

## 1.0 INTRODUCTION

This Final Environmental Impact Statement (FEIS) is prepared for the Jericho Rise Wind Farm (hereafter, "the Project") pursuant to the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations, 6 NYCRR Part 617. This document is preceded by a Draft Environmental Impact Statement (DEIS) and a Supplemental Environmental Impact Statements (SEIS).

This FEIS builds upon the DEIS and SEIS, providing responses to substantive comments received on these documents, and addressing Project changes that occurred after the SEIS was accepted as complete, including changes in response to public and agency input. The DEIS is incorporated by reference into this FEIS, and remains in full effect except where specifically corrected or the Project has been changed. Likewise, the SEIS, which documents changes to the Project since the acceptance of the DEIS, is incorporated into this FEIS as well. This FEIS thus concludes a comprehensive analysis of the potential environmental impacts of the Project to identify reasonable alternatives or mitigation measures to reduce the effect of those impacts to the maximum extent practicable, while weighing the social and economic considerations of the Project. As indicated above, this FEIS does not, in general, reiterate information that remains accurate and unchanged from the DEIS or SEIS. Rather, this information is incorporated herein by reference.

### 1.1 SUMMARY OF SEQRA PROCESS

The SEQRA process for the Jericho Rise Wind Farm was initiated in June 2007 with the submission of a Wind Energy Permit Application (WEPA) to the Chateaugay and Belmont Town Boards. The WEPA was prepared in accordance with the Wind Energy Facilities Laws of the Towns of Chateaugay (Local Law No. 7 of 2006) and Belmont (Local Law No. 2 of 2006), and included a Full Environmental Assessment Form (EAF). The EAF was circulated to potential interested and involved agencies with a notification that the Towns intended to serve as Co-Lead Agencies for the SEQRA review. No objections were received and the Towns assumed the role of Co-Lead Agencies. As Co-Lead Agencies, the Town Boards issued a positive declaration requiring preparation of a DEIS in September 2007 and accepted a DEIS Scope in October 2007.

The Applicant prepared a DEIS, which was accepted as complete by the Co-Lead Agencies in February 2008. The public comment period for the DEIS (typically, 30 days) was extended through April 2008 and included two public hearings, one each in March and April 2008.

As a result of a proposed increase in turbine height, a reduction in the proposed number of turbines, other changes in the layout of Project components, and the time that had passed since preparation of the DEIS, the Applicant prepared a SEIS. The SEIS was submitted on November 10, 2015 and accepted as complete by the Co-Lead Agencies on December 7, 2015. A public hearing for the Project was held on December 30, 2015. The subsequent public comment period for the SEIS concluded on January 11, 2016.

The following represent the next steps in the SEQRA process for the Project, starting with issuance of this FEIS by the Co-Lead Agencies:

- FEIS accepted by Co-Lead Agencies;
- File notice of completion of FEIS;
- 10-day public consideration period;
- Co-Lead Agencies issue Findings Statement, completing the SEQRA process;
- Involved agencies issue Findings Statements.

## 1.2 SUMMARY OF THE DEIS

At the time the DEIS was prepared the Applicant was proposing to develop a wind-powered generating facility of up to 53 wind turbines with a maximum generating capacity of 87.45 megawatts (MW). In addition to the wind turbines, the DEIS Project layout included construction of up to four permanent meteorological towers, 15 miles of gravel access roads, 21 miles of buried and overhead electrical collection lines, an operation and maintenance building, and a point of interconnection (POI) substation facility.

Various plans and support studies were prepared and included in the DEIS, which provided detailed information on discrete topical areas in furtherance of the SEQRA evaluation. These studies included the following:

- Phase 1A Cultural Resource Investigation
- Transportation Study
- TV Broadcast Off-Air Reception, AM/FM Station Locations Analysis
- Licensed Microwave Search and Worst Case Fresnel Zone
- Avian and Bat Studies
- Visual Impact Assessment
- Shadow Flicker Impact Analysis

- Environmental Sound Survey and Noise Impact Assessment
- Wetland Inventory
- Property Value Impact Assessment

In addition to providing a Project description (Section 1.0) and summary of the purpose, need, and benefit of the proposed Project (Section 1.4), the DEIS also presented a summary of the required approvals and regulatory process (Section 1.10), a discussion of the environmental setting, potential environmental impacts and proposed mitigation measures (Section 2.0), unavoidable adverse impacts (Section 3.0), Project alternatives (Section 4.0), irreversible and irretrievable commitment of resources (Section 5.0), growth inducing impacts (Section 6.0), cumulative impacts (Section 7.0), and Project effects on the use and conservation of energy resources (Section 8.0). See the DEIS for a full discussion of these topics. A summary of the potential impacts and mitigation presented in the DEIS is outlined below.

### 1.2.1 Summary of the Potential Impacts

In accordance with requirements of the SEQRA process, potential impacts arising from the proposed action were identified early in the application process and were evaluated in the DEIS with respect to an array of environmental and cultural resources. The potential impacts identified in the DEIS are summarized in the Table 1 below:

**Table 1. Summary of Potential Environmental Impacts Reported in the DEIS**

Environmental Factor	Potential Impacts
Topography, Geology, and Soils	<ul style="list-style-type: none"> <li>• Soil erosion</li> <li>• Soil compaction</li> <li>• Loss of agricultural land</li> </ul>
Surface and Groundwater Resources	<ul style="list-style-type: none"> <li>• Stream crossings</li> <li>• Siltation/sedimentation</li> <li>• Temporary disturbance</li> <li>• Wetland filling</li> <li>• Permanent stream crossings</li> </ul>
Biological Resources	<ul style="list-style-type: none"> <li>• Vegetation clearing</li> <li>• Incidental wildlife injury/mortality</li> <li>• Loss or alteration of habitat</li> </ul>
Land Use and Zoning	<ul style="list-style-type: none"> <li>• Adverse and beneficial impacts on farming</li> <li>• Changes in community character/land use</li> </ul>

Environmental Factor	Potential Impacts
Socioeconomic	<ul style="list-style-type: none"> <li>• Host community payment / PILOT</li> <li>• Revenue to participating landowners</li> <li>• Expenditures on goods and services</li> <li>• Tourism</li> <li>• Short and long-term employment</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Road wear</li> <li>• Traffic congestion/delays</li> <li>• Road system improvements/upgrades</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>• Visual impacts on architectural resources</li> <li>• Disturbance of historic archaeological resources</li> </ul>
Visual Resources	<ul style="list-style-type: none"> <li>• Visual change to the landscape</li> <li>• Visual impact on sensitive sites/viewers</li> <li>• Shadow-flicker impact on adjacent residents</li> </ul>
Community Services, Public Utilities, and Infrastructure	<ul style="list-style-type: none"> <li>• Demands on police/emergency services</li> <li>• Telecommunication interference</li> <li>• Utility distribution lines and poles</li> <li>• Bulk power system upgrade</li> <li>• New source of clean renewable energy</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• Interference with public, private or government communication facilities</li> </ul>
Public Safety	<ul style="list-style-type: none"> <li>• Stray voltage</li> <li>• Tower collapse/blade failure</li> <li>• Ice throw</li> <li>• Lightning strike</li> <li>• Fire</li> </ul>
Climate and Air Quality	<ul style="list-style-type: none"> <li>• Construction vehicle emissions</li> <li>• Dust during construction</li> <li>• Reduced air pollutants/greenhouse gases</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Construction noise impacts on neighboring/adjacent residents</li> <li>• Operational noise impacts on neighboring/adjacent residents</li> </ul>

The Executive Summary of the DEIS summarized the anticipated Project impacts in the following way:

*“The Project is expected to result in positive, long-term socioeconomic impacts within the Project Area and across the state, and to provide benefits to the region’s air quality. The Project will result in minor, generally short-term impacts to soils, vegetation, wetlands, wildlife habitat, and transportation facilities as a result of Project construction. The Project will have long-term effects on community character, avian/bat resources, ambient noise levels, and some historic and visual resources during operation. However, with the inclusion of proper mitigation measures, and a*

*Complaint Resolution Procedure (Appendix N), operational impacts other than the Project's visibility will be limited and minor."*

### **1.2.2 Summary of Potential Mitigation**

The DEIS proposed various measures that will be taken to avoid, minimize and/or mitigate potential environmental impacts. General mitigation measures will include adhering to requirements of various local, state, and federal ordinances and regulations, and entering into development agreements with adjacent landowners. The Applicant will also employ an environmental monitor to assure compliance with permit requirements and environmental protection commitments during construction and operation of the Project. The proposed Project will result in significant environmental and economic benefits to the area. These benefits also serve to mitigate unavoidable adverse impacts associated with Project construction and operation. As described in the DEIS, specific measures designed to mitigate or avoid adverse potential environmental impacts during Project construction or operations include the following:

- Siting the Project away from population centers and areas of residential development.
- Siting Project components outside of areas of mature forestland to the extent practicable.
- Locating access roads and turbines along field edges where practical and in field corners to avoid or minimize disturbance of agricultural land.
- Keeping turbines a minimum of 1,000 feet from residences in Belmont and 1,320 feet from residences in Chateaugay that do not directly receive Project benefits, to minimize noise and visual impacts.
- Utilizing multiple-megawatt scale turbines to reduce the length of interconnect and access roads per megawatt of capacity.
- Burying electrical interconnection lines between turbines except where unavoidable due to sensitive environmental/cultural resources or construction constraints, in order to minimize agricultural impacts.
- Using existing roads for turbine access whenever possible to minimize disturbance to agricultural land, wildlife habitat, wetlands, and streams.
- Utilizing construction techniques that minimize disturbance to vegetation, streams, and wetlands.
- Siting the interconnection substation facilities in an area screened by existing mature vegetation.
- Painting the turbines with a matte non-specular finish.
- Developing and implementing a sedimentation and erosion control plan.
- Proposing a compensatory stream/wetland mitigation program.
- Siting select turbines to avoid or minimize wetland, wildlife, or visual impacts.
- Performing post-construction monitoring to improve understanding of possible avian impacts.

- Siting turbines to avoid interference with microwave and AM/FM communication systems.
- Implementing agricultural protection measures to avoid, minimize, or mitigate impacts on agricultural land and farm operations.
- Developing a traffic and dust management plan during construction.
- Upgrading public roads utilized during construction and removing temporary road improvements upon completion of construction activities unless otherwise requested by Towns.
- Finalizing a component delivery plan that minimizes impacts on residential areas.
- Developing and implementing a historic resource protection plan in concert with the New York State Historic Preservation Office (SHPO).
- Developing and implementing a Complaint Resolution Procedure.

### 1.3 SUMMARY OF THE SEIS

The SEIS was prepared to build upon the information and analysis in the 2008 DEIS that was previously prepared for the Project. The SEIS addressed all changes to the proposed action that have occurred subsequent to the DEIS, and includes additional studies and analyses. In general, the SEIS did not reiterate information from the previous DEIS that remained accurate and unchanged. The SEIS did not include a comprehensive response to public/agency comments received on the DEIS. However, whenever possible, the SEIS addressed substantive issues that were raised in these comments (in those instances where the comments are applicable to the currently proposed Project layout).

New data collected since the submittal of the DEIS, and which were presented in the SEIS include, but were not limited to, the following:

- Comprehensive field-based wetland delineation and water resources evaluation, conducted in coordination with the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Army Corps of Engineers (USACE);
- Comprehensive survey for rare plants with the potential to occur within the Project Site;
- Subsurface archaeological resource investigations, conducted in accordance with field study guidelines for wind energy facilities that were developed by the New York SHPO (NYSHPO, 2006);
- A review of historic architectural resources within a 5-mile radius of the Project Site that are either listed on, or are potentially eligible for listing on, the National Register of Historic Places (NRHP), conducted in accordance with guidelines developed by the New York SHPO (NYSHPO, 2006);

- Updated and expanded bird and bat studies, including a breeding bird survey conducted in accordance with NYSDEC study guidelines (NYSDEC, 2009) and acoustic and mist-net bat surveys conducted in accordance with U.S. Fish and Wildlife Service (USFWS) 2015 Indiana Bat Summer Survey Guidance (USFWS, 2015);
- An updated assessment of avoided air emissions from the Project; and
- An updated economic and fiscal impact study reflecting the current Project.

In addition, the Applicant updated the following impact assessment studies, which were originally conducted and reported on in the Project DEIS. These revised investigations evaluate the revised Project facility layout presented in the SEIS:

- TV broadcast reception impacts;
- Licensed microwave beam paths and worst-case Fresnel zone;
- Updated information regarding potential avian and bat impacts, including a review of mortality impacts at existing wind farms in the state and region;
- Visual impact assessment, with new photo simulations from the viewpoints evaluated in the DEIS;
- Shadow flicker impact analysis;
- Environmental sound survey and noise impact assessment;
- Land use impact assessment;
- Impacts to geology and soils, including farmlands of statewide significance and prime farmland soils; and
- Additional information regarding potential property value impacts.

### ***1.3.1 SEIS Project Description***

The Project layout described in the SEIS includes up to 37 wind turbines, each with a nameplate capacity of 2.1 megawatts (MW), for a total anticipated nameplate generating capacity of 77.7 MW. The Project has submitted an interconnection request and is currently proceeding through the Class Year 2015 Study with the New York Independent System Operator (NYISO) for 77.7 MW. To allow for flexibility on final site selection, the SEIS evaluated six alternate turbine sites, for a total of up to 43 sites plus associated infrastructure.

The Applicant plans to utilize the Gamesa G114-2.1 wind turbine or equivalent model. Consequently, the assessment of potential environmental impacts throughout the SEIS assumed that the Project will use Gamesa G114-2.1 wind turbines, which have a “hub height” (height from foundation to the rotor hub) of approximately 93 meters (305 feet) and a rotor diameter of 114 meters (374 feet), resulting in a total maximum height of 150 meters (492 feet). In addition to

the wind turbines, the proposed SEIS Project layout includes construction and operation of one permanent meteorological (met) tower, 10.3 miles of gravel access roads, 17.2 miles of buried and overhead collection line, a collection system substation, and a POI switchyard.

The SEIS Project Site is very similar to the Project Site previously identified in the original WEPA and in the DEIS. The SEIS Project Site includes approximately 5,895 acres of leased private lands that are roughly bound by State Route 11 to the north, the Chateaugay River to the east, Brainardsville Road to the south, and the Burke/Chateaugay town boundary to the west. There is significant overlap between the areas studied/identified in the DEIS and those evaluated in the SEIS. However, there are some differences between the SEIS Project layout and the DEIS layout. Generally, the changes in the Project since the DEIS relate to the removal of proposed turbines east of the Chateaugay River. Relative to the DEIS Project layout, the SEIS Project layout minimizes potential environmental impacts by reducing the overall scale of the Project in the following ways:

- The number of proposed turbines has been reduced from 53 to 37. Notably, proposed wind turbines located east of the Chateaugay River have been eliminated from the Project layout. Otherwise, the proposed turbines in the SEIS Project layout are for the most part located in proximity to turbine locations that were previously evaluated in the DEIS.
- The total distance of proposed access roads has been reduced from 15 miles (DEIS), to 10.3 miles (SEIS).
- The total areas of temporary and permanent soil disturbance resulting from construction of the SEIS Project layout total approximately 281 acres and 50 acres, respectively. This is reduced from 384 and 91 acres, respectively, in the DEIS Project layout.
- An on-site O&M facility is no longer proposed for the Project. Instead, the Applicant plans to utilize the existing O&M facility at the Marble River Wind Farm.

Differences between the DEIS and SEIS layouts are summarized in Table 2. Layout changes have been made primarily to accommodate the larger Gamesa G114 2.1 MW wind turbines, but also in response to study results and feedback from landowners and agencies designed to minimize environmental and land use impacts.

**Table 2. Comparison of DEIS and SEIS Project Layouts and Impacts**

<b>Project Component</b>	<b>DEIS Project Layout</b>	<b>SEIS Project Layout</b>
Wind Turbine Model	Vestas V-82 1.65 MW Hub Height: 80 meters (262 feet) Rotor Diameter: 82 meters (269 feet) Total Height: 121 meters (397 feet)	Gamesa G114-2.1 2.1 MW Hub Height: 93 meters (305 feet) Rotor Diameter: 114 meters (374 feet) Total Height: 150 meters (492 feet)
Number of Wind Turbines	53	37 (+6 alternates = 43)
Number of Met Towers	4	1
Length of Access Roads	15 miles	10.3 miles (+2 miles for alternates)
Length of Collection Lines	21 miles	17.2 miles (+3.7 miles for alternates)
O&M Facility	5,000-8,000 square foot building 5 acres of disturbance	None proposed
Laydown Yard	10 acres	10 acres
Collection Substation/POI Switchyard	4 acres each	1.25 acres
Project Site	5,040 acres 92 parcels	5,895 acres 106 parcels
Temporary Soil Disturbance	384 acres	281 acres
Permanent Soil Disturbance	91 acres	50 acres

As indicated in Table 2, the Applicant is proposing the use of a taller wind turbine with a larger rotor diameter (relative to what was considered in the DEIS) to maximize energy production based on the site-specific wind resource analyses. Fewer turbines are proposed in the SEIS layout as a result of the increased nameplate capacities of the larger wind turbine. Taller turbines can create the potential for impacts due to setback issues, the potential for increased visibility, and higher rotor swept zones. However, when compared to a larger number of shorter turbines, the overall benefits associated with the energy production at the taller height and the net reduction of impacts due to fewer turbines and associated infrastructure outweigh the relatively minor differences in potential adverse environmental impacts.