it. Even people who have lived in the country a long time, I know that people -- it sounds like the people that lived in the city that came out here are the ones that are opposed. But the people that, you know, were born and bred here, you know, just keep that in mind. It's actually going to help keep the landscape fanning. And they are not very close together. I've been to Bliss. I have a hard -- you can usually only see -- just a few places you can see more than ten at that time. | Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project facility locations. Ball Hill is responsible for negotiating lease agreements with property owners on whose properties project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective Towns. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-29 | William Eaton | I'm William Eaton. I am from Cattaraugus. I own property up here on the Villenova Road and Round Top Road, 120 acres. I am wondering if they acquired the transfer line property that goes out to the transfer station? Has it been sited for the roadways that go to the turbines? ls there a map that's been produced for roadways that go to the turbines? Where would l get that? | Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. Ball Hill is responsible for negotiating lease agreements with property owners on whose properties project facilities will be constructed. |
| DEIS-0006-33 | Christine Easterly | Christine Easterly. I live over on Dybka Road. Why Round Top? Why out of all the areas -- why a north hill versus south hill? I get just as much wind up there as I am sure they get up on that Hill | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |
| DEIS-0006-34 | Unidentified | Maybe what I can say is.. they are worried because their hill is being ignored, but one hill at a time. I've heard rumors of a possible project going on the other side of the valley so, but just because Pope Hill has it or some of Round Top has it, doesn't mean they won't someday in the future want to put windmills on another hill. | The 2016 SDEIS and this FEIS address cumulative impacts from this Project and other wind farms in the surrounding area. For additional details see Section 4 of the 2016 SDEIS and Section 1.4.16 of this FEIS. |
| DEIS-0006-35 | Dana Bennett | ls there going to be a point where Chautauqua County is going to say that's enough wind turbine projects and stuff like that? I mean, because a big basis on Chautauqua County is tourism. You know, how is this going to affect tourism? And is there going to be a point where Chautauqua County is going to say we have enough? | Mr. Spitzer responded directly to this comment during the October 30, 2008 public hearing and stated: “The way New York State Law currently works is zoning is handled solely at the local level and the County does not have veto power.” |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Socioeconomics** | | | |
| DEIS-0002-1 | Department of Agriculture and Markets | The Executive Summary states that "The minimal loss of productive agricultural land will be offset by the financial benefits the landowners will obtain from payments they will receive from Noble for their participation in the Project". Although funds received by the landowner (farmer) may benefit the current agricultural enterprise, monetary compensation does not constitute a valid justification for the permanent loss or conversion of agricultural land. In most cases, monetary compensation will not prevent permanent conversion of agricultural land to a non-agricultural land use. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017 and has, to the maximum extent practicable, limited impacts on agricultural land with micrositing practices. NYSDAM did not provide public comment on the 2016 SDEIS. In addition, Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |
| DEIS-0004-1 | Diana Robinson | Is adequate amount of bond money being required per tower for tear down costs? We do not believe $20, 000 per tower will be adequate for the future even with recycling of parts, say 10·20 years from now. | The updated Project Decommissioning Plan is included in this FEIS as Appendix R. |
| DEIS-0004-2 | Diana Robinson | Will Noble be able to get adequate financing to complete the project in today's economic climate? The company that is doing their financing, Babcock & Brown is understood to be struggling. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-8 | Diana Robinson | The change to home and property value is also of greater concern for us. | An assessment of the potential effects of the Project on property values from a wind project is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |
| DEIS-0004-10 | Diana Robinson | This along with the noise and health affects will be a great detriment to us in the enjoyment or sale of our property considering the number and close proximity of proposed turbines. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-16 | Diana Robinson | At this time in the process we have no assurance of any benefit for us or the community in general. We ask you not to come to an agreement too quickly, but to ensure the community is duly compensated for this major und~ We hope that the community in general will be compensated with taxes eliminated I paid or such as was done for the community in Eagle. This will help somewhat with property value concerns. All people in the community and especially those permanent residents in the wind park area will be greatly affected by this project and should be compensated proportionately. All the community of owners must benefit reasonably from this project! | Thank you for your comment. |
| DEIS-0004-21 | Diana Robinson | *Our frontage is incorporated within T-4's 1000 ft. setback circle. This would be a detriment to our building a home or selling lots along our road frontage. | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project Facilities. |
| DEIS-0004-22 | Diana Robinson | *All community property owners must benefit since all would be affected, whether "signed on" with Noble contracts or not. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| DEIS-0004-23 | Diana Robinson | * Permanent residents be given commensurate consideration and benefit. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective Towns. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-25 | Diana Robinson | • Negotiating - take plenty of time to ensure full compensation for a project that will drastically change our area for many years to come. There are always other options. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| DEIS-0006-4 | JD Robinson | In lieu of the economy and the things that are happening now with the banks going out of business, you know, the financing just in turmoil, is this project something the financing has already been secured? Could it have - have we looked at the possibility that it may just change all of a sudden over the next year when they just start building? Is that money actually going to be there for the duration to complete the project? I was wondering how secure it was that they would have the financing or if they could even offer that at this point. Do they have a backup plan is maybe what I should be asking. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-6 | JD Robinson | Just to comment also in conjunction with the finance, financibilities of what's going on. In talking with the attorney, he talked about oil, gas prices being so much lower. Does it make sense to do turbines? Tax credits that either Noble is depended on bond and the guaranteed market for power? Those -- those are some of the other factors of the economy that should be considered. Especially for them, but also for us. Does it make it a viable project? | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "We don't have a right to say yes or no to any business based on the economics. The fact of the matter is, I hear these things at hearings all the time. Gee, these things don't make money. Nobody builds a two hundred million dollar project that isn't intended to make money... If you're looking at these projects in terms of whether they make sense, the fact of the matter is that New York State has said it wants renewable energy and will pay more for renewable energy and that's really what's driving the wind energy industry in New York. So even if the Town really thought that this is a terrible time to build this kind of project, it is not our call. What we can look at is, what are the economic, environmental, and social impacts together. The project may finish environmental review and then never get built. It's not the Town's responsibility to have a Plan B." This FEIS presents the updated Project layout for Town and public review. |
| DEIS-0006-10 | JD Robinson | Our feeling on the community as a whole benefiting, we're hoping that there is something that is there for all the community, not necessarily just the people who have been able to have the turbines.<br><br>It does affect the whole community. I wonder if anything had been secured or determined in that direction. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| DEIS-0006-17 | Dana Bennett | Another question I have, you said it was a 200 million dollar project. Percentage-wise, what of that is coming from the Federal and from the State? | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "None of it will come from federal of state. All the credits will be paid based on generation." |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-18 | Dana Bennett | $8,000 per mW - is that what the towns are looking at - or the county is looking at getting per tower. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| DEIS-0006-19 | Dana Bennett | As far as being split, how much will actually go to our community? | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "The IDA fee is totally separate that the offers of money to the community. And how much each town, school, and community gets, that's the subject of - basically arm wrestling that is ongoing as to how the entities will split it up." |
| DEIS-0006-20 | Howard Crowell | Down in Castile, they did away with the taxes after their windmills were put in their township. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective Towns. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-21 | Dana Bennett | Another thing I want to bring up is, Noble says it will not negatively effect property values. I really don't see how that can happen. If I go to sell my house, I'm going to have a number of people come to look at that. A certain number of people are going to be turned away because they don't want to live next a wind farm, you know? So fewer people, that means the price of that house is going to go down to sell it. | An assessment of the potential effects of the Project on property values from a wind project is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence which would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |
| DEIS-0006-25 | Norris Nobles | I was wondering, I have always been a union man. Are you using jobs? Using the union or union labor? | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017 and intends to utilize the local labor force to the maximum extent practicable. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-26 | Nadine McCarthy | My name is Nadine McCarthy and I live in Forestville, but I also own property on Round Top. So I agree with this gentleman with the lack of notification to landowners;. I also agree with his concerns for the visual impact because I too brought - bought the property because I loved the view and just the nature up there. And I rode to Bliss. And I didn't like how it looked and it was very upsetting 10 me. And some of my concerns too are more directed towards Noble which I don't have to get into tonight, but when I did address some of my concerns and ask questions, well, the response was always, go to Bliss or Arcade. I'm thinking, well, take me there or something. You know, don't just throw that out. That's not the way -- you don't deal with people that way, if you're on the up. I don't know. For a business, I thought that was kind of a poor approach or response. If the community benefits, that's a great thing. But yet, again, my concern was that this wasn't my intention for the property to look at what I'm going to have to be looking at and dealing with. So it's a disappointment to me that way and I hope down the line if I have to sell the property, I can sell it and benefit from the sale, but right now I am very disappointed. And I was hoping to retire up there and enjoy it. But at this point in time I don't think that was going to happen. I don't have anything else to say, but I just wanted to agree with him. | Please see response to comment ID DEIS-0006-12 for details on the public participation effort for the 2016 SDEIS. Copies of the public notices are included in this FEIS in Appendix T, Public Participation. The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment of this FEIS. In addition, an assessment of the potential effects of the Project on property values from a wind project is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad-based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-27 | Nadine McCarthy | It was just the -- about the noise and people don't like what they look like. The generators. I just -- I had a lot of questions and what the revenue was going to be from them. And actually the first fellow that I talked to, I got different answers from him than the second person that came around. And the second person when I told him, what about ~- well, you're way lower than the first guy. He shook his head and said, well, we don't have those kind of turbines up there. Those are bigger ones that are going to generate that kind of revenue. So it was like, I'm thinking, you guys are not on the up and up. You seem like you are kind of scamish or something and you are already out of the Fredonia office, so from -- And then when we make phone calls, you don't get return calls. And you hear the beep on the answering machine that they must have several. And then the response is, when you do get a call back, well, I'm busy going around on other projects. I don't like as a business how they deal with people and the landowners. And, again, there's specific landowners that have to deal with this and J think they should be compensated somehow. And whoever said the fair - the good neighbor agreement or something just because you're being inconvenienced. And not to be compensated, l think is wrong. And the people who are pushing for it, don't see that. Their properties are not affected by it other than the fact they might get a tax break or something, but they are not dealing with these things right in their back door. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns. |
| **Visual Resources** | | | |
| DEIS-0001-13 | Public Service Commission | Manufacturer's cut sheets should be provided, which specify lighting illuminance levels and pattern, and which list features as discussed above regarding light cutoff, shields, and optic criteria. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-27 | New York State Department of Environmental Conservation | **Visual resources.** DEC Visual Policy, *Assessing and Mitigating Visual Impacts*, DEP-00-2, July 31, 2000, defines an aesthetic impact as that which occurs when there is a detrimental effect on the perceived beauty of a place or structure identified as a significant scenic or aesthetic resource. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. For each potentially affected resource identified, a determination should be made as to whether visibility of one or more turbines result in diminished public enjoyment or appreciation of the resource, or impairs its character or quality. This determination should be made on the basis of existing visual settings of the inventoried resource and the likelihood that visibility of the proposed project will compromise the existing setting and diminish public enjoyment of that resource. | The updated Project and potential impacts (including an updated VRA, see Appendix I of this FEIS) were outlined in the SDEIS, which the NYSDEC submitted public comment on. The updated Project has considered these and a direct response to NYSDEC's comment on the SDEIS is in Table 2.4-1. |
| DEIS-0003-28 | New York State Department of Environmental Conservation | While visual simulations were accomplished from resources of statewide significance within the APE, simulations should also be considered, if visual impacts are judged to be probable, for trail overlooks within the Harris Hill State Forest, from Evangola State Park, and from the Seaway Trail. These locations are of high importance to the public and could be potentially impacted by the project. | Please see response to comment ID 0003-27. |
| DEIS-0003-29 | New York State Department of Environmental Conservation | In accordance with DEC Visual Policy, screening should be considered as an option to mitigate visual impacts. Direct mitigation options, when feasible, should be applied such as screening or selective turbine relocation. Offsets should be employed when other types of mitigation would be uneconomic or only partially effective. | Please see response to comment ID 0003-27. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-6 | Diana Robinson | The change to the landscape and aesthetics will affect us daily. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment of this FEIS. |
| DEIS-0004-9 | Diana Robinson | Additionally, we would be subjected to the highest degree of visual impact, 360 degrees from any window or viewpoint around the house, front yard, back yard and side yard due to the openness and position of our property. Unfortunately, we would also be subjected to a very significant amount of flicker during sunrise. I'm.4 sunsets too. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |
| DEIS-0004-11 | Diana Robinson | These thirteen wind turbines, would be in our line of sight; adding noise, dominating the view whichever way we look. Twelve of these thirteen wind turbines would be close enough to have a multiple audible affect The closest would be just over 1000 ft. Many more would only be 1500 to 4000 ft. distance. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |
| DEIS-0004-17 | Diana Robinson | *Mitigation .. the only realistic mitigation for us is setback distance due to noise, shadow flicker, health, primary view affected along with domination of the general landscape 360 degrees seven days a week for many years to come. Our particular property) due to our location being at the highest elevation on Round Top Rd and the openness surrounding our residence, will be adversely affected whether we remain as residents or choose to sell. I know of no other property in the project that will be affected as greatly as ours. It should also be noted prevailing winds come from the west of our house with the closest of turbines T2, T3, and T 4 in line with the prevailing winds and our home. | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-5 | JD Robinson | Where we're located, we've got turbines going up in the sunset area of the front porch. It will even be multiple turbines across the road from us. My wife's looked through the initial study, through the books, and there's a flicker effect. And she saw that it's rated the highest - it was up to 40. Well, it was greater than 40. Who knows what greater than 40 is. But it's 1200 feet away from us and the view of the sun. We're not real happy about that. We're just wondering what the actual amount would be rather than greater than 40. Can we get an actual amount? A real time estimate of what it would be? | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |
| DEIS-0006-11 | JD Robinson | We have a view of Prospect, Pope Hill, and then we're on Round Top, so we're going to be surrounded. So we're going - the back of our house, we look out and we see Pope Hill and Prospect. They are farther away from Round Top. But on Round Top we look out the front, we're going to be surrounded by them. You know, people would say you are for it and we are for this project. But, you know, they are going to say, well , they might say, yeah, but not in your backyard, right? It's not just our backyard, it is our front yard, our side, it's 360 degrees for us plus the flicker effect. Se we are definitely concerned about it, especially what's going to be across the street from us, the five or six turbines. And again, too, we're year round residents. Some people that own property that will maybe have turbines maybe are not even full-time residents. They are just here and gone off for hunting, whatever. So I guess that's pretty much the gist of it for us. We tend to object to the turbines across the road from us on the west side. The rest of the Project I think we could live with but that kind of sums it up for us. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-13 | Dana Bennett | I moved into the area eight years ago from Tonawanda. I wanted to get out of the city and now all of a sudden the city's following me out here. It's -- I've done some research into it. I tried to go into it with an open mind. The more l look into it, the more l don't want it there. And like I said, everybody has a right to their opinion. I do too. Like I said, the one thing is a major visual impact. According to your books, from my house I'll be able to see 42 out of the 60 turbines. The closest one will be just a hair over half a mile from my house. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |
| DEIS-0006-15 | Dana Bennett | I don't believe this blends with the country atmosphere that we have out here. The reason that I moved out here. Even in the ad when I bought my house, it mentioned the beautiful views. That's why I bought my house. That's what brings me peace and happiness at my house and this is going to drastically change that. Whether you are for it or against it, it's going to drastically change. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |
| DEIS-0006-16 | Dana Bennett | I believe that a person has the right to do what they want with their property until it crosses the line of how somebody else can enjoy their property. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-26 | Nadine McCarthy | My name is Nadine McCarthy and I live in Forestville, but I also own property on Round Top. So I agree with this gentleman with the lack of notification to landowners;. I also agree with his concerns for the visual impact because I too brought - bought the property because I loved the view and just the nature up there. And I rode to Bliss. And I didn't like how it looked and it was very upsetting 10 me. And some of my concerns too are more directed towards Noble which I don't have to get into tonight, but when I did address some of my concerns and ask questions, well, the response was always, go to Bliss or Arcade. I'm thinking, well, take me there or something. You know, don't just throw that out. That's not the way -- you don't deal with people that way, if you're on the up. I don't know. For a business, I thought that was kind of a poor approach or response. If the community benefits, that's a great thing. But yet, again, my concern was that this wasn't my intention for the property to look at what I'm going to have to be looking at and dealing with. So it's a disappointment to me that way and I hope down the line if I have to sell the property, I can sell it and benefit from the sale, but right now I am very disappointed. And I was hoping to retire up there and enjoy it. But at this point in time I don't think that was going to happen. I don't have anything else to say, but I just wanted to agree with him. | Please see response to comment ID DEIS-0006-12 for details on the public participation effort for the 2016 SDEIS. Copies of the public notices are included in this FEIS in Appendix T, Public Participation. The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. In addition, an assessment of the potential effects of the Project on property values from a wind project is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence that would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the viewshed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind farms have been developed that no broad-based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-27 | Nadine McCarthy | It was just the -- about the noise and people don't like what they look like. The generators. I just -- I had a lot of questions and what the revenue was going to be from them. And actually the first fellow that I talked to, I got different answers from him than the second person that came around. And the second person when I told him, what about ~- well, you're way lower than the first guy. He shook his head and said, well, we don't have those kind of turbines up there. Those are bigger ones that are going to generate that kind of revenue. So it was like, I'm thinking, you guys are not on the up and up. You seem like you are kind of scamish or something and you are already out of the Fredonia office, so from -- And then when we make phone calls, you don't get return calls. And you hear the beep on the answering machine that they must have several. And then the response is, when you do get a call back, well, I'm busy going around on other projects. I don't like as a business how they deal with people and the landowners. And, again, there's specific landowners that have to deal with this and J think they should be compensated somehow. And whoever said the fair - the good neighbor agreement or something just because you're being inconvenienced. And not to be compensated, l think is wrong. And the people who are pushing for it, don't see that. Their properties are not affected by it other than the fact they might get a tax break or something, but they are not dealing with these things right in their back door. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective Towns. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-32 | Diana Ermer | Diana Ermer again. I may have - we moved here a little over nine years ago, but I'm not a city person. I just want to clarify that. I'm not a native from Villenova, but I've always lived in the country and grew up on the farm and I don't want to sound, you know, like a nimby, not in my backyard, but that's - I just wanted to let people know that. I mean, we moved out- we loved the view. We loved the house. We fell in love with it sitting on the front porch the day we came to look at it. I've always lived in the country, but I lived in the flatlands. And I loved that when I came out here, I was like, oh, this is so beautiful. I can see the lake, I can, you know, it was just like heaven. But anyway - just - I'm not a city person. Not that there's anything wrong with city people moving out, but just to kind of let them know that. | The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. |
| **Soils** | | | |
| DEIS-0001-10 | Public Service Commission | The Transmission Line Plan and Profile figures (as well as wetland and stream location figures in Appendix G) do not indicate locations of access roads for construction of the transmission facilities. Streams, ravines, wetlands and other features appear to create impediments to continuous through-access along the transmission line right-of way. Access road locations, including off-right-of-way locations should be specified. Appropriate consideration of clearing, wetland fill, stream crossings, agricultural land practices, soils and slopes constraints, as well as erosion control and site stabilization measures for the access roads should be addressed within the EIS. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-5 | Department of Agriculture and Markets | Section 1.2.2 discusses the installation of underground electrical collection lines and Right of-Way (ROW) widths. ROW widths will range between 22 feet for one circuit to up to 60 feet where four circuits will be installed in parallel. The Applicant proposes that the buried cables be installed along proposed access roads within a 60-foot ROW. Drawing No. BH-E- 103 (Typical Underground Trench Alignment) depicts collection schematic drawings. The schematics for three and four circuits show a "1 0-foot Buffer Work Access". Based on the Department's observations of construction activities on the Applicant's Wethersfield Windpark, greater ROW widths will be required in locations. Specifically, additional work space (ROW widths) will be required for the temporary stockpiling of topsoil. A ten- foot width linear temporary workspace is not adequate for the temporary storage (stockpiling) of topsoil removed to a minimum 8-inch depth from a 50-foot ROW. Linear topsoil stockpiles shall be appropriately coordinated with the placement/installation of underground collector cables (including other potential underground utilities) installed adjacent to access roads. Wider ROW widths will eliminate the need to handle stockpiled topsoil more than once; thus reducing the potential for additional soil resource impacts including top-soil/sub-soil mixing and soil compaction. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017 and has, to the maximum extent practicable, limited impacts on agricultural land with micrositing practices. NYSDAM did not provide public comment on the 2016 SDEIS. In addition, Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |
| DEIS-0002-6 | Department of Agriculture and Markets | Section 1.2.2 discusses the installation of "ditch plugs" in wetlands for the purpose of preventing migration of shallow groundwater in linear excavations. Trench breakers are typically installed for the dual purpose of preventing trench washouts during construction and abating water piping and "blowouts" subsequent to trench backfilling. In this case, the installation of trench breakers in buried collector line trenches is critical due to the fact that the Project site is dominated by dense | Please see response to comment ID: DEIS-0002-5. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | glacial till and glacio-lacustrine soils. Penetration (excavation) will create a subsurface drainage envelope along the linear expanse of the trench unless such flows are alleviated or removed via miificial drainage from the trench. Thermal sand used as bedding will further exacerbate this condition. Because of this, the applicant should install trench breakers in agricultural fields in accordance with the spacing intervals as detailed on the Sample Drawing A-12 "Trench Breaker Spacing" (Attached). The Project Applicant shall also record each installed trench breaker location by map referenced station number. In agricultural lands, the top of trench breaker will not be closer than two feet from the restored surface. Additional subsurface drainage may be required following installation of buried electrical collector cables to effectively convey trench water to a stable surface outlet<br>(see #26 below). Electrical collector cable runs will require close monitoring for evidence of seeps and waterboils during the 2-year monitoring period.<br><br>Because of the proposed method of buried electrical collector cable installation (trenching), and the inherent difficulties associated with the installation of trench breakers during cable installation, the Department recommends that the Project Applicant closely monitor the toe of slope areas in agricultural fields for wet areas or signs of seeps and water boils in cases where trench water is exfiltrating to the ground surface. If encountered, new interceptor drain lines should be installed in order to alleviate wet areas. The Applicant should make necessary provisions for post-construction drainage repairs in agricultural fields. Because of potential limitations on slope, topography and other surface features, it may be necessary to install drainage structures and correspond- | |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | ing outlets in locations outside of the Applicant's "permitted" ROW. The Department recommends that the Applicant make necessary arrangements with the Town, other Permitting Agencies and with individual landowners to allow for flexibility to install drainage features outside of the "permitted" ROW. In some cases, drainage easements may be required for off-ROW outlets. | |
| DEIS-0002-10 | Department of Agriculture and Markets | Where temporary access is necessary across agricultural portions of the transmission line ROW, topsoil shall be removed including the entire "A" horizon down to the beginning of the subsoil "B" horizon. All topsoil that is stripped shall be stockpiled and separated from other subsoil, woody debris and other excavated or construction materials. All topsoil must be stripped, stockpiled and uniformly returned (following subsoil decompaction and rock picking) to restore the original soil profile. Installation of matting shall be allowed as an alternative to topsoil stripping. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-14 | Department of Agriculture and Markets | Section 2.4 discusses potential construction impacts on site soils. The section describes a 5- acre O&M facility for which a final location is unknown at this time. The DEIS states that the final location and impacts will be identified in the FEIS. Inclusion of this information in the FEIS does not allow the Department sufficient opportunity to thoroughly review the potential impacts to agricultural resources and provide additional comments (if necessary). As a result, the Department requests that potential locations be provided for review prior to the issuance of the FEIS. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-15 | Department of Agriculture and Markets | Section 2.4 discusses potential construction impacts on site soils including rutting and compaction of agricultural soils. The Applicant identified soil types which are prone to rutting and compaction. The Applicant should | Please see response to comment ID: DEIS-0002-5. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | identify (graphically depict on Project drawings) these soil types so that construction practices can be adapted accordingly by construction crews in the field. These impacts can be avoided by stripping topsoil or matting the construction area where heavy equipment has the greatest potential to adversely impact agricultural soils. The Department recognizes that at times it may be necessary to account for landowner preference when determining the level of disturbance including topsoil stripping (Example: installation of a single circuit buried electrical collector cable or setting of a single transmission pole in an isolated field corner). However, based on the Department's experience, long-term impacts from soil mixing and compaction are far greater than the temporary disturbance associated with the normally accepted construction and restoration sequence on agricultural soils. Temporary impacts to crop production from topsoil protection measures pose a far less long-term viability impact to a farm operation than do impacts from soil mixing and compaction. Crop loss considerations with landowners should be utilized for losses in crop production associated with topsoil protection measures. Noble's Project Development staff and Agricultural Monitor(s) should take a proactive role in explaining to Project participants (landowners) the need and benefits of performing topsoil protection measures in agricultural fields. If there are areas of the project site whereby topsoil protection measures will not be implemented in agricultural fields, the Department requests that the Project Applicant or the Agricultural Monitor notify Department staff and identify those areas for field review prior to commencing construction or ROW clearing activities. The Department will review each identified location on a case-by-case basis, consult with the affected farm landowner or farm operator (if neces- | |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | sary) and a mutual determination will be made. | |
| DEIS-0002-16 | Department of Agriculture and Markets | Section 2.4 also discusses rock picking following decompaction. This section describes the removal of rocks which are "introduced during grading or trenching". This section should be revised to reflect proper agricultural restoration sequencing by stating that rocks 4-inches in diameter and larger that are uplifted to the subsoil surface as a result of subsoil decompaction will be removed prior to the replacement of topsoil. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-17 | Department of Agriculture and Markets | Table 2.4-1 indicates that 92.84 acres of the proposed facility areas may encounter soils having a shallow depth to bedrock. Has this information been identified relative to Project facilities, i.e., the identification of shallow soils at specific turbine foundation sites and buried electrical collector line routes? Will this information be made available to field personnel? If so, the Applicant should describe how this information will be effectively conveyed to field personnel during construction.<br><br>On agricultural land, ripped or excavated bedrock, boulders and concentrations of excavated stone or rock materials should not be returned to the excavation or trenches any closer than 24-inches from the exposed (subsoil) work surface of the stripped portion of right-of-way. The remainder of the backfill should be limited to suitable subsoil material, backfilled up to the top of the exposed work surface. Excess waste rock/stone materials should be removed from active agricultural areas. | Please see response to comment ID: DEIS-0002-5. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-18 | Department of Agriculture and Markets | Section 2.4.2 discusses project facility impacts. Specifically, .06% of soils in the Project Area will be permanently impacted at proposed turbine locations. Does this percentage take into account the proposed sixty 140-foot by 40-foot permanent gravel crane pads to be left in place and has a separate percentage been calculated and included for the proposed pad mounted junction terminals associated with buried electrical collector system tie-ins? | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-19 | Department of Agriculture and Markets | Section 2.4.2 describes the potential for permanent impacts associated with project -related facilities on agricultural lands and the total acreage of prime farmland and farmland of statewide importance that will be permanently impacted by the proposed Project through conversion to non-agricultural uses. The consultant for the Applicant states that the conversion of these agricultural soils is "minimal and will not significantly affect these soil resources in the Towns and county". While these acreages may appear to be minimal to the DEIS preparer, facilities such as permanent gravel crane pads, junction boxes, guying wires, permanent access roads and, in some instances, improperly designed and implemented stormwater practices can present significant adverse affects to the long-term viability of farm operations in the Project area. Construction of these facilities can create serious impediments to established field cropping systems, field access and drainage patterns. These potential impacts should be included in this section and discussed in more detail in the FEIS. | Please see response to comment ID: DEIS-0002-5. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-21 | Department of Agriculture and Markets | Section 2.4.3 discusses mitigation activities. The section states that impacts to agricultural lands will be minimized by restricting project ·equipment and access to the approved construction ROW. The Department requests that the Project Applicant provide a more detailed description of the anticipated methods intended to restrict equipment access to non-approved (active agricultural) areas of the project site during construction. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-22 | Department of Agriculture and Markets | Page 2-23 of the DEIS discusses restoration timing in agricultural fields. Any topsoil handling, soil restoration activities (specifically decompaction and topsoil replacement activities conducted after October 1 and prior to May 1) should be coordinated with the Department following favorable Atterberg soil test (soil plasticity) results. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0002-23 | Department of Agriculture and Markets | Page 2-25 of the DEIS discusses impacts to topsoil and subsoil. A general discussion of restoration sequencing through agricultural lands is presented. The last paragraph states that soil decompaction will be conducted prior to topsoil replacement. This paragraph should be revised to include the removal of rocks 4-inches or greater following subsoil decompaction (prior to topsoil replacement). | Please see response to comment ID: DEIS-0002-5. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Safety** | | | |
| DEIS-0001-3 | Public Service Commission | The location of steel gas pipelines should be determined when planning the location of wind turbines and grounding systems, and electric collection and transmission lines. The DEIS identifies major gas transmission facilities, but does not identify the location of gas gathering lines. (See Fig. 2.23-3 -- Setbacks from Utilities.) Appropriate\ avoidance and mitigation measures to avoid induced voltages and lightning protection system grounding issues should be developed in project layout and detailed design.<br>This is information that DPS requested in comments on the scope of studies appropriate for the project (as indicated at DEIS Appendix D, page D-87). | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0002-11 | Department of Agriculture and Markets | At the end of construction on the transmission line, the ROW and respective work areas, including guying wire assembly and disassembly sites, shall be thoroughly cleared of construction debris such as nuts, bolts, spikes, wire, etc. | Please see response to comment ID: DEIS-0002-5. |
| DEIS-0004-10 | Diana Robinson | This along with the noise and health affects will be a great detriment to us in the enjoyment or sale of our property considering the number and close proximity of proposed turbines. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-12 | Diana Robinson | According to study done by Nina Pierpont· Wind Turbine Syndrome: Noise, Shadow Flicker, and Health (8-1-06). posted July 26th, 2008 in Articles by Nina Pierpont. She gives reference to the Ellenburg, Clinton, and Altona Wind Energy Facilities Ordinances which are questionably considered wind turbine "industry standards," and to the NYS DEC, and WHO (World Health Organization) who have differing standards. There may not be legal requirements on many factors related to wind turbines, but health and wellness consideration must take priority. Problems sited are: sleep problems, headaches, dizziness, nausea, exhaustion, anxiety, anger, and the list goes on. Chronic sleep problems being the number one concern. | Please see responses to comment IDs: DEIS-0004-08 |
| DEIS-0004-13 | Diana Robinson | The Academy of Medicine of France has recommended a minimum of 1.5km (. 96 mile) setback due to noise and health issues. All thirteen turbines listed above except T-20 are closer than the . 96 mile recommended. From the Lincoln Township, WI., Study on Shadow Flicker ... a setback of one mile was determined. Again as with the findings of The Academy of Medicine of France, approximately a one mile setback is needed for health related reasons | Please see responses to comment IDs: DEIS-0004-08 |
| DEIS-0004-14 | Diana Robinson | For Noble to offer action such as "adding curtains to the windows" as was suggested by a Noble employee would add insult to injury. The proposed configuration of wind turbines would subject us to shadow flicker during both sunrise and sunsets. The only realistic mitigation measure is setback distance for both noise and shadow flicker in avoiding all health concerns. | Please see responses to comment IDs: DEIS-0004-08 |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-15 | Diana Robinson | Additionally, it should be noted that T-4 is shown to be located within a 500 ft distance of a residence not shown on the master map and located on a property that is less than 50 acres. We were told by a Noble representative (Tim Marvich) that owners must have at least 50 acres to have a wind turbine. This is also the turbine of greatest concern to us being the closest for noise, causing the greatest degree of shadow flicker, and affecting our primary view. | Please see responses to comment IDs: DEIS-0004-08 through 2008DEIS-0004-10. |
| DEIS-0004-17 | Diana Robinson | *Mitigation .. the only realistic mitigation for us is setback distance due to noise, shadow flicker, health, primary view affected along with domination of the general landscape 360 degrees seven days a week for many years to come. Our particular property) due to our location being at the highest elevation on Round Top Rd and the openness surrounding our residence, will be adversely affected whether we remain as residents or choose to sell. I know of no other property in the project that will be affected as greatly as ours. It should also be noted prevailing winds come from the west of our house with the closest of turbines T2, T3, and T 4 in line with the prevailing winds and our home. | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-20 | Diana Robinson | *Set back -distance for seasonal homes should be established due to health concerns, blade failure, ice on blades etc. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0004-26 | Diana Robinson | * Health and Wellness must remain #1 priority for town board and residents. | Thank you for your comment. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0005-1 | Kathryn McGraw | We are off-site Bartlett Hill Road property/home owners who will be directly impacted by the Ball Hill wind turbines. Specifically, T45 will be located only 1075' from our house and less than 1000' from other portions of our property according to information found on Noble's website. Having researched wind turbines and their impacts on nearby residents and having visited the Bliss windpark, it is our informed opinion that a minimum setback of 1000' is very inadequate. Our property will be impacted visually and by the noise and flicker associated with 400' wind turbines sited so closely.<br><br>We request that T45 be positioned further south so as to increase its distance from our house. | There are zero residences within 1,200 feet of a turbine in the FEIS Layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-8 | JD Robinson | The next question is, the snowmobile trails. We have one that runs the perimeter of the back of our property, around the 50 acres that we own and comes out towards the front. I just wanted to know what the effect is here with the turbines, whether there is a setback distance to the trails or snowmobile riders. I know we talked at the last meeting, we mentioned about ice coming off the turbine blades and even a possibility of the failure. And these things run through the woods, I assume ii would be, you know, all season. | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "The law [wind law] does not have a setback requirement for the snowmobile trails." This FEIS presents the updated Project layout for town and public review. Ball Hill provided an updated Ice and Blade Throw Analysis in the Amended Application to the Town of Villenova in September 2016, which states that "Implementation of best practices safety procedures during operation of the wind farm can reduce the risk of ice throw, including, but not limited to: visual inspections, de-icing and anti-icing systems, regular and routine maintenance by full-time turbine technicians assigned to wind farm operations, curtailment of turbines in hazardous conditions, educating staff/landowners on specific weather conditions and associated throw risks, standard safety protocols where icing is imminent, and public safety warning signs near public areas and project boundaries." The buildup of ice on the blades impacts the ability of the turbine to function as designed. The weather conditions and decreased turbine performance will be observed in the SCADA center and the identified turbine or turbines will be adjusted to avoid or minimize both ice throw and damage to the turbine itself. |
| **Water Quality and Wetlands** | | | |
| DEIS-0001-5 | Public Service Commission | Underground electric lines:<br>Underground electric collection lines should be installed with provisions to avoid effects of subsurface "piping" of subsurface water creating and expanding voids around the electric cables running down steep slopes. Underground trench-breakers with surface water control features should be specified for underground lines installed on slopes. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0001-8 | Public Service Commission | Transmission line angle structure number 5 (Drawing BH-T301, Sheet 1) is proposed to be located within a NYS-regulated wetland (reference Appendix G, Wetlands Map Sector F). An alternative location for structure 5 to the south should be considered to avoid permanent impact to the wetland for location of the structure, as well as additional temporary impacts related to clearing for construction (including angle structure laydown and wire pulling at this location). (Note that this type of alignment appears to have been identified in an earlier project layout, as indicated in Appendix T, Figure 5.1.) | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-9 | Public Service Commission | Transmission line angle structure 19 appears to be located at a stream. Structures should be set back from stream banks to accommodate streamflow, flooding, and the potential for bank movement due to streambank erosion, and to provide room for structure construction out of the stream. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-10 | Public Service Commission | The Transmission Line Plan and Profile figures (as well as wetland and stream location figures in Appendix G) do not indicate locations of access roads for construction of the transmission facilities. Streams, ravines, wetlands and other features appear to create impediments to continuous through-access along the transmission line right-of way. Access road locations, including off-right-of-way locations should be specified. Appropriate consideration of clearing, wetland fill, stream crossings, agricultural land practices, soils and slopes constraints, as well as erosion control and site stabilization measures for the access roads should be addressed within the EIS. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0001-11 | Public Service Commission | Construction of the transmission line will result in impacts due to forest clearing, access and construction in agricultural lands, wetlands and stream crossings, disturbance at steep slopes, drilling for pole placements, access road construction, and other activities related to line construction. Site plan and profile drawings for construction planning and construction impact minimization should be developed as mitigation measures appropriate for activities related to transmission line construction. The plan and profile drawings should show information including details such as: limits of clearing; property line locations and setbacks; access road details including temporary improvements for stream and wetlands crossing; transmission pole locations and work pad locations; streams and wetlands and appropriate protection measures; fences, drainage ditches and other improvements; other utility features, electric, gas, telecomm lines; roads and railroads to be crossed by the transmission line; construction controls and mitigation measures to avoid or minimize impacts on these and other features and resources located within the right-of-way and access road locations. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0002-6 | Department of Agriculture and Markets | Section 1.2.2 discusses the installation of "ditch plugs" in wetlands for the purpose of preventing migration of shallow groundwater in linear excavations. Trench breakers are typically installed for the dual purpose of preventing trench washouts during construction and abating water piping and "blowouts" subsequent to trench backfilling. In this case, the installation of trench breakers in buried collector line trenches is critical due to the fact that the Project site is dominated by dense glacial till and glacio-lacustrine soils. Penetration (excavation) will create a subsurface drainage envelope along the linear expanse of the trench unless such flows are alleviated or removed via miificial drainage from | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017 and has, to the maximum extent practicable, limited impacts on agricultural land with micrositing practices. NYSDAM did not provide public comment on the 2016 SDEIS. In addition, Figure 1 in Section 1 of this FEIS presents the FEIS layout of the Project including all Project Facility locations. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | the trench. Thermal sand used as bedding will further exacerbate this condition. Because of this, the applicant should install trench breakers in agricultural fields in accordance with the spacing intervals as detailed on the Sample Drawing A-12 "Trench Breaker Spacing" (Attached). The Project Applicant shall also record each installed trench breaker location by map referenced station number. In agricultural lands, the top of trench breaker will not be closer than two feet from the restored surface. Additional subsurface drainage may be required following installation of buried electrical collector cables to effectively convey trench water to a stable surface outlet<br>(see #26 below). Electrical collector cable runs will require close monitoring for evidence of seeps and waterboils during the 2-year monitoring period.<br><br>Because of the proposed method of buried electrical collector cable installation (trenching), and the inherent difficulties associated with the installation of trench breakers during cable installation, the Department recommends that the Project Applicant closely monitor the toe of slope areas in agricultural fields for wet areas or signs of seeps and waterboils in cases where trench water is exfiltrating to the ground surface. If encountered, new interceptor drain lines should be installed in order to alleviate wet areas. The Applicant should make necessary<br>provisions for post-construction drainage repairs in agricultural fields. Because of potential limitations on slope, topography and other surface features, it may be necessary to install drainage structures and corresponding outlets in locations outside of the Applicant's "permitted" ROW. The Department recommends that the Applicant make necessary arrangements with the Town, | |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | other Permitting Agencies and with individual landowners to allow for flexibility to install drainage features outside of the "permitted" ROW. In some cases, drainage easements may be required for off-ROW outlets. | |
| DEIS-0002-12 | Department of Agriculture and Markets | Page 1-17 of the DEIS discusses access road construction and the installation of culverts to "maintain a water table elevation below the base material to ensure roadbed stability". According to this Section, roadside ditches will be constructed as dictated by the terrain to convey stormwater runoff away from roadways. Culverts, fords, roadside ditches or other stormwater collection and conveyances should not be constructed so as to allow direct discharge into active agricultural fields. Culverts and other water conveyance devices should be designed and implemented to divert flows away from active agricultural areas into existing or new water conveyance systems (i.e., drainage ditches, grassed waterways, swales, diversion ditches or other appropriate water control structures). | Please see response to comment ID: DEIS-0002-6. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-19 | Department of Agriculture and Markets | Section 2.4.2 describes the potential for permanent impacts associated with project -related facilities on agricultural lands and the total acreage of prime farmland and farmland of statewide importance that will be permanently impacted by the proposed Project through conversion to non-agricultural uses. The consultant for the Applicant states that the conversion of these agricultural soils is "minimal and will not significantly affect these soil resources in the Towns and county". While these acreages may appear to be minimal to the DEIS preparer, facilities such as permanent gravel crane pads, junction boxes, guying wires, permanent access roads and, in some instances, improperly designed and implemented stormwater practices can present significant adverse affects to the long-term viability of farm operations in the Project area. Construction of these facilities can create serious impediments to established field cropping systems, field access and drainage patterns. These potential impacts should be included in this section and discussed in more detail in the FEIS. | Please see response to comment ID: DEIS-0002-6. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-24 | Department of Agriculture and Markets | Page 2-26 of the DEIS identifies potential drainage impacts and the proposed methods to address those impacts. This Section states that the Applicant will mitigate potential impacts by implementing subsurface interceptor drain lines, ditch plugs, culverts and fords crossings to maintain natural drainage patterns. Culverts and fords should be designed and constructed with suitable outlets. Stormwater collected from impervious surfaces of the project facilities or hydrologically active areas located up-slope from project facilities should not be directed into active agricultural fields without some form of velocity and volume attenuation, i.e.,. flow dissipation, surface inlet, discharge to existing drainage feature, etc. If existing runoff issues are encountered and hydrologically active areas are identified in areas located up-slope from proposed project facilities, they should either be addressed on a case-by-case basis in storm water management practice designs, or project facility (roads, turbine sites, etc) locations should be modified to avoid identified hydrologically active areas. The applicant should address up-gradient stormwater flows which "run-on" to Project facilities as well as runoff issues in, and adjacent to agricultural areas of the Project. The Department requests a copy of the Stormwater Pollution Prevention Plan in order to review the permanent post construction Stormwater Management Practices (SMPs) proposed for the Project and assess their compatibility with each farm operation's long-term operational viability. | Please see response to comment ID: DEIS-0002-6. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-26 | Department of Agriculture and Markets | In Section 2.4.3, subsurface drainage is discussed. The Section states that "New subsurface drain lines will meet or exceed the condition of existing installed structures ... " In accordance with Department Guidelines, new subsurface drain lines shall be AASHTO M252 single wall drain line or equivalent and shall be installed in accordance with the applicable USDA Natural Resources Conservation Service (NRCS) Conservation Practice Standard for "Subsurface Drain" (608). F405 may not be used in agricultural lands for this drain tile application. Tile outlets shall be constructed of Schedule 80 PVC and steel animal guards should be installed far enough in the pipe to allow it to swivel up and let debris pass without exposing the animal guard beyond the pipe outlet. A "splash rock" should be installed beneath the pipe outlet to dissipate the erosive forces of the discharge water from the drain tile and to prevent additional scouring from occurring beneath the outlet. Installation of substandard materials may warrant the removal and replacement with the required materials identified above. Department field staff should be notified when existing subsurface drain lines are first encountered during construction and also be notified in advance to witness drain tile repair activities. | Please see response to comment ID: DEIS-0002-6. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-13 | New York State Department of Environmental Conservation | **Stormwater Pollution Prevention Plan** A detailed construction plan needs to be developed to incorporate stringent containment of construction materials, particularly concrete slurry. This would include such practices as the use of watertight forms, silt/stormwater fencing, controlled concrete truck washout areas, and covered storage of equipment and construction chemicals. Engineering specifications to describe these proposed practices need to be detailed in this plan.<br><br>Additional impacts may result from spills of petroleum and other chemicals during construction and operation of the project. The Stormwater Pollution Prevention Plan (SWPPP) should prevent or minimize spill incidents and maximize control and cleanup of any of these incidents. | The updated Project and potential impacts were outlined in the SDEIS, which NYSDEC reviewed and commented on. The updated Project has considered these and the direct response to NYSDEC's comment on the SDEIS is in Table 2.4-1.<br><br>With respect to the stormwater pollution prevention plan, please see response to comment ID SDEIS-0003-40. |
| DEIS-0003-14 | New York State Department of Environmental Conservation | **Surface Water.**<br>The following guidance pertains to work involving the crossing of water bodies and work in close proximity to regulated streams.<br>1. If work occurs within 50' of the top of a bank of a DEC classified C(t) or C(ts) stream, erosion control planning will be necessary. This should be part of the storm water management plan for the site.<br>2. All underground lines shall be done in the dry<br>3. All work is prohibited in a protected trout stream from 10/15 through 5/31.<br>4. Siltation prevention measures shall be installed and maintained during the project to prevent movement of silt and turbid waters from the project site and into any watercourse, stream, water body or wetland.<br>5. Before trenching through stream banks, upland sections of the trench shall be backfilled or plugged to prevent drainage of possible trench water into the stream. | The updated Project and potential impacts were outlined in the SDEIS, which NYSDEC submitted public comment on. The updated Project has considered these and the direct response to NYSDEC's comment on the SDEIS is in Table 2.4-1.<br><br>With respect to the crossing of waterbodies, please see response to comment ID SDEIS-0003-4. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | 6. Underground collection lines and culvert installations shall be done in one operation without any delay between construction phases.<br><br>Care must be taken to design and build culverts correctly – particularly when it involves crossing a navigable water body or a state regulated stream. Please see our website for an overview on proper culvert design: http://www.dec.ny.gov/permits/49060.html. The particular details of culvert design must be worked out in consultation with the DEC and must address concerns such as 25 year flood event design, maintaining channel geometry, proper use of rip rap, cofferdam specifications, work in the dry, culvert slope, etc. | |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-15 | New York State Department of Environmental Conservation | **Wetlands. General Issues.** Projects that propose to disturb regulated wetland areas, buffer areas and protected streams require permits from DEC and the U.S. Army Corps of Engineers (USACE), DEC wetland permit regulations at 6 NYCRR 663.2(z) define a "regulated activity" as any form of draining, dredging, excavation, or mining, either directly or indirectly, any form of dumping or filling, either directly or indirectly; erecting any structures, constructing roads, driving pilings, or placing any other obstructions whether or not changing the ebb and flow of the water; any form of pollution, including but not limited to installing a septic tank, running a sewer outfall, discharging sewage treatment effluent or other liquefied wastes into or so as to drain into a wetland; or any other activity which substantially impairs any of the several functions or benefits of wetlands which are set forth in section 24-0105 of the (Freshwater Wetlands) Act. These activities are subject to regulation whether or not they occur upon the wetland itself, if they impinge upon or otherwise substantially affects the wetland and are located within the adjacent area. | The updated Project and potential impacts were outlined in the SDEIS, which the NYSDEC submitted public comment on. The updated Project has considered these and the direct response to NYSDEC's comment on the SDEIS is in Table 2.4-1 including detailed comments on the wetland delineations and impacts. |
| DEIS-0003-16 | New York State Department of Environmental Conservation | Before DEC can consider a permit application, wetland delineations prepared for the project must be verified by agency staff, DEC jurisdiction and resulting acreage impacts may vary based on DEC verification of wetland delineations. It is DEC policy that wetland impacts are not permitted, even with mitigation, until all other alternatives have been explored, including avoidance, minimization or reduction of impacts. Generally applicants are required to 1) Examine alternative project designs that avoid and reduce impacts to wetlands; 2) Develop plans to create or improve wetlands or wetland functions to compensate for unavoidable impacts to wetlands. | Please see response to comment ID 0003-15. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-17 | New York State Department of Environmental Conservation | The DEC guidance document, *Freshwater Wetlands Regulation guidelines on Compensatory Mitigation*, October 26, 1993, states that "Temporary disturbances, where preconstruction conditions are essentially restored, for example when laying a pipeline, do not require compensatory mitigation since there is no permanent loss. However, impacts to the wetland must first be avoided and then minimized as with any other project, and efforts to reduce disturbances during construction, such as erosion control, will still be required. "USACE defines "permanent" impacts as the loss of waters of the United States, and includes the area where fill is placed plus areas that are adversely affected by flooding, excavation or drainage as a result of a project. Where the project area is restored to pre-construction contours and elevation, it is not included in the calculation of permanent loss of waters (permanent impacts). This includes temporary construction mats (e.g. timber, steel, geotextile) used during construction activities and removed upon the completion of the work. However, where certain functions and values of waters of the United States are permanently adversely affected (such as the conversion of a forested wetland to an herbaceous one in a permanently maintained utility right-of-way), USACE requires mitigation to reduce the adverse effects of the project to the minimal level. The wetland analysis in the FEIS should be refined to apply the full range of potential impact criteria to the proposed construction activity in the determination of total area of permanent impact; not just those areas proposed for permanent placement of fill. This is necessary to quantify the total affected area for permitting and requirements for mitigation. | Please see response to comment ID 0003-15. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-18 | New York State Department of Environmental Conservation | Simple re-grading to pre-construction contours following excavation in a wetland area may not be enough to restore the full function of the existing wetland area. Any clearing or grading that disturbs wetland soils can result in permanent impacts to wetland area. Any clearing or grading that disturbs wetland soils can result in permanent impacts to wetlands. Grading a wetland or adjacent area can substantially alter surface water drainage and flow patterns, may temporarily increase erosion, and may eliminate fish and wildlife habitat. Clear-cutting removes the vegetative cover of wetlands and may reduce their ability to absorb water and serve as habitat, and can also cause soil erosion. Dredging or excavation may increase water depth and remove wetland vegetation, thus altering the basic characteristics of, and perhaps destroying, wetlands. Fish and wildlife feeding or reproductive capacities may be altered, as may cover types, turbidity, sediment deposition, and erosion patterns. Any of these activities can cause the permanent loss of benefits provided by wetlands and may, in fact, de4stroy wetlands entirely. | Please see response to comment ID 0003-15. |
| DEIS-0003-19 | New York State Department of Environmental Conservation | **Specific concerns.** The following comments are based on staff review and focus on freshwater wetlands impacts described in Nobel's DEIS for the Ball Hill Windpark.<br>In the first paragraph of Section 2.8 (page 2-61), Nobel stated that the project facilities have been sited to minimize or avoid wetland impacts to the greatest extent practicable. DEC staff generally concurs with Nobel's statement for the generation component of the project. The turbine pads and access roads have been sited outside current mapped freshwater wetlands and adjacent areas. Construction of the generation component of the project will not result in any permanent disturbance to State-regulated wetlands. | Please see response to comment ID 0003-15. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-20 | New York State Department of Environmental Conservation | Based on a site visit on September 8, 2008, no currently unmapped wetlands are in the project area. Hence, State-regulated, freshwater wetlands in the project area appear to be limited to the two cited in the DEIS. The DEC determined, based on the site visit, that Wetlands W59 and W60 are separated from Wetland SC-13 by more than 50 meters and therefore are not state jurisdictional wetlands due to their small size. The DEC modified the delineations of W61 and W65 (Freshwater Wetland SC-13), and W111 (Freshwater Wetland SC-12) during their site visit (which are along the transmission line corridor). These findings and others were outlined and submitted to Mr... Andrew Francisco of Ecology and Environment, Inc. in a letter dated October 10, 2008. Those changes as outlined in this paragraph and this letter must be incorporated into the FEIS. | Please see response to comment ID 0003-15. |
| DEIS-0003-21 | New York State Department of Environmental Conservation | Wetland W104 is not state jurisdictional. The narrow linear portion that connects the northern and southern portions does not meet state wetland criteria. Without that connection, neither the northern or southern wetland is close to 12.4 acres in size. This wetland is along the transmission line corridor as opposed to the generation portion of the project. | Please see response to comment ID 0003-15. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-22 | New York State Department of Environmental Conservation | Appendix H of the DEIS describes the preliminary wetland mitigation plan. The DEC generally concurs with Nobel's mitigation goals and objectives. However, the DEC would like to clarify that the mitigation area (still to be selected by Noble) must be contiguous with a state jurisdictional wetland and not just hydrologically connected (as stated in Section 2.2 of Appendix H). The proposed wetland mitigation must be the restoration or creation of wetland with the functions and values lost by the impacts. Preservation of existing wetlands through conservation easements, while beneficial, would not qualify as mitigation for impacts to State-regulated wetlands. Mitigation for impacts to adjacent area must be discussed in the FEIS. | Please see response to comment ID 0003-15. |
| DEIS-0003-23 | New York State Department of Environmental Conservation | The DEIS does not specifically describe the proposed measures to remediate temporary impacts to freshwater wetlands and adjacent areas. This should be corrected in the FEIS. All disturbed areas must be returned to original grade with an adequate depth of topsoil to support plant growth. All disturbed areas must be seeded with an appropriate native seed mix and mulched (or hydroseeded) to prevent erosion and sedimentation. | Please see response to comment ID 0003-15. |
| DEIS-0003-24 | New York State Department of Environmental Conservation | The Invasive Species Management Plan (ISMP) in Appendix K addresses the identification, management, and monitoring of invasive species within the project area. While the strategies outlined in this plan are sound, management practices, particularly herbicide application, must be conducted at the appropriate time of year and according to NYSDEC recommendations or permit requirements specific to this site. While management should begin immediately upon disturbance or discovery of infestations, further management may be required beyond the initial period. | Please see response to comment ID 0003-15. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-25 | New York State Department of Environmental Conservation | The ISMP presents detailed information on the restoration and monitoring of State-regulated wetland and adjacent area, including seed mixtures to be used. This kind of information is lacking throughout the other sections of the DEIS that discuss impacts to regulated areas and should be included in the FEIS. | The updated Project and potential impacts were outlined in the SDEIS, which the NYSDEC submitted public comment on. The updated Project has considered these and the direct response to NYSDEC's comment on the SDEIS is in Table 2.4-1, including detailed comments on the ISMP. |
| DEIS-0003-26 | New York State Department of Environmental Conservation | Calculation and discussion of impacts to the State regulated 100-foot adjacent area is generally lacking in the DEIS. These impacts should be discussed in the impact and mitigation sections and included in the appropriate Tables. | Please see response to comment ID 0003-15. |
| **Sound** | | | |
| DEIS-0001-2 | Public Service Commission | Step-up transformers may be a source of operating noise, which should be addressed in the DEIS. Noise level and potential pure tone generation should be modeled for the specific make and model transformers proposed at both the Substation and the Switchyard sites. Nearby noise receptors should be identified, including any residences, and expected noise effects and appropriate mitigation measures should be identified for minimizing noise impacts. | The updated Project facilities were outlined in the SDEIS, which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1.<br><br>As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines and substation may be audible at times, but would be far from "deafening," and within the sound level limits approved by the Town of Villenova and Town of Hanover. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |
| DEIS-0004-7 | Diana Robinson | Noise will affect us daily, Construction and repairs will add disruption to our lives. | As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines may be audible at times, but would be far from "deafening," and within the sound level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-10 | Diana Robinson | This along with the noise and health affects will be a great detriment to us in the enjoyment or sale of our property considering the number and close proximity of proposed turbines. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |
| DEIS-0004-11 | Diana Robinson | These thirteen wind turbines, would an be in our line of sight; adding noise, dominating the view whichever way we look. Twelve of these thirteen wind turbines would be close enough to have a multiple audible affect The closest would be just over 1000 ft. Many more would only be 1500 to 4000 ft. distance. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |
| DEIS-0004-14 | Diana Robinson | For Noble to offer action such as "adding curtains to the windows" as was suggested by a Noble employee would add insult to injury. The proposed configuration of wind turbines would subject us to shadow flicker during both sunrise and sunsets. The only realistic mitigation measure is setback distance for both noise and shadow flicker in avoiding all health concerns. | Please see responses to comment IDs: DEIS-0004-08 |
| DEIS-0004-15 | Diana Robinson | Additionally, it should be noted that T-4 is shown to be located within a 500 ft distance of a residence not shown on the master map and located on a property that is less than 50 acres. We were told by a Noble representative (Tim Marvich) that owners must have at least 50 acres to have a wind turbine. This is also the turbine of greatest concern to us being the closest for noise, causing the greatest degree of shadow flicker, and affecting our primary view. | Please see responses to comment IDs: DEIS-0004-08 through DEIS-0004-10. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0004-17 | Diana Robinson | *Mitigation .. the only realistic mitigation for us is setback distance due to noise, shadow flicker, health, primary view affected along with domination of the general landscape 360 degrees seven days a week for many years to come. Our particular property) due to our location being at the highest elevation on Round Top Rd and the openness surrounding our residence, will be adversely affected whether we remain as residents or choose to sell. I know of no other property in the project that will be affected as greatly as ours. It should also be noted prevailing winds come from the west of our house with the closest of turbines T2, T3, and T 4 in line with the prevailing winds and our home. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0005-1 | Kathryn McGraw | We are off-site Bartlett Hill Road property/home owners who will be directly impacted by the Ball Hill wind turbines. Specifically, T45 will be located only 1075' from our house and less than 1000' from other portions of our property according to information found on Noble's website. Having researched wind turbines and their impacts on nearby residents and having visited the Bliss windpark, it is our informed opinion that a minimum setback of 1000' is very inadequate. Our property will be impacted visually and by the noise and flicker associated with 400' wind turbines sited so closely.<br><br>We request that T45 be positioned further south so as to increase its distance from our house. | There are zero residences within 1,200 feet of a turbine in the FEIS layout. Figure 1 in Section 1 of the FEIS identifies the location of the Project facilities. |
| DEIS-0006-14 | Dana Bennett | I don't know what it's going to do as far as sounds. I'm a truck driver. I need my sleep. If it's going to keep me up at night, there's going to be some serious problems. | As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines may be audible at times, but would be far from “deafening,” and within the sound level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-27 | Nadine McCarthy | It was just the -- about the noise and people don't like what they look like. The generators. I just -- I had a lot of questions and what the revenue was going to be from them. And actually the first fellow that I talked to, I got different answers from him than the second person that came around. And the second person when I told him, what about ~- well, you're way lower than the first guy. He shook his head and said, well, we don't have those kind of turbines up there. Those are bigger ones that are going to generate that kind of revenue. So it was like, I'm thinking, you guys are not on the up and up. You seem like you are kind of scamish or something and you are already out of the Fredonia office, so from -- And then when we make phone calls, you don't get return calls. And you hear the beep on the answering machine that they must have several. And then the response is, when you do get a call back, well, I'm busy going around on other projects. I don't like as a business how they deal with people and the landowners. And, again, there's specific landowners that have to deal with this and J think they should be compensated somehow. And whoever said the fair - the good neighbor agreement or something just because you're being inconvenienced. And not to be compensated, l think is wrong. And the people who are pushing for it, don't see that. Their properties are not affected by it other than the fact they might get a tax break or something, but they are not dealing with these things right in their back door. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties project facilities will be constructed, as well as Host Community Agreements with the Town Boards of Villenova and Hanover. Each Town Board will be responsible for determining how the funds received will be used to benefit their respective towns.<br><br>As detailed in Appendix J, Sound Level Assessment Report, sound produced by the wind turbines may be audible at times, but would be far from “deafening,” and within the sound level limits approved by the Town of Villenova. For more details on the Sound Level Assessment for the Project, see Appendix J, Sound Level Assessment Report. |
| **Public Participation** | | | |
| DEIS-0006-1 | Diana Ermer | My question is, how many people who are Board members are going to have the wind turbines on their property? | One board member in the Town of Villenova is a participating landowner in the FEIS layout of the Project. This board member has abstained from the board’s decisions on this Project. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-12 | Dana Bennett | I believe this project has been going on for what? Three years, right? Okay. Well, I just found out about it a few months ago and I am still running across people that have no idea. I do not feel the notification of this project is realistic. It's ridiculous. Everybody has a right to an opinion, but you need the information to for that opinion. And this is a major project. It's going to affect everybody here and it's going to affect everybody for the rest of their lives here. It's just like I said, I feel any notification that has been made here is inadequate and needs to be readdressed. That counts for both towns, Town of Hanover and Town of Villenova. | Prior to the March 2, 2016, public hearing in the Town of Villenova on the SDEIS, Ball Hill prepared a notice of public hearing (which also advised that written comments would be accepted by the Lead Agency up to and including March 14, 2016) that was published in the *Dunkirk Observer* as required under the Villenova Wind Law, and in the Environmental Notice Bulletin as required under SEQRA. Ball Hill also mailed notices of the Public Hearing to residents within the distance specified under the Villenova Wind Law. Ball Hill appreciates that not all residents of Villenova or other parties interested in the Project may have received such notices, however, Ball Hill respectfully submits that it was not required or requested to provide Town-wide notice nor notice to residents outside Villenova. Ball Hill held an additional public hearing in the Town of Villenova on October 13, 2016, and in the Town of Hanover on November 9, 2016, in accordance with each Town's wind law. The notices for these public hearings are published in each Town's official newspaper and mailed on behalf of each Town Board to all property owners within the proposed Wind Energy Overlay District, defined as being within a 500-foot buffer around the portion of the Project Area in the Town of Villenova and within a 1,500-foot buffer around the portion of the Project Area in the Town of Hanover, as specified by the corresponding Town Wind Law. The Notice for these hearings will specify the Project, its amended application, and requests for the adoption of a local law for the creation of a Wind Overlay District and a local law amending the provisions of the towns' wind laws to increase the maximum height restrictions to 495 feet. Copies of the public notices are included in this FEIS in Appendix T. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-23 | Dana Bennett | I think the last thing that's on my list that I wanted to ask now is, what -- get an explanation of what are good neighbor agreements, stuff like that. Who gets them? Why?<br><br>I have heard nothing from the wind company at all. And like I said, I'm a hair of over half a mile from them and I've got neighbors that are pretty close and they have heard nothing either. | Ball Hill is responsible for negotiating lease agreements with property owners on whose properties Project facilities will be constructed. |
| DEIS-0006-26 | Nadine McCarthy | My name is Nadine McCarthy and I live in Forestville, but I also own property on Round Top. So I agree with this gentleman with the lack of notification to landowners;. I also agree with his concerns for the visual impact because I too brought - bought the property because I loved the view and just the nature up there. And I rode to Bliss. And I didn't like how it looked and it was very upsetting 10 me. And some of my concerns too are more directed towards Noble which I don't have to get into tonight, but when I did address some of my concerns and ask questions, well, the response was always, go to Bliss or Arcade. I'm thinking, well, take me there or something. You know, don't just throw that out. That's not the way -- you don't deal with people that way, if you're on the up. I don't know. For a business, I thought that was kind of a poor approach or response. If the community benefits, that's a great thing. But yet, again, my concern was that this wasn't my intention for the property to look at what I'm going to have to be looking at and dealing with. So it's a disappointment to me that way and I hope down the line if I have to sell the property, I can sell it and benefit from the sale, but right now I am very disappointed. And I was hoping to retire up there and enjoy it. But at this point in time I don't think that was going to happen. I don't have anything else to say, but I just wanted to agree with him. | Please see response to comment ID DEIS-0006-12 for details on the public participation effort for the 2016 SDEIS. Copies of the public notices are included in this FEIS in Appendix T, Public Participation. The updated Project layout is described in this FEIS including updated visual impacts and shadow flicker estimates. For more details on the visual and shadow flicker impacts on the FEIS Project layout, see Appendix I, Visual Resource Assessment, of this FEIS. In addition, an assessment of the potential effects of the Project on property values from a wind project is presented in this FEIS in Appendix Q, Property Valuation Study. Based on analysis of sales data within an approximate 5-square-mile area surrounding four existing wind farms located throughout New York State, the study finds no conclusive evidence which would indicate any impact or potential impact on residential real estate values in the market area analyzed due to being in proximity or in the view shed of an operational wind farm. The study indicates that this conclusion is in concert with much of the quantitative research available today on wind farm development effects on property value. The study notes that while it is impossible to definitively say that there will be no effect on any property's value, it is apparent from studying similar areas where wind |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | | farms have been developed that no broad based value effects have occurred in those markets. Please refer to Appendix Q for additional information. |
| DEIS-0006-30 | William Eaton | I would tend to agree with you on your notifications. I don't know how it occurrc-0. l don't live in the Town of Villenova and I don't buy the Observer paper, which I came by today. But as a landowner and part of the Project, I don't know how you would get information short of - | Please see response to comment ID DEIS-0006-12 for details on the public participation effort for the 2016 SDEIS. Copies of the public notices are included in this FEIS in Appendix T. |
| DEIS-0006-31 | Dana Bennett | I think something of this magnitude really. I mean, a town-wide mailing I think is what should have been done. Yes, it's a cost. But like l said, everybody has an opinion, but they have to be informed before they can make that opinion. And like I said, I don't feel that the notification, and even though it's legal, I don't feel it's sufficient. Like I said, this is a massive project. It's going to affect everybody. | Please see response to comment ID DEIS-0006-12 for details on the public participation effort for the 2016 SDEIS. Copies of the public notices are included in this FEIS in Appendix T. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Biological Resources** | | | |
| DEIS-0001-11 | Public Service Commission | Construction of the transmission line will result in impacts due to forest clearing, access and construction in agricultural lands, wetlands and stream crossings, disturbance at steep slopes, drilling for pole placements, access road construction, and other activities related to line construction. Site plan and profile drawings for construction planning and construction impact minimization should be developed as mitigation measures appropriate for activities related to transmission line construction. The plan and profile drawings should show information including details such as: limits of clearing; property line locations and setbacks; access road details including temporary improvements for stream and wetlands crossing; transmission pole locations and work pad locations; streams and wetlands and appropriate protection measures; fences, drainage ditches and other improvements; other utility features, electric, gas, telecomm lines; roads and railroads to be crossed by the transmission line; construction controls and mitigation measures to avoid or minimize impacts on these and other features and resources located within the right-of-way and access road locations. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0001-12 | Public Service Commission | The discussion of impact mitigation addresses lighting at switchyard and substation sites, and recommends "down firing, motion triggered, and task oriented" lighting at these facilities. DPS recommends revision of this proposal and that more specific mitigation requirements be implemented. Lighting should be task oriented, including lighting areas that are appropriate for access, and maintenance as needed. Task lighting should be controlled by manual switches to allow workers to light areas appropriate as needed to accomplish tasks. Motion triggered lighting can be inappropriately triggered by wildlife, blowing trash or vegetation, and is not recommended. Any lighting that will be regularly used should use full-cutoff fixtures and should be designed to avoid off-site lighting and glare. Fixtures should be specified as full-cutoff with no drop-down optics, which tend to spread light horizontally. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0002-13 | Department of Agriculture and Markets | Section 1.2.2 of the DEIS states that the Project Sponsor will retain the services of an environmental monitor to ensure compliance with applicable permit conditions and other requirements. Due to the significant area of disturbance and agricultural mitigation/restoration activities required as part of this proposed Project, the Department recommends that the Applicant hire an experienced "Agricultural Inspector". Competent agro-environmental inspection and supervision of site preparation, construction and restoration activities is fundamental in helping ensure sound implementation and restoration techniques on agricultural lands. Such "Ag" - specific inspection/supervision is critical to a commercial wind energy project due to its concentrations of localized activity, extending over the expanse of the numerous tower sites, access roads and buried cable runs. To preserve objectivity during compliance inspections, the Department recommends the Project Sponsor provide funding for the Lead Agency to hire the Agricultural Monitor. | Please see response to comment ID: DEIS-0002-6. |
| DEIS-0002-20 | Department of Agriculture and Markets | Section 2.4.3 discusses a post-construction monitoring plan to ensure that NYSDAM Guidelines are met. This post construction monitoring plan should be submitted to the Department for review and comment prior to the Town's issuance of the FEIS. | Please see response to comment ID: DEIS-0002-6. |
| DEIS-0006-9 | JD Robinson | Has there been any studies done on the effect of·- well, I know possibly on some animals or birds by you, but has there been any studies done on the effect on horses? We have horses and my wife is concerned, so I have to ask. | Mr. Dan Spitzer and Ms. Kristin McCarthy responded directly to this comment during the October 30, 2008, public hearing and stated in summary, that other Noble wind farms in the area have not heard complaints of the impact of the farm on horses. The commenter was going to follow up with a fellow horse farmer he knew in the area to ask how the horses responded. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| **Decommissioning** | | | |
| DEIS-0001-16 | Public Service Commission | The Decommissioning Plan does not appear to include costs to remove facilities and rehabilitate the site of the proposed transmission line and switch yard facilities. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-17 | Public Service Commission | The Decommissioning Plan includes an estimate for removal of substation facilities; however, the estimate does not include any cost for a crane or crane operator. Substation removal should include crane costs for removal of large overhead components. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0006-3 | JD Robinson | We were concerned, my wife and I were both concerned about the amount of bond that would be put up to remove these turbines. And I've spoken with an attorney that has been more recently involved in these things with other companies and he was indicating something like 20,000 per turbine. I don't know what our figure is here. But he said generally what they are offering is not anywhere near what would realistically be required to take them down at a later date. | Mr. Dan Spitzer responded directly to this comment during the October 30, 2008, public hearing with respect to the proposed Decommissioning Plan. An updated Decommissioning Plan for the Project is included in the FEIS as Appendix R. |
| DEIS-0006-4 | JD Robinson | In lieu of the economy and the things that are happening now with the banks going out of business, you know, the financing just in turmoil, is this project something the financing has already been secured?<br><br>Could it have - have we looked at the possibility that it may just change all of a sudden over the next year when they just start building? Is that money actually going to be there for the duration to complete the project?<br><br>I was wondering how secure it was that they would have the financing or if they could even offer that at this point. Do they have a backup plan is maybe what I should be asking. | Noble is no longer the developer on this Project. Ball Hill intends to begin construction on the Project in 2017. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0006-7 | JD Robinson | Do we have a way of plans of transitioning from one company to another should Noble go into bankruptcy or they just want to sell out to another company where the things that have been planned out carry across to the next company? | Mr. Spitzer responded directly to this comment during the October 30, 2008, public hearing and stated: "The law that was passed by this town requires that they get approval for any transfers of the company and the basic requirement is that the new company assume the obligations of the old. For the decommissioning for the security. It's up to them to propose something. Usually it's a bond, but it could be a letter of credit." The updated Project Decommissioning Plan is included in the FEIS as Appendix R. |
| **Communication Surveys** | | | |
| DEIS-0001-14 | Public Service Commission | The analysis of communication signal interference was not based on location of proposed turbines or transmission facilities. While the project study area is generally located, the study area identified on figures in Appendix M does not include the area or location of the proposed 115 kV electric transmission line. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| DEIS-0001-15 | Public Service Commission | Additional analysis of potential interference should be provided, based on detailed locations of wind turbines and transmission lines, including elevation and height of structures proposed. | The updated Project facilities were outlined in the SDEIS which the NYSPSC submitted public comment on. The updated Project layout has included these comments and the NYSPSC comment on the SDEIS is responded to directly in Table 2.4-1. |
| **Bird and Bat Resources** | | | |
| DEIS-0003-1 | New York State Department of Environmental Conservation | **Executive Summary Page 4: Potential Projects Impacts and Mitigation-Birds and Bats.** This section states that, "if construction takes place in suitable nesting habitat for endangered or threatened species…during the breeding season, the work area will be surveyed by an environmental monitor in advance of construction." Should any listed species be found in the area, DEC Staff request construction is held in abeyance until the completion of the breeding season. Avoiding construction activities during this time will reduce the impact to sensitive species in the immediate vicinity of a given turbine, transmission line, or substation. More- | The updated Project and potential impacts were outlined in the SDEIS, which NYSDEC submitted public comment on. The updated Project has considered these and the NYSDEC comment on the SDEIS is responded to directly in Table 2.4-1. Since the DEIS many bird and bat surveys were conducted within the Project Area.<br><br>Ball Hill participated in multiple meetings with NYSDEC and USFWS since the DEIS and SDEIS were issued. These meetings included discussion of avian and bat issues, in addition to other topics, and |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| | | over, if any listed species are found nesting in the vicinity of the project, an Article 11 permit may be needed – even if work takes place after the breeding season has ended. Disturbing or destroying an endangered/threatened species habitat is considered a taking. | continued the long history of agency coordination dating back to the earliest years for this proposed Project.<br><br>In an effort to reduce the impacts of wind energy projects on bird and bat resources, the USFWS recommends that wind energy project proponents develop a Bird and Bat Conservation Strategy (BBCS) that outlines the project development process and includes monitoring and conservation measures that would be implemented to avoid and minimize impacts on birds and bats at each project they propose to develop.<br><br>In addition, Ball Hill is developing an Eagle Management Plan (Eagle MP) for the Project. The Eagle MP documents Bald Eagle and Golden Eagle use of the Project, describes efforts made to reduce risk due to Project development, documents communications and cooperation with the USFWS and NYSDEC, and the proposed post-construction monitoring and adaptive management approach for the Project. |
| DEIS-0003-2 | New York State Department of Environmental Conservation | **Section 2.12.4.2: Mitigation-Lighting and Structural Mitigation.** For any lighting that may be needed at structures on site, it is recommended to block or shade the light (when doing so does not violate FAA specifications), so as to make it less noticeable to birds and bats passing overhead. This will reduce the likelihood animals will be attracted to an area with increased collision potential. | Please see response to comment ID DEIS-0003-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-3 | New York State Department of Environmental Conservation | **Appendix J: Bird and Bat Risk Assessment. Summary of Findings.** The pre-construction studies performed and the information contained in the DFWMR "Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects" (see http://www.dec.ny.gov/energy/40966.html) Noble discussed their study plans with the DEC prior to initiating their work consistent with our recommendations. | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-4 | New York State Department of Environmental Conservation | With respect to the marine radar studies conducted in the Fall of 2006 and the Spring of 2007, the DEC compared the mean passage rates, mean flight altitudes and percent of targets at altitudes less the 410 feet at the Ball Hill Windpark with the results from studies conducted at other wind energy facilities in western New York. The following observations concern the Fall 2006 radar study.<br>Fall passage rates were lower than that reported in approximately 90% of the studies conducted elsewhere in western New York. The low passage rates were consistent with those reported from the study conducted at the New Grange Windpark (also undergoing review) that is located within only one mile of the Ball Park Windpark. | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-5 | New York State Department of Environmental Conservation | **Fall radar study:**<br>Fall mean flight altitude was lower than that reported in approximately 90% of the studies conducted elsewhere in western New York. However, only 9% of targets were recorded at altitudes less than 394 feet. | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-6 | New York State Department of Environmental Conservation | **Fall radar study:**<br>Compared to other sites having similar mean flight altitudes, this site has the lowest measured percentage of birds passing below the height of the turbine's windswept zone. | Please see response to comment ID DEIS-0003-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-7 | New York State Department of Environmental Conservation | The following observations concern the Spring 2007 radar study.<br>**Spring radar study:**<br>Spring passage rates were the highest reported among similar studies conducted elsewhere in western New York. This high passage rate is consistent with a study conducted in Chautauqua County also adjacent to Lake Erie (though 25 miles away). One would expect higher passage rates adjacent to the Great Lakes due to a large water body's tendency to channel bird migratory behavior. In contrast, lower passage rates were collected from the neighboring Horizon New Grange Windpark. | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-8 | New York State Department of Environmental Conservation | **Spring radar study:**<br>The Spring mean flight altitude is the second highest reported anywhere in New York. The highest mean flight altitude is from the study conducted in Chautauqua County – also along the lakefront. | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-9 | New York State Department of Environmental Conservation | **Spring radar study:**<br>Only 3% of the targets were located at altitudes less than 394 feet. This is the lowest measured percentage of birds passing lower than the top of the turbine's wind-swept zone when compared to all sites studies in Western New York, regardless of the mean flight altitude. | Please see response to comment ID DEIS-0003-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-10 | New York State Department of Environmental Conservation | **Conclusions.**<br>The data collected during the 2006 Fall and 2007 Spring migration radar studies at Ball Hill Windpark indicate that the targets observed were less likely to be struck by turbine blades then compared to data collected at other wind power projects in western New York due to the higher mean flight level of passerines and the low percentage of targets in the rotor swept area. However, these indicators should be balanced to some degree by the higher number of passerines observed during Spring. It is important to point out that this review does not provide a distinction between potential impacts to bats vs. birds as individual target identification was not possible.<br><br>To provide lead agency, other involved agencies, and the public with the ability to compare the results of Ball Hill avian studies with other sites around the state, two DEC Proposed Wind Sites in new York" and Publicly Available Raptor Migration Data for Proposed wind Sites in New York." Please see links to these pdf file documents found at http://www.dec.ny.gov/energy/40966.html | Please see response to comment ID DEIS-0003-1. |
| DEIS-0003-11 | New York State Department of Environmental Conservation | **Appendix J Section G: Work Plan for Post Construction Bird and Bat Mortality Monitoring**<br>**Section 3: Methodology**<br>The *Draft Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* (Guidelines) are at http://www.dec.ny.gov/energy/40966.html. A finalized version will be available shortly on the same website. These guidelines should be followed closely when designing post-construction studies. | Please see response to comment ID DEIS-0003-1. |

**Table 2.4-2 Ball Hill Response to Comments Received on the 2008 DEIS**

| Unique Comment ID | Commenter Name or Agency | Comment | Comment Response |
|---|---|---|---|
| DEIS-0003-12 | New York State Department of Environmental Conservation | **Task 2: Acoustical Monitoring for Bats**<br>DEC recommends that bat acoustical monitoring take place for the duration of the ground searches, from April 15 until November 1 during each year of study. This will cover the full breeding period and the majority of the Spring and Fall migratory periods, and allow for potential correlation between bat activity and estimated mortality. As currently specified in the DEIS, bat acoustical monitoring would only take place during the first year of post-construction study.<br><br>In light of white nose syndrome and its devastating effects on New York State wintering bat populations, it is critical that the applicant work closely with the DEC in designing their eventual post construction survey. | Please see response to comment ID DEIS-0003-1. |
| **Cultural Resources** | | | |
| DEIS-0003-30 | New York State Department of Environmental Conservation | **Cultural Resources.** Per New York State Office of Parks, Recreation, and Historic Preservation letter dated September 24, 2008, Noble Ball Hill Windpark will have an adverse impact on culture resources within the Area of Potential Impact surveyed. Consequently, the project sponsor must work in consultation with OPRHP to pursue feasible and prudent plans that avoid or mitigate the adverse impacts. DEIS Section 2.30 & 2.31 & Appendix S include a discussion of cultural resources in the project area and the Area of Potential Effect (APE) for visual impacts to historic resources as well as possible mitigation actions. Because the potential visual impacts to historic resources are closely linked to the visual assessment referenced above, DEC's comments regarding mitigation (as described in the above paragraph) apply here as well. Also, the OPRHP September 24, 2008 notes numerous additional visual simulations that should be accomplished as part of the FEIS. | The updated Project and potential impacts (including and updated Cultural Resources Surveys, see Appendix N of this FEIS) were outlined in the SDEIS, which NYSDEC submitted public comment on. The updated Project has considered these and a direct response to NYSDEC's comment on the SDEIS in Table 2.4-1. |

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