

# **Heritage Wind Project**

**Case No. 16-F-0546**

**1001.2 Exhibit 2**

## **Overview and Public Involvement Summary**

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## EXHIBIT 2 OVERVIEW AND PUBLIC INVOLVEMENT SUMMARY

### (a) Brief Description of the Proposed Facility

The proposed Facility is a wind-powered electric generating project located in the Town of Barre, Orleans County, New York (see Figures 2-1 and 2-2 for Facility location and layout). The proposed Facility components will be situated on leased private land that is rural/agricultural in nature, with the footprint located wholly within the leased land. The location allows farmers and landowners to continue with existing land uses such as farming and forestry alongside these components. Key terms used to describe the Heritage Wind Project are defined below:

- Facility: The Facility consists of up to 33 wind turbines generating up to 184.8 megawatts of electricity, together with the following structures and equipment:
  - Access roads: The Facility access roads will be approximately 13 miles long. Temporary access roads will be gravel surfaced and typically 60 feet wide to accommodate construction/delivery vehicles. The roads will be restored for use as permanent access roads, which will be gravel-surfaced and typically 16 feet wide.
  - Meteorological (met) towers: Two permanent met towers will be installed to collect meteorological data and support performance testing of the Facility.
  - Collection lines: The Facility includes approximately 37 miles of collection lines to deliver power from the wind turbines to the collection substation. The collection lines will be buried to the maximum extent practicable.
  - Substations: The collection substation will “step up” power to 115kV, and the point of interconnection (POI) substation will interconnect with National Grid’s existing Lockport-Mortimer 115kV transmission line.
  - Temporary laydown yard/staging area: A temporary construction laydown yard of approximately 13 acres will be established to accommodate construction trailers, storage containers, large project components, a temporary concrete batch plant (if needed), and parking for construction workers.
  - Operation and maintenance (O&M) facility: The proposed O&M facility be located on a five-acre site and will consist of two buildings totaling approximately 4,000 square feet. The O&M facility will house permanent staff offices and store maintenance equipment and supplies.
- Facility Area: The general area of interest identified by the Applicant and depicted in Figures 1 through 5 of the Preliminary Scoping Statement (PSS) used to initiate scopes of studies and inform early outreach efforts.
- Facility Site: Those parcels/portions of parcels proposed to host the Facility components, depicted on Figure 3-1.
- Off-site Ancillary Features: Limited to temporary public road improvements in the vicinity of the Facility.

(b) Brief Summary of the Application Contents

A table summarizing applicable exhibits and accompanying appendices required under 16 NYCRR Part 1001 is located after the Table of Contents.

(c) Brief Description of the Public Involvement Program Plan (PIP) before Submission of Application

The draft PIP was submitted to the Siting Board on September 23, 2016. Comments on the PIP were received from the New York State Department of Public Service (NYSDPS) on October 24, 2016, and the Applicant filed the revised PIP on November 23, 2016. The PIP is available on NYSDPS' Document Matter Master (DMM) (<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=16-f-0546>) and on the Applicant's Facility-specific website ([https://www.heritagewindpower.com/article\\_10\\_submissions](https://www.heritagewindpower.com/article_10_submissions)).

The first goal of the PIP is to identify affected stakeholders. Since the PIP's final submission, the Stakeholder List has been updated based on the Applicant's consultations, meetings with stakeholders, and other outreach efforts. See Appendix 2-A for the updated Stakeholder List, which includes host and adjacent landowners.<sup>1</sup> The Applicant has completed the consultations identified in the PIP and has additionally engaged in rigorous direct community outreach. These efforts are recorded in the Cumulative Event Log (see Appendix 2-B), which has been submitted regularly to DMM and will continue to be updated and posted on DMM throughout the Application and certification process.

Per 16 NYCRR § 1000.5, the Applicant submitted a Preliminary Scoping Statement (PSS) to DPS on March 16, 2018. At the close of the public comment period, the Applicant prepared a response document summarizing the comments on the PSS and its response to those comments, which was submitted to DMM. Comments were received from the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Agriculture and Markets (NYSDAM), New York State Department of Health (NYSDOH), as well as the general public. The Applicant has worked to address the majority of topics raised by the stakeholders, public, and potentially affected agencies during pre-application outreach. The key items or concerns raised during these outreach efforts are summarized in the Public Outreach Summary (see Appendix 2-C), which also provides examples of how the Applicant has worked to address the items/concerns.

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<sup>1</sup> For the purposes of the Stakeholder List, "adjacent landowners" include all landowners owning parcels that share a common boundary with parcels housing facility components (e.g., wind turbines, substations, collection lines, meteorological towers, O&M facility, etc.) and all residences within 2,500 feet of the Facility Site.

Public outreach efforts conducted by the Applicant that illustrate its commitment to thorough dissemination of information and public involvement, include: hosting a website; establishing multiple local document repositories; opening a local office and having frequent office hours; hosting numerous open houses; sending out multiple direct mailings to stakeholders; publishing numerous public notices; frequently attending local governance meetings; participating in long-standing community events; hosting “meet the expert” events; and taking interested stakeholders on tours of existing wind farm facilities. In addition to the public outreach efforts listed above, the Applicant has participated in multiple meetings and work sessions with various state agencies including NYSDPS, NYSDEC, NYSDAM, and others. The Applicant fully engaged in robust public outreach efforts throughout the three years leading up to submission of this Article 10 Application. The thematic topics of public concern raised during this period—and the steps taken by Heritage Wind, LLC to address them—are summarized in the table below. A detailed description of outreach efforts is provided in the Public Outreach Summary (see Appendix 2-C).

**Table 2.1 Brief Summary of Key Topics Identified During Pre-Application Outreach**

<b>Key Topics Raised During Pre-Application Outreach Activity</b>	<b>Heritage Wind, LLC Response/Actions</b>
Access to Information	Heritage Wind, LLC has worked to inform the local community of various Article 10 milestones via open houses, mailings, and meetings with the Town Board and others. Heritage Wind, LLC held public information forums, meet the expert events, and hosted a field trip of local wind projects. Also, Heritage Wind, LLC has made non-confidential major documents available via multiple local repositories and its project-specific website.
Wind Turbine Height/Visual Impacts	Heritage Wind, LLC conducted extensive outreach to municipal, state, and community groups to identify visually sensitive resources and viewsheds of concern, and provide the information needed to assess the potential visual impacts of the Facility (see Exhibit 24). Heritage Wind, LLC also expanded its regular office hours to allow public input to identify visual resources of concern. Residents were notified of these open office hours via direct mail once in April 2019, and twice in December 2019. Additionally, two rounds of office hours were held explicitly to allow residents who had not received the notice to provide input.
Public Health and Safety Concerns	Heritage Wind, LLC has hosted meet the expert events focused on public safety and had a noise expert present at the February 28, 2019 Public Forum. In addition, Heritage Wind has corresponded with local airports and provided copies of their Emergency Action Plan to local emergency responders.
Transportation Impacts	Heritage Wind, LLC has coordinated directly with the host community and County to discuss road use and methods to avoid/minimize temporary impacts on transportation and roads associated with the Facility.
Constructability	NYSDAM and other parties expressed concerns about impacts to natural resources such as “muck soils” in the southeastern corner of the Town and stream/water resources in the northwestern area of the proposed Facility Site. In response to these community and stakeholder concerns, Heritage Wind, LLC redesigned the Facility to reduce impacts to these and other sensitive resources.

(d) Brief Description of the Public Involvement Program after Submission of Application

(1) Post-Application PIP

Section 5.3 of the PIP requires the Applicant to identify additional activities to encourage stakeholder participation during the certification process. These activities include: periodically reviewing and updating the Stakeholder List; attending local governance meetings to provide Project updates as needed; providing notice of construction activities to stakeholders; reaching out to non-public entities such as local snowmobiling or equestrian groups active within the Facility Area; and implementing complaint-resolution procedures (see Exhibit 12 and Appendix 12-B). The Applicant will continue its commitment to holding public office hours, supplying local repositories with pertinent documents, and updating the Project website. Information regarding all ongoing PIP activities will continue to be tracked and filed in the monthly tracking report in the Project DMM (see weblink above).

(2) Updated Stakeholder List

The Stakeholder List (see Appendix 2-A), which has been updated throughout the pre-application process, will be filed confidentially with this Application because it includes personal host and adjacent landowner information. The list will be used for mailing notices of Facility milestones, including submission of this Application, and will be updated as new stakeholders are identified.

(3) Stakeholder Identification

The Applicant defines “adjacent landowners” as all landowners owning parcels that share a common boundary with parcels housing facility components (e.g., wind turbines, substations, collection lines, meteorological towers, O&M facility, etc.) and all residences within 2,500 feet of the Facility Site. This list will be updated post-filing to account for any new host or adjacent landowners that are identified as a result of layout changes as well as those that request in writing to be added to the Stakeholder List.

(4) Additional Notices and Mailings

In addition to the notices required under 16 NYCRR §§ 1000.6 and 1000.7, the Applicant mailed notice of the pending Application submittal to the updated stakeholder mailing list as described above. The notice includes information on the Facility generally and the Article 10 Application specifically. A copy of the mailing list and documentation indicating the dates the mailings were made will be provided to the Secretary of the Siting Board.

(5) Publication in Free Community Newspaper

The Applicant will continue to publish notices of the Application, Facility development, and any subsequent information relevant to the certification process, in the following local papers of record: Batavia Daily News, Orleans Hub, and the free community publication the Lake Country Pennysaver.

(e) Brief Overall Analysis

This Section provides the Siting Board with the information required to: (1) make the required findings regarding the nature of the probable environmental impacts of the construction and operation of the Facility on (a) ecology, air, ground and surface water, wildlife and habitat, (b) public health and safety, (c) cultural, historic and recreational resources, and (d) transportation, communications, utilities and other infrastructure; (2) decide whether to grant a Certificate under New York Public Service Law (PSL) § 168(2); and (3) make the determinations required by PSL § 168(3).

(1) Ecology, Air, Ground and Surface Water, Wildlife and Habitat

(i) *Ecology*

Approximately 70% of the 5,813-acre Facility Site is considered agricultural. Approximately 20% and 50% of the Facility Site is hayfield/pasture and row crops, respectively. The Facility Site also includes the following ecological community types: silver maple-ash swamp (16%), successional southern hardwoods (7%), successional shrubland (2%), disturbed/developed (1%), pastureland (1%), pine plantation (1%), shallow emergent marsh (<1%), shrub swamp (<1%), mowed roadside/pathway (<1%), red maple-white pine swamp (<1%), open water (<1%), mowed lawn with trees (<1%), successional old field (<1%), and spruce/fir plantation (<1%). Approximately 206.03 acres (3.5%) of the Facility Site will be temporarily disturbed by the Project; approximately 22.0 acres (.4%) will be permanently converted (i.e., maintained by the Applicant in a successional state); and approximately 47.61 acres (0.8%) will be permanently impacted (i.e., converted to built facilities).

The Applicant has designed the Facility Site specifically to avoid sensitive resources such as agricultural, wetland, and forested land to the maximum extent practicable. Permanent Facility structures have been sited along field edges and in non-agricultural areas where possible to confine disturbance to the smallest feasible areas. Facility access roads have also been sited along field edges to the maximum extent practicable, and roads that must cross agricultural fields will stay on ridgetops and other high ground, where feasible, to minimize cut and fill. In the limited areas where the Applicant could not avoid or further minimize these impacts, it has identified mitigation measures (i.e., restoration seeding, invasive species control, and other best management practices [BMPs]) that will mitigate/offset the impacts (see Exhibit 22).

With respect to wetlands, after completing the initial delineation process for the Facility, the Applicant relocated certain structures, reducing permanent wetland impacts to approximately 0.2-acre, permanent forested wetland conversion to 1.73 acres, and temporary wetland impacts to 0.8 acres. The 0.2 acre represents less than 1% of the total wetland acreage documented within the Facility Site. Detailed summaries of specific impact avoidance measures are provided in Exhibits 9 and 22(n). To address the minor unavoidable impacts to wetland resources, the Applicant is proposing mitigation through an in-lieu fee payment or via on-site mitigation to offset the lost functions of these resources (see Exhibit 22(n)(2)). Any potential indirect impacts to wetlands and other sensitive resources will be avoided/minimized

by implementing plans, including the Facility-specific Stormwater Pollution Prevention Plan (SWPPP) (see Appendix 21-E) and Spill Prevention, Control and Countermeasures (SPCC) Plan (See Appendix 23-B), as well as by implementing other impact minimization measures (e.g., establishing no equipment access and restricted activity areas).

New York Natural Heritage Program (NYNHP) correspondence identified only one significant natural community - an area of sensitive Silver Maple-Ash Swamp along Powerline Road, fully outside of the Facility Site. As described in Exhibit 22, no direct impacts within this area are proposed. In general, temporary and permanent disturbance to vegetation communities is not expected to result in adverse impacts to protected plants or significant ecological communities. The Applicant will implement measures to prevent the spread of invasive species and has included an Invasive Species Control Plan (see Appendix 22-B) with the Application.

*(ii) Air*

The Facility will have a positive impact on ambient air quality since it generates electricity without emissions. Although minor air emissions are expected from construction equipment and vehicles, they will be limited to the construction period. To minimize localized air impacts (including fugitive dust and emissions from sources such as the concrete batch plant, as needed), the Applicant will require the contractor to adhere to BMPs, including prohibiting unnecessary idling of equipment and adherence to New York State guidance on controlling fugitive dust emissions.

*(iii) Ground Water*

Operation of the Facility is not expected to affect groundwater quality or quantity. The nearest aquifers are located approximately 0.6 mile west and 1.6 miles east of the Facility Site. Accordingly, no adverse impacts to aquifers are anticipated. The Applicant reached out to NYSDOH for information about public water supplies within 1 mile of the Facility Site and surveyed landowners within ½ mile of wind turbine or substation sites and/or within 500 feet of the Facility Site to obtain information about existing groundwater wells. Based on information received to date, it is unlikely that construction of the proposed Facility will impact water wells. Most wind turbines are located on higher elevations, and the excavations will be comparatively shallow and so are not expected to intercept groundwater. In addition, most of the wells are located more than a quarter mile from the nearest wind turbine. The Applicant will conduct pre- and post-construction baseline testing of certain wells to identify potential impacts and mitigate, as necessary (see Exhibit 23(b)(5)).

During construction, the greatest potential for groundwater impacts is the installation of wind turbine foundations. Any blasting required will comply with applicable laws and be completed according to a site-specific blasting plan designed to protect surrounding structures, including wells (See Appendix 21-C). There is the potential for short-term, minor



impacts to groundwater from accidental discharge of petroleum/chemicals; disruption of groundwater flows down-gradient of proposed wind turbine foundations; minor modifications to surface runoff or stream-flow potentially affecting groundwater recharge characteristics; minor degradation of groundwater quality relating to installation of concrete foundations; impacts to groundwater recharge areas (wetlands); and groundwater migration along collection line trenches. However, these impacts will be insignificant and/or avoided altogether through adherence to the Facility's SWPPP, Blasting Plan and Inadvertent Return Plan (See Exhibit 21), and SPCC Plan (See Exhibit 23), among others. Construction phase impacts will be further avoided through implementation of an Environmental Monitoring & Compliance Plan (ECMP).

(iv) *Surface Water*

NYSDEC mapping indicated the presence of thirteen Class C streams within the limits of disturbance for the Project. Six additional Class C streams were identified through delineation; all streams identified through delineation were either unmapped by the NYSDEC or corresponded/connected with the thirteen NYSDEC mapped Class C streams. Facility construction will temporarily disturb portions of 20 streams (including 9 NYSDEC Class C streams) and permanently disturb 239 linear feet. Over the course of the design process, the Applicant reevaluated the Facility layout to reduce impacts to sensitive resources, including streams, to the maximum extent practicable. The Applicant has attempted to site Facility components to minimize stream crossings and cross at narrow points when streams cannot be avoided. Despite these efforts, direct impacts to surface waters may occur during construction of the Facility, including: an increase in water temperature and conversion of cover type due to clearing of vegetation; siltation and sedimentation due to earthwork, such as excavating and grading activities; disturbance of stream banks and/or substrates resulting from buried cable installation; and the direct placement of fill in surface waters to accommodate road crossings. Indirect impacts to surface waters may result from sedimentation and erosion caused by construction activities (e.g., removal of vegetation and soil disturbance leading to stormwater-related impacts). The Applicant has committed to implementing measures to protect surface water resources from direct and indirect impacts (e.g., establishing no equipment access areas and restricted activity areas, and restricting work periods consistent with NYSDEC guidance). The Applicant also is implementing trenchless technologies, such as horizontal directional drilling, that are designed to avoid and/or minimize stream impacts. Finally, construction impacts will be minimized through measures identified in the SWPPP (e.g., erosion and sediment control practices and daily site inspections) and implementation of the ECMP. The Applicant also will implement erosion and sediment control practices (e.g., dry swales, vegetative filters and level spreaders) to minimize indirect discharges of surface runoff once construction of the Facility is complete. At permanent crossing locations, the Applicant will size culverts to meet U.S. Army Corps of Engineers (USACE) and NYSDEC standards, thus preserving aquatic passage and water quality standards.

The Facility layout has been designed to avoid and/or minimize work within floodplains. No Facility above ground components and less than 0.5 miles of total access road and less than 1.5 miles of buried collection line are located within designated 100-year floodplains. Also, the access road layout has been developed with the deliberate intent to avoid permanent water crossings wherever feasible. Where access roads must cross streams (e.g., there is no other practicable way to access the wind turbine), the crossings have been designed to accommodate high flow levels and meet USACE and NYSDEC culvert sizing standards. During construction, the Applicant will deploy various preventative measures to minimize impacts associated with potential flooding events, such as reinforcing/stabilizing erosion control practices prior to storm events.

(v) *Wildlife and Habitat*

The Applicant conducted comprehensive surveys of wildlife on the Facility Site using a combination of existing databases and field surveys. The key conclusions from these surveys and analyses are set forth below:

- The only mammals (excluding bats) known to occur at the Facility Site are species common to western New York. No endangered/threatened mammal species or species of special concern were identified during on-site surveys or by the NYNHP or U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) tool.
- Although no site-specific surveys for bats were conducted, several widely distributed bat species are likely to be found in the Facility Site, including big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and tri-colored bat (*Perimyotis subflavus*). According to the NYNHP review, there are no known maternity roosts, hibernacula, or critical habitat for the State-listed northern long-eared bat (NLEB) within the Facility Site. However, per NYSDEC, it is possible that NLEB may occur within the Facility Site during fall migration (July 1 – October 1). The Applicant developed a Net Conservation Benefit Plan (NCBP) (Appendix 22-H) to implement measures to avoid and minimize direct and indirect impacts to NLEB and ensure a net conservation benefit to the species. The Applicant's minimization measures will reduce risk to all bat species, specifically migratory tree bats (i.e., eastern red bat, hoary bat, and silver-haired bat).
- No rare, threatened or endangered terrestrial invertebrates were identified within the Facility Site.
- Based on publicly available data, it is estimated that five species of amphibians and three species of reptiles classified as Species of Greatest Conservation Need (SGCN) may be found within the Facility Site. Vernal pools are of particular importance to these amphibian species during early life stages, for reproduction and for egg laying. Efforts have been made to avoid and minimize direct and indirect impacts to vernal pools wherever practicable (see Exhibit 9, Table 9-1). Based on these efforts, impacts to 15 of the 16 vernal pools will be completely avoided. More generally, the Project is expected to have minimal impacts on reptile and amphibian species.

- NYSDEC and USFWS reviewed the protocols for raptor migration and breeding bird surveys, which followed NYSDEC recommended guidelines, as well as the eagle use surveys and eagle nest aerial surveys, which followed recommendations in the USFWS Eagle Conservation Plan Guidance. Data gathered during two years of on-site avian surveys combined with public data sources showed that most birds directly observed were common New York bird species. During on-site surveys, no federally listed avian species were observed, and only five state threatened avian species were observed. See Exhibit 22, Table 22-4 for a comprehensive list of special status species that have the potential to occur within the Facility Site. No active bald or golden eagle nests were documented in the Facility Site. The closest active and occupied bald eagle nest is approximately 1 mile from the southwestern portion of the Facility. Based upon on-site survey results, the Applicant will not be seeking incidental take authorization for State-listed avian species. However, the Applicant has committed to implement avoidance and minimization measures in the NCBP that will benefit all avian species.

Impacts to wildlife are expected to be minimal and not expected to have population-level effects on any single species that occurs in the Facility Site. Construction-related impacts to wildlife include incidental injury and mortality due to construction activity and vehicular movement, habitat disturbance/loss associated with clearing and earth-moving activities, and displacement of wildlife due to increased noise and human activity. However, none of these construction-related impacts will be significant enough to affect local populations of any resident or migratory wildlife species. Tree clearing is intended to take place primarily between November 1 and March 31 when bats and other mammals are in hibernation, and many birds are not nesting. If tree clearing is required outside this season or if an eagle nest or roost is discovered on the Facility Site, the Applicant will implement the measures to avoid/mitigate potential impacts from tree clearing described in the NCBP.

Impacts relating to Facility operation include direct habitat loss, habitat degradation through habitat fragmentation, disturbance/displacement of wildlife due to the presence of the wind turbines and other equipment, and incidental avian and bat mortality as a result of collisions with operating wind turbines. As previously noted, approximately 69% of the Facility Site is comprised of agricultural land, which provides marginal habitat for most species. Facility access roads and collection lines have been sited along existing roads, the edges of agricultural fields, and other previously disturbed areas to minimize impacts to, and fragmentation of, wildlife habitat. Any impacts are not expected to have population level effects on wildlife, as only 35.82 acres of forest habitat and 4.73 acres of grassland habitat of the 5,813-acre Facility Site will be directly impacted, and large amounts of unaffected habitat are present adjacent to the Facility Site. The Facility may also indirectly affect some additional areas of on-site forest and grassland habitat (i.e., areas within 300 feet of the limits of disturbance); however, more than 22,800 acres of forest habitat and more than 4,600 acres of grassland habitat in the surrounding area will be unaffected (see Appendix 22-E). Finally, although up to 44 acres of

interior forest may be affected by the Facility, more than 450 acres of interior forest will remain undisturbed within the Facility Site (in addition to hundreds of additional acres present within the immediate landscape beyond the Facility Site boundaries; see Appendix 22-E).

Although some bird/bat mortality associated with wind turbine collisions is expected, the Facility has been designed to minimize such incidences. Among other things, electrical collection lines between the wind turbines will be buried to the maximum extent practicable. Lighting of the wind turbines (and other infrastructure) will be minimized to the extent possible without compromising site safety and security or Federal Aviation Administration (FAA) compliance and will follow specific design guidelines to reduce collision risk.

NLEB are rarely found at wind farms compared to other bat species. The NYNHP, NYSDEC staff, and the USFWS have indicated that there are no known NLEB maternity roost trees within 1.5 miles or winter hibernacula within 5 miles of the Facility. No NLEB occurrences have been recorded in Orleans County per the NYSDEC 2018 map of known occurrences. Direct impacts to migrating NLEB and other migratory bats will be reduced by curtailing from 30 minutes before sunset to 30 minutes after sunrise from July 1 to October 1 when wind speeds are below 5.5 m/s and temperatures are above 10 degrees Celsius. More generally, the avoidance, minimization, and mitigation measures outlined in the NCBP will offset the potential impacts of the Facility to NLEB and result in a net conservation benefit for the species as well as reduce direct impacts to all bats, specifically migratory bat species.

## (2) Public Health and Safety

To the best of the Applicant's knowledge, there are no known instances of the general public being injured at an operating wind farm in the United States, including from the unique and extremely rare impacts posed by wind farms (e.g., blade throw, tower collapse, ice shedding and ice throw). Moreover, the isolated location of the Facility reduces the already minimal risk to the public presented by these potential impacts (see Exhibit 15).

Significant adverse shadow flicker impacts are not anticipated. Of the 705 potential sensitive receptors identified in the shadow flicker study area, 87 could potentially exceed the 30-hour-per-year design goal; of that number, 46 are on non-participating parcels. The Applicant is committed to limiting shadow flicker to a maximum of 30 hours annually at any non-participating residential receptor and has identified various mitigation measures to achieve that goal (see Exhibits 15(e)(4)). The Applicant will continue to work and refine the project design including the use of curtailment to meet that goal with the final design and operation protocol.

The Facility will not result in any public health and safety issues due to infrasound and audible frequency noise. Modern pitch-regulated wind turbines of the type proposed for this Facility do not create adverse levels of low frequency noise.

As discussed in Exhibit 19, no impact of any kind, whether related to annoyance or health, is expected from Facility-related low frequency noise.

Based on the detailed analyses summarized in Exhibit 19, the Facility has been designed to minimize sound impacts. No non-participating receptors will exceed 45 dBA Leq<sub>9 hr night</sub>, and no participating receptors will exceed 55 dBA Leq<sub>9 hr night</sub>. The proposed limits minimize and mitigate any potential adverse impacts associated with the sound produced by the construction and operation of the Facility and are consistent with the 1999 and 2009 World Health Organization (WHO) guidelines to address sleep disturbance and health effects, respectively. Adherence to these WHO guidelines will avoid potential impacts due to sound from the proposed Facility and will protect the health of residents. To confirm that the Project is not exceeding noise thresholds, the Applicant has prepared a post-construction noise evaluation protocol (Appendix 19-C). Also, a noise-specific complaint resolution plan has been developed (Appendix 19-B).

### (3) Cultural, Historic and Recreational Resources

As discussed in Exhibit 20, the Applicant conducted a comprehensive archaeological assessment of the Project pursuant to a work plan approved by the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP). Within the Facility's Area of Potential Effect (APE) for Direct Effects, the Applicant identified fifteen archaeological resources, none of which were believed to be eligible for listing on the State/National Register of Historic Places (S/NRHP): 11 Pre-Contact Isolates, the W. Orivill Historic Period Site, the W. Parmalee Historic Period Site, the A. Raymond Historic Period Site, and a shovel test revealing a single 1853 coin. Going forward, mapped locations of potentially significant archaeological sites within approximately 200 feet of proposed Facility-related impacts will be identified in construction drawings and marked in the field by construction fencing with signs restricting access. Unanticipated archaeological resources encountered during construction will be addressed consistent with the Facility's Unanticipated Discovery Plan (see Appendix 20-C).

No historic structures will be damaged or removed during construction and operation of the Facility. The Facility's impact on cultural, historic and recreational resources is limited to its potential visual impacts. The historic resources survey identified 522 historic properties located within the APE for Indirect Effects, including 16 S/NRHP-listed properties and 254 properties that were recommended by the Applicant to be S/NRHP eligible. It is anticipated that the Facility will be visible from a subset of these S/NRHP-listed and eligible properties within the APE for Indirect Effects. Following determination by NYSOPRHP regarding the S/NRHP eligibility of the 522 resources included in the survey, a separate Historic Resources Effects Analysis and/or cultural resource mitigation plan will be prepared and submitted to NYSOPRHP that will assess the potential visual impact of the Facility on properties listed on or determined eligible for listing on the S/NRHP by NYSOPRHP, on the overall character and setting of the rural landscape, and suggest mitigation measures to be implemented.

More generally, as discussed in Exhibit 24, the Applicant conducted a comprehensive Visual Impact Assessment (VIA) to determine the extent and significance of the Facility's visual impacts. The study assessed the character and quality of the existing landscape, used models to assess the potential visibility of the Facility within a 10-mile study area, and included simulations of the Facility from various viewsheds in the area. Taking account of the screening effects of topography, vegetation and structures, the visual impact modeling shows that wind turbines will not be visible within approximately 76.9% of the Visual Study Area during daytime hours and within approximately 85.9% of the Study Area during nighttime hours (see the VIA, Appendix 24-A). The Applicant conducted a comprehensive outreach process to identify viewsheds of concern in the community. Sixteen simulations were then prepared to assess the potential visual impact of the Facility in various settings (forest, open water, transportation corridor, rural residential/agricultural and city/village). A panel of four registered landscape architects reviewed the simulations and concluded that the Facility's overall contrast with the visual/aesthetic character of the area will generally be minimal/moderate. Based on experience with currently operating wind power projects, public reaction to the Facility is likely to be highly variable based on proximity to the wind turbines, the affected landscape, and the attitude of the viewer regarding wind power.

#### (4) Transportation, Communications, Utilities and Other Infrastructure

##### (i) *Transportation*

Virtually all of the traffic-related impacts associated with the Facility will occur during construction (see Exhibit 25). There will be a temporary increase in truck traffic on area roadways serving the Facility Site, including conventional construction trucks, crane transporters, concrete trucks, and oversized semi-trailers to transport the Facility components. The delivery of each wind turbine will require the use of approximately 10 oversized/overweight (OS/OW) vehicles. The crane required to assemble the wind turbines will be delivered to the Facility Site using up to 16 trucks; additional trips may be required to transport the crane between wind turbines. Numerous additional truck trips are required to deliver gravel, concrete and other materials to the Facility Site. Although minor traffic delays may occur during delivery of equipment components, because existing traffic volumes are low, local traffic flow should not be significantly impacted. Moreover, the Applicant has identified preventative measures to facilitate transportation and maintain road user safety.

As part of its assessment of the traffic impacts of the Facility, the Applicant's consultant reviewed available traffic information, communicated with local highway supervisors, and drove around the Facility Area to identify possible access routes, assess road conditions, and identify routes that posed safety concerns (sharp curves, steep grades, restricted sight distance). Based on this assessment, the Applicant determined that: there are no posted bridges in the route evaluation study area; there are some culverts along the haul routes that may need improvement; and certain

roadways have other physical restrictions (width, deficient intersection radii, low utility wires, etc.) that must be remedied prior to use by OS/OW vehicles. The Applicant has preliminarily identified the improvements that must be made to the transport routes identified to address deficiencies and ensure safe use. Any damage to local or county roads caused by construction of the Facility will be repaired in accordance with agreements with local communities (i.e., road use agreements [RUAs]). In addition, the Applicant will obtain all required local, county and state permits and approvals (highway work permits, utility work permits, etc.).

Normal operation and maintenance of the Facility will not impact local traffic or road conditions. Periodic trips to each wind turbine location using non-OS/OW vehicles will be necessary to conduct inspections and repairs/maintenance. In the rare instance where a major component requires removal/replacement, the Applicant will be required to transport the components consistent with the RUAs.

*(ii) Communication*

As discussed in Exhibit 26, the Facility is not expected to have an impact on cable or satellite television, AM or FM radio broadcast coverage, amateur radio stations, emergency responder services, municipal/school district services, industrial/business land mobile sites, area-wide public safety and mobile phone communications, microwave telecommunications, the New York State Mesonet, or GPS. The Facility is also not anticipated to result in any significant adverse impacts to Doppler, NEXRAD, or other radar systems. Although minor impacts to certain off-air television signals are possible, the Applicant has committed to addressing any concerns through its complaint resolution process.

The Applicant sent a written notification of the proposed Facility to the National Telecommunications and Information Administration (NTIA) seeking feedback on possible impacts of the Facility on federal communication systems. The NTIA noted that the Facility fell within the notification zone of the Buffalo NEXRAD radar, approximately 43 kilometers (27 miles) from the Facility, well outside the typical range of impact. In addition, the Applicant has submitted a request for Determinations of No Hazard (DNH) from the FAA pursuant to 49 USC § 44718. Upon receipt of the request, the FAA must reach out to the U.S. Department of Defense and other agencies to determine the potential impact of the wind turbines on air safety and military readiness. Issuance of DNHs is confirmation that the wind turbines will not have adverse impacts in these areas.

*(iii) Utilities and Other Infrastructure*

As described in Exhibit 12, there are few public utility systems in the vicinity of the Facility because of the rural nature of the area. The Applicant has reviewed publicly available databases and consulted with local municipalities and other stakeholders to identify major utility systems within the Facility Site. Based on that review, the Applicant identified one 115 kV transmission line owned by National Grid, multiple overhead electric distribution and telecommunications lines,

and municipal water lines within various Town of Barre Water Districts. No other existing utility systems or pipelines were identified within the Facility Site. The Applicant will coordinate with National Grid and other utilities to avoid interfering with transmission, distribution and telecommunications lines. Measures to avoid impacts to water lines, which generally run along the road rights-of-way (ROWs), are summarized in Exhibit 12.

(5) Determinations Pursuant to PSL Section 168

Under PSL § 168(3), the Application must provide the Siting Board with the information needed to make five determinations. These determinations are set forth below.

*(i) The Facility is a Beneficial Addition or Substitution for Electric Generation Capacity of the State*

The Facility is a beneficial addition and substitution for the electric generation capacity of the State as it helps the State achieve the goals of the 2015 State Energy Plan, the recently-enacted Climate Leadership and Community Protection Act, and related State energy policies to increase renewable energy generation and reduce carbon emissions. Based on the results of the System Reliability Impact Study, the Facility is not anticipated to have any adverse effects on the New York power grid. The Facility will improve fuel diversity within the State by increasing the electric capacity from renewable wind power. In so doing, it will reduce demand for fuel and ease fuel delivery constraints.

*(ii) The Construction and Operation of the Facility Will Serve the Public Interest*

In addition to the beneficial impacts to the State's energy grid, the Facility will have a positive impact on air quality, climate change and socioeconomics (e.g., increased employment, increased revenues to local municipalities and landowners, and purchases of products and services in the local community).

*(iii) The Facility Will Minimize/Avoid Adverse Environmental Effects to the Maximum Extent Practicable*

The information contained in this Application and summarized above thoroughly addresses the Facility's environmental impacts. Although some adverse environmental impacts will occur, they will be minimized through the use of various general avoidance and minimization measures to the maximum extent practical, as well as through site-specific mitigation measures, including but not limited to:

- Siting the Facility to largely avoid impacts to wetlands and minimize, to the maximum extent practicable, impacts to forest lands and streams.
- Configuring the Facility to avoid and minimize direct impacts to prehistoric or historic archeological resources.
- Consolidating the layout to minimize vegetation disturbance and reduce impacts to the viewshed
- Relocating certain Facility components to minimize impacts to agricultural land.



With the implementation of these and other avoidance and minimization measures outlined in the Application, the Facility is expected to result in positive, long-term overall impacts that will offset the adverse environmental effects that cannot otherwise be avoided, minimized or mitigated.

The Applicant also has developed programs to ensure that the Facility's impacts will be offset or minimized for the duration of the Certificate. These programs include, but are not limited to: a pair of complaint resolution plans to identify and address concerns that may develop during Facility construction and operation (Appendix 12-B and 19-B); implementation of a post-construction invasive species control plan (Appendix 22-B); implementation of an operation and maintenance plan to optimize the Facility's operational capacity and availability and proactively detect any significant safety or maintenance issues (Appendix 5-D); implementation of a SWPPP, which includes post-construction stormwater control measures (Appendix 21-E); and a post-construction avian and bat monitoring program to monitor any adverse impacts to avian and bat species and determine additional mitigation measures to avoid significant adverse impacts (Appendix 22-F).

*(iv) The Applicant Will Offset/Minimize Impacts to Environmental Justice Communities for the Duration of the Certificate Using Verifiable Measures*

Based on 2011-2015 American Community Survey (ACS) census data obtained from the U.S. Environmental Protection Agency (EPA) Environmental Justice Screening and Mapping Tool, there are no potential environmental justice (EJ) areas within the EJ Study Area; see Figure 28-1. Given this, and the lack of adverse air quality impacts as described in Exhibit 17, no adverse effects to EJ areas are anticipated (see Exhibit 28).

*(v) The Facility Will Comply with State and Local Laws and Regulations*

The Facility will conform to all State substantive requirements for those approvals, consents, permits, certificates, or other conditions needed to construct and operate the Facility. The Applicant's compliance with State requirements is thoroughly outlined in Exhibit 32. The Facility's compliance with local laws and regulations is addressed in Exhibit 31 of this Application. For the most part, the Facility will comply with applicable local laws and regulations. However, the Applicant has requested waivers from certain aspects of the Town of Barre's Zoning Code as set forth in Exhibit 31(e).