

Proposed Stipulations

Deer River Wind Farm
Case 16-F-0267

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NEW YORK STATE BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT
IN THE MATTER OF:

Case No. 16-F-0267

Application by Atlantic Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the New York State Public Service Law for the Deer River Wind Farm in the Towns of Pinckney, Harrisburg, Montague and Rodman in Lewis and Jefferson Counties, New York

THE PARTIES HERETO stipulate and agree as follows:

- 1) The Deer River Wind Farm is discussed in an Article 10 Preliminary Scoping Statement (“PSS”) submitted to the New York State Board on Electric Generation Siting and the Environmental (“Siting Board”) in May 2017 by Atlantic Wind LLC (“Applicant”). The term “Facility” as used herein includes the wind turbines, access roads, collection lines, substation, permanent meteorological towers, staging/laydown areas, and operations and maintenance (O&M) building as well as any other improvements subject to the Siting Board’s jurisdiction.

The Application will provide reports and supporting information based on the studies, evaluations, and analyses set forth in these stipulations to satisfy the application requirements of Article 10 of the Public Service Law. These stipulations are governed by Section 163 of the Public Service Law and by any application requirements for federally delegated environmental permits issued by the New York State Department of Environmental Conservation (NYSDEC), if applicable.

- 2) The Parties hereto may limit their concurrence to one or more of the specific subject area stipulations by so indicating in a notation next to their signature. A signature without any such notation shall indicate concurrence with the entire stipulation.
- 3) Those signing these stipulations agree that, as of the date hereof, the studies outlined herein constitute all the necessary studies concerning the subject matter of these stipulations that the Applicant must provide to satisfy Section 164(1) of the Public Service Law. Except as provided herein, and in accordance with 1000.5(k) the signatories agree not to request the Applicant to provide additional studies concerning the subject matter of these stipulations in connection with the Article 10 proceeding.
- 4) Under any of these following circumstances the Applicant agrees to perform additional studies, evaluations, or analyses:
 - a) A new statute, regulation, or final, non-reviewable judicial, federal, state, or administrative regulation, ruling, or order is adopted subsequent to the date of these stipulations that necessitates such additional studies, evaluations, or analyses;
 - b) Atlantic Wind LLC proposes a substantial modification to the Facility or other inputs to the stipulated studies, evaluations, or analyses that will materially affect the results of the studies, evaluations, or analyses;

- c) Results of the stipulated studies, evaluations, or analyses demonstrate a substantial need for additional or supplemental study, evaluation, or analysis to the extent necessary to meet the requirements of the Article 10 regulations;
 - d) New information is discovered during the course of conducting, or as a result of, the stipulated studies, evaluations, or analyses that materially affects the results thereof;
 - e) New material and relevant information obtained independent of the stipulated studies, evaluations, or analyses demonstrates that the conduct of such studies, evaluations, or analyses, or their results, will be substantially affected and should be modified or expanded to the extent necessary to meet the requirements of the Article 10 regulations; or
 - f) The Chairman of the Siting Board, the Siting Board, or the Presiding Examiner, whose ruling will be appealable to the Siting Board, or Associate Examiner presiding with respect to any proceedings concerning federally delegated or approved environmental permits to be issued by NYSDEC, whose ruling will be appealable to the NYSDEC Commissioner or the Siting Board, as the case may be, requires an additional study, evaluation, or analysis pursuant to 16 N.Y.C.R.R. § 1000.9.
- 5) After the Chair of the Siting Board determines that the Application complies with Section 164 of the Public Service Law, if the signatories, in any of the circumstances listed above, reach agreement as to the implementation of any additional studies, evaluations or analyses, such agreement may be set forth in a new stipulation, but only if and only to the extent necessary to provide sufficient time to permit any such studies, evaluations, or analyses, such agreement may be set forth in a new stipulation, which may include the agreement to extend the statutory deadline for completion of the certification proceeding, but only if and only to the extent necessary to provide sufficient time to permit any such studies, evaluations, or analyses to be conducted and reviewed. Any of the signatories, in the circumstances listed in paragraph 4, who do not reach such agreement, shall be free to submit the matter to the presiding examiner for resolution and shall not be restricted from pleading that the Applicant must provide additional studies evaluations or analyses related thereto during the Article 10 proceeding regarding the subject matter of these regulations.
- 6) Geographic Information System (GIS) shapefiles used in development of the Application will be provided to requesting parties as soon as possible prior to the submittal of the Application to support the information and analyses in the Application. GIS shapefiles of all Project and resource locational information, analyses and graphic exhibit preparation will be provided directly to Department of Public Service (DPS) and NYDEC Staff digitally, along with paper copies of the Application.
- 7) The Applicant will comply with Application filing requirements associated with:
- a) Official notices are provided to each municipality, state legislature members, and persons having filed a statement with the secretary within the past 12 months wishing to receive all such facility notices, listed as necessary to serve the proposed and/or alternative facility site locations. Official notices shall be served and filed as required by 16 NYCRR § 1000.7;
 - b) A discussion of water quality certification procedural steps is included as defined at 16 NYCRR § 1000.8, pursuant to Section 401 of the Clean Water Act; and

- c) An intervenor funding fee will be provided in the amount specified at 16 NYCRR § 1000.10 at the time of application.

Stipulation 1 – 1001.1 General Requirements

- a) The Applicant agrees to provide the information required by 1001.1.
- b) The Application will provide a list of acronyms used throughout the Application as an appendix to the Table of Contents.
- c) The Application Table of Contents for each Exhibit will include a matrix to cross-reference the Final Scope as reflected in signed stipulations, the requirements of 16 NYCRR §1001, and the specific location within the Application of required Application contents, including Application Exhibits, appendices, attachments, and associated materials.

Stipulation 2 – 1001.2 Exhibit 2: Overview and Public Involvement

Exhibit 2 shall contain:

- a) A brief description of the proposed components of the Facility, including all proposed turbine locations and the footprint of all other Facility components. The Parties agree that the following definitions apply to the Facility:
 - 1) Facility: up to 40 wind turbines, access roads, collection lines (buried and overhead), substation, a POI switchyard, 3 permanent meteorological towers, 4 temporary staging/laydown areas for use during construction, and O&M building. The specific location of all Facility components will be identified in the Application. The final turbine model selected may be one of those provided in the Application or may be similar to those analyzed in the Application.
 - 2) The Applicant currently is reviewing various turbine models that will achieve the Project’s 100 MW capacity. The turbine model selected for the Project will have a maximum blade tip height of 180 meters. Regardless of the turbine model that is selected, the Project will include no more than 40 wind turbines.
 - 3) Facility Site: the parcels proposed to host the Facility components, which will be identified in the Application.
 - 4) Facility Area: the general area of interest identified by the Applicant and depicted on Figures 1 and 2 of the Preliminary Scoping Statement (PSS), also depicted on Stipulations Figure 1.
 - 5) Off-site Ancillary Features: limited to temporary public road improvements within the Facility Area.
- b) The Parties agree that a detailed Table providing a brief summary of all applicable exhibits required under Part 1001, which will follow the Table of Contents, will satisfy 16 NYCRR § 1001.2(b)’s requirements.

- c) A brief description of the public involvement program (PIP) plan conducted by the Applicant prior to submission of the Application and an identification of significant issues raised by the public and affected agencies during such program and the response of the Applicant to those issues including a summary of changes made to the proposal (if any) as a result of the public involvement program. Specific components of the PIP conducted to date will be described, including: opportunities for public involvement, development and use of stakeholder list including host and adjacent landowners, the Applicant's efforts relating to language access, identification of any environmental justice areas, the use of document repositories consultation with affected agencies and stakeholders, factsheets on the Article 10 process and intervenor funding and other outreach materials, use of meeting logs, reference to the existing website and toll-free phone number established for the Facility, local project office and the established office hours that personnel will be available to address the public's questions and concerns, timeline for responding to public comments received through these communication portals, and when public document repositories will be updated. The PIP and all other submissions under Article 10 will remain available online at <http://www.avangridrenewables.us/deerriver/index.html> throughout the application review processes.

- d) The Applicant agrees to provide the information required by 1001.2(d). The Applicant will also provide an updated stakeholder list, including host and adjacent landowners, that will be included as an appendix to the Application. The Applicant will include a discussion of how stakeholders have been identified and subsequently added to the list during the scoping and stipulation and public involvement processes and briefly describe how the list will be used for distribution and notification regarding Project milestones, including submittal of the Application. In addition to notifications required under 16 NYCRR 1000.6 and 1000.7, the Applicant should mail notice of the Application submittal to a project mailing list comprising the updated stakeholders list, including host and adjacent landowners, and additional addresses received through public outreach. The notice will include information on the project generally and the Article 10 Application specifically. A copy of the mailing list and documentation indicating the dates and mailings that were made will be provided to the Secretary of the Commission.

- e) The Applicant agrees to provide a brief description of the public involvement program to be conducted by the Applicant after submission of the Application, such as hearings, notification of construction activities, complaint resolution procedures and Complaint Resolution Plan.

Stipulation 3 – 1001.3 Exhibit 3: Location of Facilities

Exhibit 3 shall contain maps, drawings, and explanations showing the location of the proposed Facility, including all interconnections and all ancillary features, in relation to municipalities (county, city, town, and village) and taxing jurisdictions associated with any part of the overall development proposal. Such maps, drawings, and explanations shall include:

- a) Most recent edition of the United States Geological Survey (USGS) 1:24,000 topographic quadrangles printed at full scale (obtained through the digital USGS Topo Map Service) showing:
- 1) The Applicant agrees to provide the information required by 1001.3(a)(1). With respect to the substation, a separate detail map will also be prepared (at an appropriate scale) to depict the collection substation, point of interconnect (POI), and associated voltage. The United States Geological Survey (USGS) 1:24,000 topographic quadrangles map will also show the POI, collection substation, and interconnection lead line. With respect to alternatives, the mapping will depict those alternatives as defined at Stipulation 9(c). With respect to the O&M building, any preliminary locations under consideration will be identified in the Application. See also Stipulation 11, which references inclusion of a typical drawing(s) for the O&M building.
 - 2) The Applicant agrees to provide the information required by 1001.3(a)(2).
 - 3) The Applicant agrees to provide the information required by 1001.3(a)(3).
 - 4) The Application will provide details on the point of interconnection (POI) to National Grid's existing 115 kV transmission line and location of the proposed switchyard facility in relation to the collection substation. The Application will identify the length of the lead line from the collection substation to the switchyard/POI. If it is determined that a transmission line subject to Article VII is required at the time of Application submittal, the Applicant shall describe the details of such transmission line in the Application and provide all necessary information in all applicable exhibits.
 - 5) The Facility will be subject to a number of studies in support of the Application. The various studies undertaken in support of the Application will apply appropriate study areas consistent with 16 NYCRR 1000.2(ar) or resource-specific study areas, which will be described in this section of the Application along with a reference to the exhibit in which more information is provided. The Study Area shall generally include the area within a radius of at least 5 miles from all Facility components, interconnection and alternative location sites. For facilities in areas of significant resource concerns, the size of a study area shall be configured to address specific features or resource issues.
- b) The Applicant agrees to provide the information required by 1001.3(b). With respect to alternative locations, the mapping will not depict alternative locations because as indicated below in Stipulation 9(b), alternative locations that include areas beyond what is owned by or under option to the Applicant are unavailable. In addition to these maps, the Applicant will also provide the latitude, longitude, and ground surface elevation, measured in feet above sea level and based on publicly available data, of all proposed turbines and meteorological towers.
- c) The Applicant agrees to provide the information required by 1001.3(c).

Stipulation 4 – 1001.4 Exhibit 4: Land Use

Exhibit 4 shall contain:

- a) A map of existing land use within a 5-mile radius of each turbine location and 1-mile of all other facility infrastructure will be depicted using the Classification codes of the New York Office of Real Property Services (NYSORPS), which are included in parcel data obtained from Lewis and Jefferson Counties.

To the extent the Facility Site includes “vacant land” classifications, the Applicant will provide additional information on the existing land use of such land based on consultations with the respective landowners or municipal officials. A separate map of land enrolled in NYS Agricultural Districts, conservation programs, NYS 480-a forest management programs or similar long-term program enrollments within or adjoining the Facility site will be included in the Application. In addition, any existing wind turbines within a 5-mile radius of the Facility will be mapped. Stipulations Attachment 1, titled *Map Sizes and Scales* will be used as a guideline regarding approximations of drawing scales to be used for Application submittal. This attachment contains a list of typical wind farm drawings and includes headings for anticipated corresponding extent limits, scales, and proposed drawing paper sizes.

- b) Existing overhead and underground major transmission facilities for electric, gas, or telecommunications will be mapped within a 5-mile radius of the Facility, based on review and interpretation of USGS topographic mapping and/or aerial imagery, to the extent this information is available to the Applicant. The map shall identify all crossings of existing utility lines by the proposed electric facilities. Additionally, any gas lines or oil and gas wells within the Project area, if applicable, shall be identified on this map, and an associated legend will be included listing all known owners of existing utilities, to the extent that information can be obtained by the Applicant.
- c) The Applicant agrees to provide the information required by 1001.4(c), and any publicly known proposed land use plans for any Facility parcels or properties within 2,000 feet of proposed Facility components will be mapped using data from the Lewis or Jefferson County GIS Department or the host Towns.
- d) A map of State Forest Lands, wildlife management areas, reforestation areas, existing and proposed zoning districts within a 5-mile radius of all Facility components will be created by data obtained from State Agencies and local governments, including a description of the permitted and prohibited uses within each zone.
- e) The proposed Facility is located in the Towns of Pinckney, Harrisburg, Montague and Rodman, in Lewis and Jefferson Counties, New York. The Towns of Pinckney, Harrisburg, Montague and Rodman do not have local comprehensive plans; Lewis County has adopted a Comprehensive Plan and a Comprehensive Economic Development Strategy. Jefferson County has adopted a Comprehensive Economic Development Strategy and an Agricultural and Farmland Protection Plan. As discussed in Section 31 below, the Applicant will review County, regional, state, and other relevant land use planning documents and discuss whether the proposed Facility is consistent with those plans.

- f) The Applicant agrees to provide the information required by 1001.4(f) within a 5-mile radius the Facility. In addition, any proposed wind turbines within a 5-mile radius of the Facility will be mapped to the extent the locations of the proposed turbines are known based on publicly available data. If the locations of proposed turbines are not known then such proposals will not be mapped; however, the corresponding section of the Exhibit will describe such proposals.

- g) The Applicant agrees to provide the information required by 1001.4(g) within a 5-mile radius of the Facility and, where applicable, will include:
 - 1) Designated Coastal Areas
 - 2) Inland Waterways and Local Waterfront Revitalization Program Areas
 - 3) Groundwater Management Zones
 - 4) Designated Agricultural Districts designated under NYSDAM Law
 - 5) Flood Prone Areas
 - 6) Critical Environmental Areas
 - 7) Properties that are participating in New York's section 480-A Forest Tax Law
 - 8) Lands under a conservation program

- h) The Applicant agrees to provide the information required by 1001.4(h) within a 5-mile radius the Facility. Two Scenic Byways are located greater than 5 miles but within 10 miles of the proposed Facility—the Black River Trail and the Olympic Trail—and the Application will include a discussion of those features, which will also be mapped for purposes of 1001.4(h).

However, the Parties agree that the following items listed in 16 NYCRR § 1001.4(h) do not apply to this project:

- 1) Wild, Scenic, and Recreational River Corridors. The Applicant will consult with NPS regarding potential impacts to three streams listed in the National Rivers Inventory (NRI): Bear Gulf, Shingle Gulf, and Gulf Stream.
 - 2) Scenic Vistas identified in the Adirondack Park State Land Master Plan
-
- i) The Applicant will review Tug Hill Commission planning and land use documents, the North Country Regional Sustainability Plan, and, the Fort Drum Joint Land Use Study (the current version available at the time of Application submittal (draft or final)), as well as relevant State planning documents such as the 2014 New York Open Space Plan (OSP), the New York State Historic Preservation Plan 2015-2020, the Statewide Comprehensive Outdoor Recreation Plan 2014-2019, and the New York State Office of Parks, Recreation and Historic Preservation Sustainability Plan (April 22, 2009) and Tug Hill North Unit Management Plans for State Forest Lands in the Project Area.. The Application will include a review of each of the above plans, and complete copies of such plans (limited to those portions of the plans obtained by/provided to the Applicant) will be appended to the Application. The Application will also discuss whether the proposed Facility is consistent with these Plans.

 - j) An assessment of compatibility of underground interconnects with existing, potential, and proposed land uses within 300 feet of the centerline of interconnect lines will be presented in the Application.

If above ground interconnections are proposed, an assessment of the compatibility of the line and related facilities with existing, potential, and proposed land uses within 1,000 feet from the centerline of such interconnection will be provided.

- k) The Applicant agrees to provide the information required by 1001.4(k).
- l) The Facility is not located within a designated coastal area or in direct proximity of a designated inland waterway with an approved Local Waterfront Revitalization Plan. Therefore, the parties agree that conformance with the Coastal Zone Management Act and the Waterfront Revitalization of Coastal Areas and Inland Waterways Act are not applicable and will not be addressed in the Application.
- m) Aerial photographs within a 1-mile radius of the Facility will be included with the Application. This mapping will likely be prepared using aerial survey imagery collected by the Applicant in the Fall of 2016. The aerial photograph mapping will be depicted on multiple 8.5" x 11" or 11"x17" sheets at a scale that will allow the identification and discrimination of natural and cultural features.
- n) The Article 10 Application will map Facility components overlaid on aerial photographs, along with the proposed limits of vegetation and soils disturbance. These maps will be created using ArcGIS software. Line symbols will be used to depict the centerlines of proposed access roads and electrical collection lines; point symbols to depict turbine and permanent meteorological tower locations; and polygon symbols to depict the substation, O&M building, and construction laydown areas. Buffers around each Facility component will show the limits of clearing and disturbance required.
- o) It is anticipated that mapping associated with (n) above will be prepared using aerial imagery collected by the applicant in the Fall of 2016. The ultimate source will be identified in the Application. If the Applicant determines there have been changes to land use since the date of aerial photography, additional information to depict and describe changed conditions will be provided, such as overlay to aerial photography, and standard ground-level photography depicting and identifying changed conditions.
- p) The Applicant agrees to provide the information required by 1001.4(p).

Stipulation 5 – 1001.5 Exhibit 5: Electric System Effects

Exhibit 5 shall contain:

- a) The Applicant agrees to provide the information required by 1001.5(a). This section of Exhibit 5 will also discuss when the Applicant anticipates entering the NYISO class year study.
- b) An analysis and/or statement of the impact of the proposed Facility on reliability in the state of New York as evaluated in the SRIS.

- c) A discussion of the impacts of the Facility on ancillary services as evaluated in the SRIS.
- d) A summary of reasonable alternatives that would mitigate adverse reliability impacts as evaluated in the SRIS.
- e) An estimate of the increase or decrease in the total transfer capacity across each affected interface based on analysis in the SRIS. If a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, an evaluation of reasonable corrective measures that could be employed to mitigate or eliminate said reduction will be conducted.
- f) The Applicant agrees to provide the information required by 1001.5(f).
- g) There is no thermal component to the Facility, and therefore the parties agree that the information required by 1001.5(g) is not applicable and will not be addressed in the Application.
- h) The Applicant agrees to provide the information required by 1001.5(h).
- i) The Applicant agrees to provide the information required by 1001.5(i). To help minimize and/or mitigate impacts to active agricultural land and farming operation, the Applicant will consult with NYSDAM personnel and, to the extent practicable, will comply with *Guidelines for Agricultural Mitigation for Wind Power Projects* (NYSDAM 2013), which includes siting goals, construction requirements, restoration requirements, and post-construction monitoring and remediation requirements for wind power developments. The Article 10 Application will identify those provisions within the *Guidelines for Agricultural Mitigation for Wind Power Projects* (NYSDAM 2013) with which the Project will not comply and it will provide an explanation as to why the Project will not comply with these specific provisions. Generally, the Applicant intends to follow the NYSDAM Guidelines, except where a specific landowner has required that the Applicant take certain measures that may be in conflict with those guidelines. A discussion of potential mitigation, following the most recent edition of guidelines established by the NYSDAM will also be included. The Application will address mitigation and avoidance measures to be used during construction of the Project, as well as in the event of maintenance and repairs throughout the life of the project.
- j) The Applicant agrees to provide the information required by 1001.5(j).
- k) The Applicant agrees to provide the information required by 1001.5(k).
- l) The Applicant agrees to provide the information required by 1001.5(l).
- m) Wind energy facilities, such as the proposed Facility, are not suitable for blackstart because there is no guarantee that wind would be blowing at sufficient speed. Therefore, the parties agree that the Application will not address blackstart.

- n) The information required by 1001.5(b) will be provided through the SRIS, the development of which included consultation with NYISO and the local transmission owner.

Stipulation 6 – 1001.6 Exhibit 6: Wind Power Facilities

Exhibit 6 shall contain:

- a) The Applicant agrees to provide the information required by 1001.6(a), including a summary table which outlines setback and height requirements of the turbine manufacturer, the Applicant, and local ordinance or law, as well as the setback recommendations and requirements for the Facility, explaining the rationale for the setback distances, including definitions of terminology from local ordinances in relation to the information to be provided in Exhibit 6(a)(3). The Applicant's proposed setbacks of Facility turbines from Maple Ridge (existing) and Copenhagen (in construction), occupied structures, property lines, existing overhead transmission lines (115kV and greater), and roads will be shown on site plans submitted as part of Exhibit 11: Preliminary Design Drawings. However, if the Applicant determines that the Preliminary Design Drawings are depicting too much information, then a separate set of setback-specific maps will be prepared consistent with the presentation of the design drawings. These setbacks will be based on the tallest proposed turbine presented in the application. If no municipal regulations exist regarding setbacks, the Applicant will provide a description of factors considered for establishing various setback requirements.
- b) The Applicant agrees to provide the information required by 1001.6(b). Explanation will be provided for any instances that the Applicant does not conform to municipal setback requirements and/or the Applicant's proposed setbacks.
- c) The Applicant agrees to provide an example Type Certification associated with at least one of the turbines under consideration for the Facility. Certification will be in accordance with International Electrotechnical Commission (IEC) 61400. The Applicant will provide the status and results of third-party review of wind turbines (if any). If no information is available at the time the Application is submitted because a final decision on the turbine model has not yet been made, the Applicant will describe the procedure for informing DPS Staff of third-party review status and shall submit documentation to Staff upon completion of any type certification of wind turbines per 1001.6(c). The Applicant will provide updates to this exhibit as appropriate throughout the proceeding. A table will be provided in the Application showing each wind turbine class with corresponding information on the suitability of the turbines for use in conditions typical of the Facility Area, such as weather extremes, average wind speed, wind gusts and turbulence intensity. Turbines shown in this table will represent specific suitable models, including class and turbulence categories based on IEC classification (class IA, etc.) that can be installed for this Facility.
- d) The Applicant agrees to provide the information required by 1001.6(d). The Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section

87(2)(d) and 16 NYCRR 6-1.3. The Application will provide non-proprietary information to demonstrate adequate wind conditions for the Facility and discuss the estimated capacity factor.

Stipulation 7 – 1001.7 Exhibit 7: Natural Gas Power Facilities

The parties agree that Exhibit 7: Natural Gas Power Facilities is not applicable to the Facility.

Stipulation 8 – 1001.8 Exhibit 8: Electric System Production Modeling

The Applicant agrees to conduct the required consultation including the choice of production cost simulation software, database and input assumptions, wind shape files, point-of-injection, modeling parameters, modeling input files and other relevant factors as required by 1001.8. The Application will identify the experts conducting modeling and their resumes will be provided. The Applicant will consult with DEC regarding available data and information about air emissions from other facilities, for purposes of performing the required analysis. The Applicant will seek the requisite trade secret protection, pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.3, for digital copies of all inputs used in the simulations required in subdivision (a) of this Exhibit.

Stipulation 9 – 1001.9 Exhibit 9: Alternatives

- a) An identification and description of reasonable and available alternate location sites for the proposed Facility that will be limited to sites owned by or under option to Applicant or its affiliates, as authorized by 16 NYCRR § 1001.9(a). The objective of the proposed Facility is to take advantage of location-specific wind resources in the Facility Area to generate renewable energy. For this reason, the discussion of the proposed Project's ability to promote public health and welfare will necessarily be limited to a discussion of wind energy alternatives in the Facility Area only. The evaluation will describe the process and factors used in site selection, including the physical capabilities of sites based on setbacks, land area including turbine to turbine setbacks, additional impacts to wetlands, wildlife and other relevant impacts that limit the placement of additional turbines at the other proposed projects.

An alternatives evaluation will be based on published land use, and environmental resource information, or information already gathered by the Applicant. However, the general site selection process and relevant information/analyses associated with the Facility will be provided in relation to Exhibit 9(b)(1) through (11). The Applicant will provide a high-level discussion of how the Facility layout was defined, including alternatives considered at the early development stages. This will include a discussion of constraints considered which initially informed Applicant's decision to pursue a project in the general area selected, prior to obtaining specific property rights for the proposed Facility.

- b) The objective of the proposed Facility is to take advantage of location-specific wind resources in the Facility Area to generate renewable energy. For this reason, the discussion of the proposed Project's ability to promote public health and welfare will necessarily be limited to a discussion of wind energy

alternatives only. The Applicant will provide a high-level desktop discussion of a solar powered generation facility, including potential land use impacts, resource impacts, economics and other factors considered in determining the feasibility of a solar alternative. Otherwise, other alternative power generation technologies are not feasible or reasonable alternatives, are not within the Applicant's capabilities and/or objectives for this facility, and a full analysis of alternative technologies will not be included in the Applicant's Article 10 Application. This section of the Application will provide information on the Facility design and technology including:

- 1) The discussion of alternative layouts within the Facility Area shall also include a comparative assessment of the environmental impacts, including a discussion of vegetative clearing, a discussion and comparison of known, estimated, and expected impacts to wildlife and habitat at all alternative sites and layouts, and the associated impacts under each of the alternatives analyzed, based on a desktop-level analysis.
 - 2) Alternate scale and magnitude of the facilities in the context of the interconnection position (i.e., maximum generating capacity of 100 MW) and information on the economic benefits to local communities related to Facility scale and magnitude.
 - 3) A discussion of the maximum number of turbines that could be constructed based on siting factors (including setbacks) and identification of the position of potential turbine locations, as well as an alternate layout in the study area. The discussion will include examples of the number of turbines to be constructed depending on the turbine model selected. Additionally, this section of the Application will address the environmental impacts (i.e., impacts to vegetation, wetlands and streams) of the following alternative layouts:
 - i) The use of taller turbines in the same properties as the proposed layout and the associated increased setbacks from residences, property lines, and public roads such that turbine fall-down distances are wholly within the participating land parcel.
 - ii) Alternative layout within the Facility Area, including layout to achieve conformance, to the degree achievable, with local laws and related standards, if the Applicant proposes to have any local laws related to layout design (i.e. setbacks) waived by the Board as unreasonably burdensome in the Application. The discussion of alternative layouts within the Facility Area shall also include a comparative assessment of the environmental impacts, including a discussion of vegetative clearing, a discussion and comparison of known, estimated, and expected impacts to wildlife and habitat at all alternative sites and layouts, and the associated impacts under each of the alternatives analyzed, based on a desktop-level analysis.
 - 4) The Applicant agrees to provide the information required by 1001.9(c)(5).
- c) The Applicant agrees to provide the information required by 1001.9(d).
- d) The Applicant agrees to provide the information required by 1001.9(e).
- e) The Applicant agrees to provide the information required by 1001.9(f). The parties agree that the "no action/no build" alternative refers to not building the Facility.

- f) The Applicant agrees to provide the information required by 1001.9(g).
- g) The Applicant will not include an analysis of alternative energy supply source and demand-reducing alternatives, as these options fall outside the capabilities and/or objectives of the Applicant.
- h) The Applicant agrees to provide the information required by 1001.9(i).

Stipulation 10 – 1001.10 Exhibit 10: Consistency with Energy Planning Objectives

The Applicant agrees to provide the information required by 1001.10. This will include a discussion of the New York State Clean Energy Standard (CES) and the Facility’s consistency therewith.

Stipulation 11 – 1001.11 Exhibit 11: Preliminary Design Drawings

All drawings prepared in support of Exhibit 11 of the Article 10 Application will be prepared using computer software (e.g., AutoCAD, etc.), will be labeled “preliminary” and “not for construction purposes”, and will be prepared under the direction of a professional engineer, landscape architect, or architect who is licensed and registered in New York State. Four, full-size copies of the drawing set, utilizing a common engineering scale, will be provided to DPS. A CD-ROM containing AutoCAD (or similar format) drawing files will also be submitted to DPS at the time the Application is filed; computer files will be in a defined map projection/coordination system with associated datum. All other printed copies will be at legible and reduced size (i.e., 11” x 17”), also utilizing a common engineering scale (e.g.: 1”=60’; 1”=100’; or 1”=200’). Stipulations Attachment 1, Map Sizes and Scales document will be used as a guideline regarding approximations of drawing scales to be used for Application submittal. This attachment contains a list of typical wind farm drawings and includes headings for anticipated corresponding extent limits, scales, and proposed drawing paper sizes. Exhibit 11 shall contain:

- a) Site plan drawings of all Facility components at a common engineering scale (e.g., 1” = 100’) as listed at 1001.11(a). Adjoining property will be depicted using publicly available data. The drawings will also depict all delineated wetlands (including the 100-foot adjacent areas) and streams. Site plan drawings for any facilities, vegetative clearing and ground disturbance, within 200 feet of wetlands will be shown at a scale at least equal to 1” = 50’. Specific to wind farm construction, the Site Plan drawings will include the following features:
 - 1) Access roads;
 - 2) Outlines of turbine locations and crane pads (typical turbine foundation details are confidential and will be provided under protective cover);
 - 3) Turn-around areas to be used during construction;
 - 4) Proposed grading (all proposed permanent contours);
 - 5) Electric collection lines – the required number of circuits for each collection line route will be indicated on site plans; also, overhead and underground cable routes will be differentiated with specific line-types;

- 6) Generator lead line (if applicable);
 - 7) Approximate limits of disturbance for all project components (turbines, access roads, buildings, electric lines, substation, etc.) based on impact assumptions;
 - 8) Clearing limits for all project components (turbines, access roads, buildings, electric lines, etc.) based on construction limit impact assumptions;
 - 9) Indication of permanent Right-of-Way (ROW) for all electric cable installations;
 - 10) Proposed locations that will utilize trenchless methods of electric cable installations (including layout of approximate laydown areas and trenchless installation distances);
 - 11) Applicant's proposed setbacks from occupied structures, property lines, existing overhead electric lines, and roads;
 - 12) Proposed locations of laydown areas to be used for equipment storage and parking areas and any other temporary or permanent work site/areas for construction, operation and maintenance of the proposed Facility;
 - 13) Collection substation outline, including access driveway and fence line; and indicating property lines and setback distances;
 - 14) Back-up generators and fuel storage areas; and indicating spill containment structures;
 - 15) Outline of switchyard area including access driveway, fence line, property line setbacks, and location of related transmission facilities;
 - 16) Preliminary location of the O&M building, including property lines, setbacks, access driveway and parking area;
 - 17) Permanent meteorological towers; and
 - 18) Outline of concrete batch plant (if necessary as part of facility construction) including access driveway and preliminary or typical equipment configuration.
- b) The Applicant agrees to provide the information required by 1001.11(b).
- c) Soil type and depth to bedrock information based on publicly available data and the results of the Preliminary Geotechnical Investigation. Test borings will be provided which represent the range of geologic conditions anticipated at the Facility. Preliminary cut and fill calculations will be included along with a general description of typical cut and fill scenarios. The Application will provide boring logs and maps indicating location of the pre-Application test borings. Existing and proposed contours and permanent stormwater retention areas (if known at the time of Application submittal) will be shown on the Preliminary Design Drawings.
- d) Based on the proposed Facility layout and the results of various analyses, the Application will discuss the need for landscaping in the form of visual screening, and prepare conceptual screening plans if needed. To determine those areas where trees may be removed, the Facility footprint will be depicted on recent aerial imagery, and the acreage of tree removal will be discussed in the Application. However, an on-site inventory and survey of all trees to be removed will not be included in the Application. The Application will also include reference to contingency measures to be developed to address potential visual screening needs for mitigation of impacts at historic resources, or community or cultural sites, if such measures are proposed and outlined in Exhibit 20.

A preliminary site restoration plan for rapid stabilization of the construction work zones will be provided in the SWPP and construction plans submitted in connection with the Application, NY Department of Agriculture & Markets Guidelines, and erosion and sedimentation control plans.

- e) A lighting plan will be included showing type, location, and height of installation of proposed exterior lighting fixtures and an indication of the measures to be taken to prevent unnecessary light trespass beyond the Facility property line. Lighting specifications for Federal Aviation Administration (FAA) lights on turbines and typical lights to be used at the substation and O&M facility. Manufacturer cut sheets for facility lighting will also be provided, as available to the Applicant.
- f) A typical drawing of an O&M building (including exterior elevations and plan view dimensions) and typical foundation types to be used for the wind turbines. In addition, typical details of other structures or buildings, such as at the collection substation will be included. For the point of interconnection, a typical drawing of the improvements to the existing interconnection substation will be included. Plans will include exterior elevations for all buildings and structures, indicating the length, width, height, material of construction, color and finish of all buildings, structures, and fixed equipment; preliminary sketch showing potential location(s) of building water source, septic system, and electric service lines.
- g) The Application/Preliminary Design Drawings will include typical details for Facility components including access roads, buried and above-ground interconnect lines, wind turbines, wind turbine foundations, and turbine laydown areas. Specifically:
 - 1) The information on and plans for typical underground facilities will include single and multiple circuit layouts with dimensions of proposed depth and level of cover, separation requirements between circuits, clearing width limits for construction and operation of the Facility, limits of disturbance, and required permanent ROW.
 - 2) The information on and plans for typical overhead electric transmission and collection lines, if applicable, will include typical elevation plans, including height above grade, structure layouts, clearing width limits for construction and operation of the Facility, permanent ROW widths, average span lengths for each proposed layout, and structure separation requirements for all single and multiple circuit layouts.
 - 3) Details of overhead river crossings – preliminary layouts will be provided including details of structure types, proposed distance from river banks, limits of disturbance, required construction workspace, and installation methods.
 - 4) This section of the Application will also include typical details associated with horizontal directional drilling (HDD) staging area/bore pits, and will also include information on the need for an on-site concrete batch plant, including a typical plan layout and approximate location. If an on-site plant will not be utilized, then potential options for concrete will be discussed and an estimate of the number of concrete mixing transport trucks required per day will be provided.
 - 5) An 11" by 17" or larger scaled circuit map indicating overhead and underground electric installations and the number of circuits per proposed run.

- 6) In addition, the Application will include technical and safety manuals associated with the range of turbine types anticipated to be used for the Facility, to the extent available. These manuals are available for certain turbines to be presented in the Application, but may not be available for all turbines. Descriptions and specifications of wind turbine towers and blades will also be provided to the extent they are included in these manuals.
- h) A single line drawing of the proposed collection substation Facility from the SRIS will be provided. However, the Facilities study will not be completed until post-certification.
- i) A list of engineering codes, standards, guidelines and practices that the Applicant intends to conform with when planning, designing, constructing, operating and maintaining the Facility.
- j) Details and descriptions of any protective measures (if any) for Project components within or adjacent to “Flood Hazard Areas” will be included in the Application. If this information is not available during Application filing, a description of potential measures to be utilized will be included.

Stipulation 12 – 1001.12 Exhibit 12: Construction

The Applicant agrees to provide the information required by 1001.12, including a discussion of the Applicant’s proposed environmental compliance monitoring plan (e.g., duties of the monitor(s) and reporting responsibilities) and a description of how the Applicant will ensure conformance with applicable design, engineering and installation standards. The Applicant will include a description of the procedures it will follow to notify the public regarding construction activities and schedule, as well as contact information for construction and operation managers.

The Applicant will prepare a formal complaint resolution plan which includes specification of commitments for addressing public complaints, and procedures for dispute resolution during Project construction, operation and decommissioning activities. The Complaint Resolution Plan will include steps on informing the public about the complaint process, the process for registering a complaint, protocols for gathering and analyzing information regarding complaints, and procedures that may be unique for certain types of complaints (e.g. noise) or for different stages of the Project (e.g. construction and operation). A log tracking all complaints (written and verbal) and resolutions will be maintained during construction and operations of the Project and will be made available to DPS upon request. The plan will also describe actions the Applicant will take if the complaint remains unresolved after all these steps are followed.

Stipulation 13 – 1001.13 Exhibit 13: Real Property

Exhibit 13 shall contain:

- a) The Application will include a tax parcel map of the Facility Site that depicts the following: (i) the tax parcel IDs for land parcels that are part of the Facility and the Facility footprint; (ii) zoning for the parcels that are part of the Facility; (iii) necessary access and utility easements for the Facility; and

(iv) public roads planned for use as access to the Facility Site. The data for this map will be obtained from the Lewis and Jefferson County GIS (parcels) along with the United States Census Bureau (TIGER/line files) and the NYS GIS Clearinghouse. These data will also be used to identify owners of record of all parcels included within the Facility Site and for all adjacent properties (such information may be depicted on the maps and/or included on associated tables). To the extent the location of other existing easements are reasonably available to the Applicant at the time of Application submittal, such information will also be depicted and/or described in the Application. Surveys for any fee-owned parcels to be owned by the Applicant (O&M building site, switchyard site, collection substation site, etc.) will be provided in this exhibit.

- b) Using the data referenced above in subpart (a), maps showing all proposed interconnection facilities and associated access areas and construction laydown areas (if proposed specifically in relation to interconnection facilities) will be prepared and included in the Application.
- c) A description of titles or leases for parcels that are secured or under option for the Facility, including ingress/egress access to public roads, easements and rights-of-way. A statement that the Applicant has or can obtain access to parcels needed for the Facility.
- d) A statement that the Applicant has or can obtain access to parcels needed for Facility interconnects and utility infrastructure.
- e) An identification of any improvement district extensions necessary based on consultation with local municipal representatives, and demonstration that the Applicant can obtain any such extensions if necessary.

Stipulation 14 – 1001.14 Exhibit 14: Cost of Facilities

Exhibit 14 shall contain:

- a) An estimate of the total capital costs of the proposed Facility. Specific to turbine costs, the turbine model cost will be an estimate of the average cost of turbine models presented in the Application based on turbine model cost information available to the Applicant at the time of Application submission. The cost estimates will also include the following: land rights costs; equipment costs; legal costs; engineering costs; permitting costs; environmental studies; interconnection. This information is considered proprietary and typically retained as trade secret. Therefore, the Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.3.
- b) A cost estimate based on the Applicant's historical experience, or any of its affiliates' experience, historical and current price quotes, and wind industry standards.

- c) The Application will include an internal work paper that describes the assumptions in estimating the total capital costs as described in 1001.14 (a). However, this information is considered proprietary and typically retained as trade secret. Therefore, the Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.3.

Stipulation 15 – 1001.15 Exhibit 15: Public Health and Safety

The regulations require the application to include a statement and evaluation that identifies, describes, and discusses the potential significant adverse impacts of the construction and operation of the facility, the interconnections, and related facilities on the environment, public health, and safety, at a level of detail that reflects the severity of the impacts and the reasonable likelihood of their occurrence, identifies the current applicable statutory and regulatory framework. To address those topics, Exhibit 15 shall contain:

- a) The Applicant agrees to provide the information required by 1001.15(a). However, many of these categories of wastes will not be produced at the Facility in significant volumes, especially during operation. Thus, this discussion will be limited to the anticipated gaseous, liquid and solid wastes anticipated to be generated during construction, if any, and any liquid or solid wastes generated during operation. If the Facility will have on-site wastewater treatment, the Applicant will consult local municipalities regarding any potential approvals required for any on-site treatment of wastewater or sanitary waters, and that information will be included in the Application.
- b) The Applicant agrees to provide the information required by 1001.15(b).
- c) The Applicant agrees to provide the information required by 1001.15(c).
- d) The Applicant agrees to provide the information required by 1001.15(d).
- e) An analysis of wind power facility impacts including:
 - 1) A literature review of peer reviewed articles, technical journals, and papers prepared by government agencies to identify potential public health and safety impacts including those associated with potential blade throw and tower collapse, along with a discussion of manufacturer recommendations, to the extent available, and local provisions.
 - 2) A literature review of scientific journals and publications from government bodies of the U.S. and countries that are part of the World Health Organization (WHO), or on their behalf, including the guidelines and recommendations of the WHO in its 1999 Guidelines for Community Noise and 2009 Nighttime. Noise Guidelines for Europe, regarding the effects on human health from noise, including audible noise, low frequency noise and infrasound, shadow flicker, including but not limited to effects including sleep disturbances, annoyance, hearing damage, interference with speech, and other potential health impacts, will be included in the Application. The shadow

flicker impact analysis also will include potential long-term and short-term shadow flicker impacts and a discussion of flicker impacts on receptors related to the potential for photosensitive epilepsy. The shadow flicker impact analysis for photosensitive epilepsy will be conducted by estimating the frequency of shadows (in Hertz) and through information available from peer-reviewed scientific/medical literature. Potential for annoyance and complaints will be analyzed as specified in this Stipulation and stipulation 19(k)(3). For identifying limitation of future public and private uses, the noise contour maps and tabular results prepared as stated in Stipulation 19, will be used. Evaluation of annoyance will include at a minimum a review of the following references:

- i. "Best Practices Guidelines for Assessing Sound Emissions from Proposed Wind Farms and Measuring the Performance of Completed Projects," October 13, 2011. Prepared for: The Minnesota Public Utilities Commission Under the auspices of the National Association of Regulatory Utility Commissioners (NARUC), Washington, DC.;
 - ii. Review of the evidence on the response to amplitude modulation from wind turbines. Phase 2 Report. Department for Business, Energy and Industrial Strategy. U.K. Commissioned by the Department of Energy & Climate Change (DECC). United Kingdom. August 2016; (For annoyance from amplitude modulation);
 - iii. Annex D of ANSI standard S12.9 -2005/Part 4 - Sounds with strong low frequency content- (for minimization of annoyance from low frequency sounds);
 - iv. ANSI/ASA S2.71-1983 (R August 6, 2012) Guide to Evaluation of Human Exposure to Vibration in Buildings; (for annoyance from ground borne transmitted vibrations).
 - v. OSHA standards for hearing loss for Facility workers during work shifts.
- 3) A summary of literature review to identify potential public health and safety concerns associated with ice throw; the operational measures that can be employed to minimize the potential for ice throw; and siting criteria and setbacks to be protective of potential ice throw.
 - 4) Potential adverse effects of shadow flicker, based on the analysis to be conducted and provided in detail in Exhibit 24. Shadow flicker and noise impact assessments shall use common receptor identification scheme (e.g., same ID number for receptor will be used for both studies).
- f) Public health and safety-related maps as enumerated in 1001.15(f) will be included in this section, using data from the NYS GIS Clearinghouse, FEMA and the USGS, as well as local sources for emergency response resources.
 - g) The Applicant agrees to provide the information required by 1001.15(g).
 - h) The Applicant agrees to provide the information required by 1001.15(h).
 - i) The Applicant agrees to provide the information required by 1001.15(i).
 - j) The Applicant agrees to provide the information required by 1001.15(j).
 - k) The Applicant agrees to provide the information required by 1001.15(k).

- l) The Applicant agrees to provide the information required by 1001.15(l). This section of the Application will also address the Applicant’s proposed standard inspections for turbine components.

Stipulation 16 – 1001.16 Exhibit 16: Pollution Control Facilities

Exhibit 16: Pollution Control Facilities is not applicable to the Facility and, therefore, the parties agree that this information will not be included in the Application. To the extent temporary emissions sources are needed during construction, this will be addressed in Exhibit 17 of the Application. Please see Stipulation 23(c)(1) for information on the SPDES General Permit for construction.

Stipulation 17 – 1001.17 Exhibit 17: Air Emissions

Exhibit 17 shall contain:

A discussion of the anticipated impacts to air quality expected to result from the proposed Facility’s construction and operation, including from temporary emissions sources such as on-site concrete batch plant and fuel-fired generators, and identification of appropriate control and mitigation measures to minimize adverse impacts. Air permitting and registration permits will not be required for the Facility and therefore will not be addressed in the Application.

Stipulation 18 – 1001.18 Exhibit 18: Safety and Security

The Applicant agrees to provide the information required by 1001.18. In addition, a description of any fire containment system for a fire in the substation will be included in this Exhibit of the Application. For purposes of developing emergency response plans and notification procedures, the Applicant will consult with relevant local, county, and state emergency responders and agencies.

Stipulation 19 – 1001.19 Exhibit 19: Noise and Vibration

Exhibit 19 shall contain a study of the potential noise impacts of the construction and operation of the Project. The study will include the wind turbines, related facilities, and ancillary equipment. Exhibit 19 will include:

- a) A map of the study area in digital format showing the location of sensitive receptors within 1-mile of the Project Area,¹ in relation to the proposed Project, related proposed facilities, and proposed

¹ For purposes of the sound study, if Facility and cumulative sound levels do not exceed any applicable limits or design goals at sensitive receptors within one (1) mile of a wind turbine or substation, the sound impact analysis will not address sensitive receptors beyond one (1) mile. If Facility or cumulative noise levels exceed any applicable limits or design goals at sensitive receptors located one (1) mile or greater from a wind turbine or substation, then the sound impact analysis will include sensitive receptors beyond one (1) mile, up to the distance at which cumulative impacts fall below the applicable limits or design goals, and if this is not possible, up to the distance at which sound impacts from the proposed Facility are 10 dB lower than the sound impacts from other existing and/or

ancillary equipment (including any related substations). The sensitive receptors shown shall include residences (including participating, non-participating, full-time, and seasonal), outdoor public facilities and areas, State Forest Lands, places of worship, hospitals, schools, cemeteries, campsites, summer camps, Public Parks, Federal and NY State Lands and other noise-sensitive receptors, if identified. Seasonal receptors will include, at a minimum, cabins and hunting camps, identified by property tax codes and any other seasonal residences with septic systems/running water.

b) An evaluation of ambient pre-construction baseline noise conditions:

- 1) Will include A-weighted/dBA sound levels and prominent discrete (pure) tones, at representative potentially impacted noise receptors using actual measurement data recorded in winter and summer and during day and night as a function of time and frequency (A-Weighted data will include 1/3 octave bands from 20 Hz. up to 10,000 Hz.) using a suitable and suitably calibrated sound level meter (SLM) and octave band frequency spectrum analyzer or similar equipment.
- 2) The ambient pre-construction baseline sound level will be filtered to exclude seasonal and intermittent noise.
- 3) The pre-construction ambient sound levels will be evaluated in accordance with the requirements of these stipulations and applicable portions of ANSI Standards S12.100-2014 and S12.9 Part 2-1992 R-2013. These methods and standards will be described in the Noise Impact Analysis (NIA) and summarized in Exhibit 19 of the Application.
- 4) Graphical timelines for the A-weighted Leq and the L90 broadband noise levels for each pre-construction sound measurement location will be included in the Application.
- 5) Figures for the un-weighted Leq and the L90 full-octave band noise levels (after exclusions, starting at the 16 Hz full octave band or 12.5 1/3 octave band) for each pre-construction measurement location will also be included.
- 6) Figures of the L90 10-minute noise levels vs. wind speeds at 10 meters as extrapolated from the meteorological tower(s) will also be included.
- 7) The Application will describe how the pre-construction ambient surveys were conducted including specifications for sound instrumentation and weather meters, calibration, settings, positions that were tested, noise descriptors collected, range of sound frequencies evaluated, weather conditions, testing conditions to be excluded, schedules and time frames, testing methodologies and procedures, provisions for evaluation of existing tones and sounds with strong low frequency noise content, if any.

proposed wind energy facilities. In those cases, sensitive receptors beyond one mile will be included in this mapping. See additional provisions on cumulative sound impacts in sections 19 (e) (4) (vi) and 19 (e) (5).

- 8) Measurement locations will include GPS coordinates of the sound microphones and AADT information of the nearest road, to the extent the data is available from the County and/or New York State Department of Transportation (NYSDOT). The Application will include a justification for location selection and specify whether selected locations are representative of potentially impacted receptors.
 - 9) The seasonal noise will be filtered by using the process specified in ANSI/ASA S12.100-2014. The intermittent noise will be filtered by reporting the L90. Each sound collection will be conducted for a minimum of 14 consecutive days.
 - 10) Temporal accuracy of the ambient data will be calculated to a 95% confidence interval using the technique in Section 9 of ANSI S12.9-1992/Part 2 (R2013) or any other applicable statistical procedure as appropriate for the Leq and the L90 noise descriptors.
 - 11) Infrasound data down to 0.5 Hz will be collected at one location² during the ambient measurement programs (summer and winter).
 - 12) The sound instrumentation for ambient sound surveys will comply with the following standards: ANSI S1.43-1997 (R March 16, 2007). Specifications for Integrating- Averaging Sound Level Meters; ANSI S1.11-2004 (R June 15, 2009) Specification for Octave-Band Analog and Digital Filters, and ANSI S1.40-2006 (R October 27, 2011) (Revision of ANSI 1.40-1984) Specifications and Verification Procedures for Sound Calibrators.
 - 13) Data collected out of the range of operation of the sound instrumentation will be excluded. Sound data collected at wind speed exceeding 5 meters per second (11 miles-per-hour) at the sound microphone or portable weather station heights will also be excluded. Pre-construction sound level data collected during periods of rain, thunderstorms and snowstorms will also not be used in the calculation of background sound levels. These exclusions will be indicated on the graphs specified in this section.
- c) An evaluation of future noise levels during construction of the proposed Facility, proposed related facilities and proposed ancillary equipment, including predicted A-weighted sound levels at various distances and at proximate potentially impacted and representative sensitive receptors will be performed using the FHWA Roadway Construction Noise Model (RCNM), or a 3-D computer propagation model or similar. Information will include predicted sound levels at the nearest sensitive receptor(s) around the most critical turbine locations, and the substation, including the loudest pieces of equipment for the different phases of construction and at any proposed batch plant/laydown area. By its very nature, construction equipment typically moves around the site. For

² Identified as position 2 in Figure 2 entitled "Ambient Sound Monitoring Location" in the Preliminary Scoping Statement submitted on May 2017. Infrasound data between 6.3 Hz. and 20 Hz. were collected at all locations.

construction sound level impacts, a “table of sound levels vs. distances” will be presented. The construction analysis will create this table, and include actual distances from expected construction activity to residences around the Project area. This will provide construction sound levels at residences that will be compared to measured existing sound levels. This section will include a discussion of time frames for construction activities indicating seasons of the year, days of the week, hours of the day, and whether construction activities will be performed during evening time (6:00 p.m. to 10 p.m.), nighttime (after 10:00 p.m. or before 7:00 a.m.), weekends or national holidays.

- d) Future sound levels from the Facility will be calculated with the Cadna/A computer software or similar software that uses the ISO 9613-2 standard.
- 1) For the purposes of this stipulation the term “ISO-9613-2” will refer to the ISO 9613-2:1996 Standard or equivalently the ANSI/ASA S12.62-2012/ISO 9613-2:1996 (Modified) Standard with no meteorological correction (Cmet) or equivalently with the meteorological correction Cmet equaled to a value of zero.
 - 2) The Cadna/A model performs calculations for full octave bands from 31.5 Hertz (Hz) to 8000 Hz.
 - 3) Computer noise modelling will be performed at a minimum for the turbine model with the highest Broadband A-weighted sound power level (the turbine that has the highest sound operational levels at the highest wind condition (Maximum dBA sound power level)). If other turbines have lower broadband A-weighted sound power levels but greater maximum un-weighted sound power levels at the 31.5 Hz, or 63 Hz full-octave bands, the discussion of low frequency noise impacts at these bands can be based on the use of the highest sound power levels at those bands, on an additional modelling scenario(s) with the maximum sound power levels at these low frequency bands, or by applying corrections to the low-frequency band results of the computer modelling for the turbine with the highest A-weighted broadband sound power level, as appropriate.
 - 4) Sound power information from the turbines’ manufacturer will be reported as associated with wind speed magnitudes, angular speed of the rotor, and rated power for the basic configuration and for any noise reduction operations for the turbine model used in the Application, if available.
 - 5) The Application will include a discussion and justification for ground absorption “G” values that will be used for sound propagation over land.
 - 6) For the purposes of evaluation of community complaint potential, noise modeling will be conducted by using the ISO 9613-2 Standard, and the Applicant will discuss the recommendations included in the “Best Practices Guidelines for Assessing Sound Emissions from Proposed Wind Farms and Measuring the Performance of Completed Projects,” October 13, 2011. Prepared for: The Minnesota Public Utilities Commission Under the auspices of the National Association of Regulatory Utility Commissioners (NARUC), Washington, DC. (Designated

as NARUC-2011 in this stipulation).

- 7) The predicted sound levels from ISO 9613-2 will be reported for sensitive receptors in tabular format and shown at sensitive receptors and external property boundaries through graphical isolines of A-weighted decibels. Contours will be at 1-dBA increments. Noise contours representing sound levels in multiples of 5 dB will be differentiated.
- 8) Participating, developed, and, undeveloped (vacant) non-participating properties will be differentiated. Only properties that have a signed contract with the Applicant as of the date of filing the Application will be identified as “participating”.
- 9) A temperature of 10 degrees Celsius and 70% relative humidity will be used to calculate atmospheric absorption for the ISO 9613-2 model. These conditions result in the smallest reduction in sound levels caused by air absorption at the key frequencies for A-weighted sound levels.
- 10) Additional modeling scenarios for evaluation of mitigation options for impact avoidance or minimization will be included, if needed. In this case, results will be differentiated. (e.g.: “mitigated” vs. “un-mitigated”).
- 11) Annual, seasonal and Night 8-hour Sound Level Noise Modelling:
 - i) A full year of meteorological data will be used to calculate the hub height wind speed and related sound power levels for each hour of the year (8,760 hours). This information will be aggregated into “bins” for each sound power level provided by the wind turbine manufacturer under consideration and presented in the Application. From these data, the sound exceeded for 10% of the time over the course of one year (L10) can be calculated, as well as the sound exceeded for 50% of the time over the course of one year (L50). These will be done by running ISO 9613-2 with the sound power level associated with the L10 and L50 conditions calculated above. The Application will report worst case (L10) and typical (L50) operational sound levels. The sound levels will be driven by the hourly wind speed, which drives the resultant sound power level of the wind turbines. These calculations will be done for two scenarios: all hours in a year (including hours below cut-in speed), and only those hours in a year above cut-in speed and below cut-out speed.³
 - ii) An equivalent sound level for all nighttime hours in one year (Leq, night, 1-year) will be calculated from the same hub height wind speed data set as item 19(d)(11) above. This will be done using the percent time matched to sound power level at a given wind speed, and will be calculated on an energy basis. This Leq, night, 1-year sound power level will be

³ Details of data and calculations will be delivered to DPS and DOH in spreadsheet compatible or tabular format and will be filed with and treated by the Records Access Officer, ALJ, or other presiding officer as confidential, if requested and approved pursuant to the Freedom of Information Law or Protective Order.

input to ISO 9613-2 to calculate the “L_{night, outside}” sound level at all sensitive receptors. These calculations will be done and reported for all sensitive receptors for two scenarios: all hours in a year (including hours below cut-in speed), and only those hours in a year above cut-in speed and below cut-out speed.⁹

- iii) The highest 1-hour sound level will be modeled using the highest sound power level of the proposed wind turbine(s). Since an 8-hour nighttime sound level cannot be any higher than eight consecutive 1-hour sound levels under the highest sound power level condition, the highest 1-hour result at each receptor will be assumed to be equivalent to the Leq, night, 8-hour sound level. The same is true for the highest 1-hour daytime sound level. The highest 1-hour sound level will be assumed to be equivalent to the Leq, day, 16-hour sound level. The Applicant will not perform 365 8-hour nighttime model runs using one year of hourly on-site wind speed data. Likewise, the Applicant will not perform 365 16-hour daytime model runs using one year of hourly on-site wind speed data. The same conservative modeling assumptions outlined in 19(d)(1) to 19(d)(10) will be input to ISO 9613-2 to calculate the highest 1-hour Leq sound level at all sensitive receptors.⁴

12) The Application will include a brief discussion about the accuracy of selected outdoor propagation models, methodologies, ground absorption values, assumptions and the correlation between measurements and predictions for documented cases as compared to other alternatives, as available. This will also include a description and general discussion of the site topography between turbines and receptor locations as applicable to the site, and its effects on accuracy of modeling results. (e.g. flat, steady or concave slopes) and other factors such as sound power level determination and uncertainties and height of sound receptors above the ground).

13) The model will also include relevant noise sources from substations, proposed ancillary equipment, and emergency generators, if any.

14) A ground absorption factor, G, of zero (G=0) will be used to represent water bodies.

e) An evaluation of future noise levels predicted during operation of the facility, related facilities and ancillary equipment including:

1) Modeled A-weighted/dBA sound levels at all sensitive receptors.

2) A tonal evaluation based on the reported sound power of each wind turbine model and substation transformers under consideration will be performed. This will be done as part of the pre-construction evaluation. The “prominent discrete tone” constant level differences (Kt) in ANSI S12.9-2013/Part 3 Annex B, section B.1, will be used to evaluate tones at the nearest ten

⁴ Details of data and calculations will be delivered to DPS and DOH in spreadsheet compatible or tabular format and will be filed with and treated by the Records Access Officer, ALJ, or other presiding officer as confidential, if requested and approved pursuant to the Freedom of Information Law or Protective Order.

(10) potentially impacted and representative noise receptors using spreadsheet calculations. One-third octave band data will be used for the turbine models where information from the manufacturers is available and included in a spreadsheet to determine if a tonal (prominent tone) condition is possible. Information from the IEC 61400-11 documentation on tonality will be provided for the wind turbine model(s) under consideration. Tonality values for a batch of turbines as specified in IEC 61400-14 Part 14, if available, will also be included in the Application. The Application will include a brief discussion about the effects of tonality on adverse community noise reaction (annoyance/complaints).

3) Amplitude modulation:

- i) The Application will include a literature review of amplitude modulation from wind turbine operations with a summary of findings including, but not limited to a description of the phenomenon, whether amplitude modulation can be predicted, post-construction methods of measurement and evaluation, and post-construction operational mitigation options to avoid, minimize, and mitigate amplitude modulation effects on receptors. The review will also include an analysis of the effects of amplitude modulation in adverse community noise reaction including annoyance and complaints. The literature will be either peer-reviewed or government sponsored. At a minimum, the following reference will be included in the literature review: *Review of the evidence on the response to amplitude modulation from wind turbines. Phase 2 Report. Department for Business, Energy and Industrial Strategy. U.K. Commissioned by the Department of Energy & Climate Change (DECC). United Kingdom. August 2016.*
- ii) A detailed discussion of the met tower data will be included in the Application.
- iii) Reporting of wind shear and turbulence data will be based on one year of on-site met tower data. A summary of minimum, mean and maximum measured values of wind shear and turbulence will be reported.
- iv) Additional standards and guidance documents, (i.e., Annexes B and D of the IEC 61400-11) will be utilized as applicable and appropriate.
- v) A summary of formulae, procedures, and assumptions will be described.

4) Infrasound and low-frequency sounds:

- i) Low frequency sounds for the full-octave bands equal to and greater than 31.5 Hertz will be evaluated at all the sensitive receptors as listed in section (a) of this Stipulation.
- ii) Infrasound for the full-octave band of 16 Hertz will be evaluated as indicated in section 19 (k) (6). A list of sound sensitive receptors with sound pressure levels (SPL's) equal to and greater than 65 dB at 16, 31.5 or 63 Hz, if any, will be reported along with their estimated SPL's. The number of receptors with SPL's equal to and greater than 65 dB will be reported.
- iii) Infrasound for the full octave bands lower than 16 Hz but equal to or greater than 0.5 Hz will be evaluated for the most potentially impacted and representative sensitive receptors listed in section (a) of this Stipulation.

- iv) The Application will include a list of available sound data ⁵, detailed discussion, and appropriate literature references for proposed turbine models or from similar projects with similar wind turbine models.
 - v) Should a model be selected that has available infrasound data, then this information will be used as the basis for infrasound evaluation.
 - vi) Cumulative effects from infrasound, if any, will also be discussed in the Application.
- 5) A cumulative noise impacts analysis from other existing or proposed nearby projects will be performed in the following manner:
- i) For projects that already exist and are operational, pre-construction ambient noise survey results will be analyzed to determine whether noise emissions from existing wind generating facilities in the vicinity had a sound contribution at tested locations. Sound level contribution from existing neighboring wind power generating facilities will be determined by comparison of ambient sound levels from the monitoring location(s) (“ambient” location(s)) that are the closest to the existing operating facility(ies), with other more distant monitoring locations (“background” locations). Relative contribution will be determined by logarithmic subtraction of the most appropriate L90-10- minute statistical sound levels from the same period at both the ambient location and background locations. This analysis will be performed for the most appropriate time periods, such as those with minimal contamination from other sound sources, and meteorological conditions conducive for producing maximal wind power generator sound emissions, as determined from project meteorological towers.
 - ii) If noise contributions from any existing projects are at least 10 dB lower than any noise standard applicable to the Facility, including any local requirements and noise design goals for the Facility, no cumulative assessment will be necessary for such goal, limit or identified threshold. Otherwise a cumulative assessment will be conducted.
 - iii) If noise contributions from any existing projects are not at least 10 dB lower than any noise standard applicable to the Facility, including any local requirements and noise design goals for the Facility, a cumulative assessment will be necessary for such goal(s), limit(s) or identified threshold(s).
 - iv) A computer noise model will be set to estimate noise levels from any existing wind turbines within 2 miles of any proposed turbine for the Project. The layouts will be identified from publicly available information or aerial photography. Topography will be extended in those areas where a turbine is found within 2 miles of a proposed turbine for the Project and any identified sensitive receptor within 2 miles of any turbine for the Project will be included into the model. Sound Power Level information for those turbines will be based on publicly available information, information from the manufacturers or information available for other turbines with similar specifications such as dimensions, power generation, and frequency of rotation.

⁵ Confidential data, if any, will be filed with and treated by the Records Access Officer, ALJ, or other presiding officer as confidential, if requested and approved pursuant to the Freedom of Information Law or Protective Order.

- v) For projects that are under construction, permitted, or have a stipulation submitted before the filing the Application, and that are within 2 miles of any proposed turbine for the Project, cumulative impacts will be considered as follows: If noise impact studies, sound contours or forecasted sound levels are publicly available, that information may be used provided it was generated with the use of methodologies that are consistent with the methodologies contained in these stipulations for the thresholds that need to be evaluated. If not, sound levels from these projects may be modeled based on publicly available project layouts, sound power levels, and turbine specifications. If no public information on turbine locations (layout) is available on a project, then that project will not be included in the cumulative modeling. If sound power levels or heights are not publicly available, they will be estimated/assumed based on power generation.
 - vi) In a cumulative impact analysis, any goal, limit or identified threshold is evaluated with and without the noise contributions from other proximal projects.
- f) The A-weighted/dBA sound levels, in tabular form for each sensitive location, will be calculated both with and without periods when the turbines will not be operating (rotating) for the yearly and the seasonal sound levels. Future sound levels as required by 1001.19 Exh.19 (f) will be done using the 8,760 hours of modeled results and assigning them to the corresponding hours defining “winter nighttime”, etc. The tables will include the following:
- 1) The daytime ambient noise level will be calculated from summer and winter background sound level monitoring data. This will be equal to the lower tenth percentile (L90) of sound levels measured during the daytime at each of the monitoring locations. Daytime will be 15 hours (7 AM – 10 PM).
 - 2) The summer nighttime ambient noise level will be calculated from summer background sound level monitoring data. This will be equal to the lower tenth percentile (L90) of sound levels measured at night, during the summer at each of the monitoring locations. Nighttime will be 9 hours (10 PM – 7 AM).
 - 3) The winter nighttime ambient noise level will be calculated from background sound level monitoring data. This will be equal to the lower tenth percentile (L90) of sound levels measured at night, during the winter at each of the monitoring locations. Nighttime will be 9 hours (10 PM – 7 AM).
 - 4) The worst case future noise level during the daytime period will be determined for each sensitive receptor listed in section (a) of this Stipulation by logarithmically adding the most representative daytime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound level monitoring in Stipulation 19(f)(1), to the modeled upper tenth percentile sound level (L10) of the Facility. The L10 statistical noise descriptor corresponds to estimates for one year of operation. Daytime will be 15 hours (7 AM – 10 PM).

- 5) The worst case future noise level during the summer nighttime period will be determined for each sensitive receptor listed in section (a) of this stipulation by logarithmically adding the most representative summer nighttime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound level monitoring in Stipulation 19(f)(2), to the modeled upper tenth percentile sound level (L10) of the Facility at each evaluated receptor. The L10 statistical noise descriptor is proposed to be estimated for the summer nighttime period within one year of operation. Nighttime will be 9 hours (10 PM – 7 AM).
 - 6) The worst case future noise level during the winter nighttime period will be determined for each sensitive receptor listed in section (a) of this stipulation by logarithmically adding the most representative winter nighttime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound level monitoring in Stipulation 19(f)(3), to the modeled upper tenth percentile sound level (L10) the Facility at each evaluated receptor. The L10 statistical noise descriptor is proposed to be estimated for the winter nighttime period within one year of operation. Nighttime will be 9 hours (10 PM – 7 AM).
 - 7) The daytime ambient average noise level will be calculated by logarithmically averaging sound pressure levels (Leq) (after exclusions) from the background sound level measurements over the daytime period at each monitoring location. These calculations will include both summer and winter data. Daytime will be 15 hours (7 AM – 10 PM).
 - 8) Typical facility noise levels for each sensitive receptor listed in section (a) of this stipulation will be calculated as the median sound pressure level emitted by the Facility at each evaluated receptor. The median sound pressure level will be calculated by determining the frequency of site specific meteorological conditions and sound emissions of the Facility due to those conditions. The L50 statistical noise descriptor will correspond to the median daytime sound level in a year.
 - 9) Typical facility daytime noise levels for each sensitive receptor listed in section (a) of this stipulation will be calculated as the most representative daytime equivalent average sound level (Leq) that was calculated from background sound level monitoring in Stipulation 19(f)(7), as related to the use and soundscape of the location being evaluated, logarithmically added to the median Facility sound pressure level (L50) at each evaluated receptor. The L50 statistical noise descriptor will correspond to the daytime in a year as calculated in Stipulation 19(f)(8). Daytime will be 15 hours (7 AM – 10 PM).
- g) A complete description of regulations, ordinances, noise standards, guidelines and goals applicable to the Facility site at sound receptors and boundary lines, and a discussion of the Facility's level of compliance with them. The following Table G-1 summarizes the standards and design goals for this project with respect to sound and vibration. For purposes of comparing predicted sound levels from

the Facility with sound standards and design goals discussed in the Application, Applicant will note the input parameters, assumptions, associated data, and standards that were used for purposes of predicting sound pressure levels from the Facility’s turbines (e.g., south power level, noise descriptors, time frames of determination, ground absorption factors, any corrections, receptor heights used (e.g. 1.5 meters, 4.0 meters) along with its justification) and the criteria that were used in the development of those design goals.

Table G-1 Summary of Sound Standards and Design Goals for Deer River Wind ^{6, 7}

Municipality or Organization	Standard or Design Goal?	Sound Level	Assessment Location	Metric	Period of Time	Participant Status
Town of Pinckney (i)	Standard	50 dBA	Non-Participating Sensitive Receptors	L90	10-Minute Intervals	Non-Participant
World Health Organization (ii) (night) and Case 14-F-0409 (vii)(day)	Design Goal	45 dBA ^{vi}	Residence	Leq	8 hours (day or night)	Non-Participant
Case 14-F-0409 Approval (vii)	Design Goal	55 dBA	Residence	Leq	8 hours (day or night)	Participant
World Health Organization (iii)	Design Goal	40 dBA	Residence	Leq	All nighttime hours over one year	Non-Participant
World Health Organization (vii)	Design Goal	50 dBA	Residence	Leq	All nighttime hours over one year	Participant
National Association of Regulatory Utility Commissioners (iv)	Ideal and Maximum Design Goals	40-45 dBA, respectively	Residence	L90	Long-term mean as obtained with computer modeling. (Daytime and nighttime)	Non-participant
ANSI S12.9-	Design Goal	65 dB	Residence	16/31.5	1-hour	All

⁶ The Towns of Harrisburg, Montague and Rodman do not have specific sound standards to include here.

⁷ The absence of specific goals for ground-borne vibration in this table will not be interpreted as agreement between the parties as to the absence of such goals for the Project. While not listed in this table at this time, Applicant will also include a review of the World Health Organization design goals not listed here, such as goals for property lines, as set forth in Guideline for Community Noise, World Health Organization, Geneva, 1999. Table 4.1 (page 65).

2005/Part 4 (v)		outdoors		/63 Hz		
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References:

- i) Windpower Local Law (Local Law Number 1 of 2006, as revised by Local Law Number 1 of 2018) § 582(6). One (1) dBA will be added to the Leq modeled results from ISO 9613-2 for comparison to the L90.
 - ii) Guideline for Community Noise, World Health Organization, Geneva, 1999. Table 4.1 (page 65).
 - iii) Night Noise Guidelines for Europe, World Health Organization Regional Office for Europe, Denmark, 2009.
 - iv) Assessing Sound Emissions from Proposed Wind Farms & Measuring the Performance of Completed Projects, National Association of Regulatory Utility Commissioners (NARUC), prepared by Hessler Associates, Inc., October 2011.
 - v) American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound – Part 4: Noise Assessment and Prediction of Long-term Community Response, American National Standards Institute ANSI S12.9-2005/Part 4, Annex D. Sounds with Strong Low Frequency Content. Acoustical Society of America, New York, (2005).
 - vi) Subject to 5 dBA tonal penalties for turbine models that may produce audible prominent tones at participating receptors, if any.
 - vii) Case 14-F-0409 Order Granting Certificate of Environmental Compatibility and Public Need, with Conditions, Cassadaga Wind, January 17, 2018.
- h) A table outlining regulations, ordinances, noise standards, guidelines and goals applicable to the Facility. The Applicant will review applicable local codes and will provide a summary of applicable noise standards from these codes. In addition, the Applicant will include a summary of noise-modeling results from the Noise Impact Analysis for all sensitive receptors as listed in section (a) of these stipulations in relation to applicable noise ordinances, standards, guidelines, goals and identified criteria by using the specific requirements as related to noise descriptors (e.g., Leq, L10, Leq-1-year night, L(8-hour night)), weighting scales, and time frame of determination (e.g., minutes/hour, 1-hour, 1-year). The number of receptors exceeding any identified limit, threshold, goal, guideline, or recommendation will be included in the Application (In terms of absolute and relative numbers). For ease of identification and comparison, both the shadow flicker study prepared for Exhibit 24 and the sound study prepared for Exhibit 19 will use the same definition of “sensitive receptor” and will employ a common receptor labelling system. Noise levels for participant and non-participant lot boundary lines will be represented as specified in section (d).
- i) Identification and evaluation of reasonable noise abatement measures for construction activities will be provided, including a description of the construction noise complaint resolution plan (CNCRP) that shall be provided during the construction period. The Application will include an assessment of reasonable noise abatement measures during construction (i.e., implementing BMPs, complaint resolution plan, etc.).
- j) An identification and evaluation of reasonable noise abatement measures for the final design and operation of the Facility including the use of alternative technologies, alternative designs, and alternative Facility arrangements.
- k) An evaluation of the following potential community noise impacts:

- 1) The potential for the Facility to result in hearing damage will be addressed using OSHA standards, U.S. EPA "Levels" document (1974), and WHO-1999.
- 2) Indoor and outdoor speech interference will be addressed using the U.S. EPA "Levels" document (1974) and WHO-1999 Guideline Levels.
- 3) Potential for annoyance and complaints will include a review of peer-reviewed and/or government sponsored literature, studies, and/or publications, specific to the relationship between wind turbine noise and annoyance/complaints. Community complaint potential will be evaluated based upon identified factors, thresholds and guidelines. Number of sensitive receptors grouped by use and by participation status exposed to noise levels equal to and greater than 35 dBA⁸ will be reported in 1 dBA intervals with sound levels rounded to the nearest integer.
- 4) Information regarding construction activities will be included in the Construction Operations Plan, the Preliminary Blasting Plan (if any blasting is determined to be necessary), and the Preliminary Geotechnical Report. Potential for some construction activities (such as blasting, pile driving, excavation, horizontal directional drilling (HDD) or rock hammering, if any) to produce any cracks, settlements or structural damage on any existing proximal buildings, including any residences, historical buildings or infrastructure will be analyzed in this section and included in the Application.
- 5) Potential for ground-borne transmitted vibrations from the operation of the Facility to reach a sensitive receptor including any sensitive technological, industrial, or medical activities and cause vibrations on the floors or on building envelope elements that may be perceived at the receptor will be evaluated through a review of peer-reviewed and/or government sponsored literature, studies, and/or publications. The discussion can be illustrated with publicly available or measured data from similar projects and an analysis of whether ground borne transmitted vibrations from the operation of the turbines could exceed vibration thresholds as recommended by ANSI S2.71-1983 (R 2012) for residential use and ISO 2631-2-2003 for residential use and sensitive equipment. Description of the validity and applicability of findings will include technical considerations such as distances between turbines and evaluated receptors, and turbine specifications (such as turbine masses and frequencies of rotation, if available).
- 6) The potential for air-borne induced vibrations from the operation of the facility to generate annoyance or cause vibrations, rumbles, or rattles in windows, walls, or floors of sensitive receptors will be analyzed by applying the Hubbard Methodology or the outdoor criteria established in annex D of ANSI standard S12.9 - 2005/Part 4. Applicable portions of ANSI 12.2 (2008) may be used for the evaluation of frequency bands where ANSI 12.2 (2008) may be a more restricting criterion, or if it is expected that ANSI S12.9- 2005/Part 4- Annex D guidelines would

⁸ As obtained by following the recommendations of NARUC-2011 guidelines for computer noise modeling.

be met but still represent a potential for perceptible vibrations at indoor locations of sensitive receptors, if any. Maximum sound levels at the 31.5 and 63 Hz bands as predicted with computer noise modeling (ISO 9613-2) will be reported for all sound sensitive receptors specified in section (a) of this stipulation. Discussion of the 16 Hz full-octave band will be based on extrapolated sound pressure data down to the 16 Hz based on the 31.5 Hz model results. The extrapolation will be the difference between the highest manufacturer's sound power data at 16 Hz. and the 31.5 Hz sound power data used for computer modeling if the information is available for all turbine models considered for the project. If no information from the manufacturer is available for the 16 Hz. full-octave band for any turbine models considered for the project, a minimum increase of 4 dB⁹ will be applied to the 31.5 Hz sound pressure results to obtain the 16 Hz SPL results unless sound power information for the 16 Hz. frequency band for any other turbines considered for the project are greater than the one obtained by applying a minimum 4 dB increase to the sound power level used for modeling at 31.5 Hz. In this latter case the correction will be the difference between the maximum sound power level at 16 Hz for any turbines considered for the project and the sound power levels for the 31.5 frequency band used for computer modeling. The correction will be applied to the 31.5 SPL results to obtain the 16 Hz. SPL results.

- 7) A map and a discussion about the potential of low-frequency noise including infrasound and vibration from operation of the facility to interfere with seismological stations within 50 miles, as well as with stations that are part of the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO) International Monitoring System. If the distances from the project site are more than 50 miles, a discussion may be substituted for a map.
- l) A description of the proposed post-construction evaluation studies and a plan for post-construction evaluations to determine conformance with operational noise design goals. These will be included in a protocol that will contain, among other items, sound instrumentation specifications and calibration requirements; equipment settings; criteria for selection of testing locations, noise design goals and limits and descriptors to be evaluated; weather conditions to be tested and to be excluded; seasons and time frames for testing; testing procedures and provisions for processing test results, reporting, and documentation.
- m) An identification of practicable post-construction operational controls and other mitigation measures that will be available to address reasonable complaints, including a description of a complaint resolution plan that shall be provided during periods of construction and operation.
- n) Specific modeling input parameters, assumptions, and any associated data used in sound propagation modeling and calculations will be included as an appendix to the NIA and shall fairly match the unique operational noise characteristics of the particular models and configurations proposed for the facility. Turbine dimensions, hub height, and rotor diameter will be included in the

⁹ Based on the Tachibana criteria. Outcome of Systematic Research on Wind Turbine Noise in Japan. Hideki Tachibana. Inter-noise 2014. Page 4. Figure 4(a).

Application. GIS files with turbine and other noise sources locations, ground elevations, and heights; evaluated participating and non-participating receptor locations; participant and non-participant boundary lines; grading, and topography will be delivered directly to DPS-Staff by electronic means.

- o) A glossary of terminology, definitions, and abbreviations used throughout Exhibit 19 and citations with references mentioned in the Application.
- p) To the extent possible, the findings and results of Exhibit 19 will be reported and presented in the Application in the same order as listed in this stipulation. Some contents can be presented as Appendices (e.g., Pre-construction Ambient Sound Level survey data).

Stipulation 20 – 1001.20 Exhibit 20: Cultural Resources

Consistent with 16 NYCRR § 1001.20 and the New York State Historic Preservation Office Guidelines for Wind Farm Development Cultural Resources Survey Work (the SHPO Wind Guidelines; NYSOPRHP, 2006), the Applicant has initiated consultation with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) to develop the scope and methodology for cultural resources studies for the Facility. This consultation included preparation of a Phase 1A Cultural Resources Investigation and Work Plan which included an Historic Architectural Survey. The Phase 1A investigation was conducted in compliance with the National Historic Preservation Act (as amended), the National Environmental Policy Act, the New York State Historic Preservation Act, as well as all relevant federal and state legislation. The archaeological investigation also was conducted according to the New York Archaeological Council's (NYAC) standards and the historic structures assessment was conducted in compliance with NYSHPO's *Guidelines for Wind Farm Development Cultural Resources Survey Work* (2006).

The parties agree that the scope and methodology outlined in the Phase 1A Cultural Resources Investigation and Work Plan provided in the PSS, in combination with noise impact analysis on historic resources as discussed in Stipulation 19, and Visual Impact analysis required by 1001.24 is sufficient to meet the requirements of 16 NYCRR 1001.20 (a)(1) and (2).

The parties agree that the Phase 1B work plan required by 16 NYCRR 1001.20 (a)(3) will be implemented as established by the Applicant through consultation with the NYSOPRHP.

In the event that any additional cultural resources are identified after the Phase 1B survey, additional work (Phase 2) shall be conducted to determine if any identified resources are eligible for listing to the NRHP. If determined by SHPO to be eligible, the resource should be avoided or mitigation (Phase 3) should be conducted. If impact on the resource is avoided after Phase 1B is conducted, then no additional work is required.

In relation to the agreed upon work plans, the Applicant agrees to provide the information required by 1001.20. In addition, Exhibit 20 will also include a proposed Cultural Resources Mitigation Plan. This Exhibit will also discuss the reasonable avoidance, minimization and mitigation options available to address potential impacts from the Facility on cultural resources.

Stipulation 21 – 1001.21 Exhibit 21: Geology, Seismology, and Soils

Exhibit 21 shall contain:

- a) The Applicant agrees to provide the information required by 1001.21(a)
- b) The Applicant will include a proposed site plan showing existing and proposed contours at 2-foot intervals at a sufficient scale to meet the requirements of 16 NYCRR 1001.21(b). The Applicant will use aerial surveyed data it has collected to create the required 2-foot contours.
- c) Preliminary cut and fill calculations based on 2-foot contours interpolated from publicly available 10-meter elevation data, and based on the results of the preliminary geotechnical investigations including separate approximations for topsoil, sub-soil, and rock. A description of typical scenarios that would result in cut and fill necessary to construct the Facility, such as constructing an access road on a side slope. Information regarding invasive species will be addressed in Exhibit 22(b) of the Application as set forth in Stipulation 22(b) below.
- d) A preliminary calculation of the amount of fill, gravel, etc. based on typical Facility details such as an access road cross section.
- e) The Applicant agrees to provide the information required by 1001.21(e).
- f) The Applicant agrees to provide the information required by 1001.21(f).
- g) The Applicant agrees to provide the information required by 1001.21(g).
- h) Results of a Preliminary Geotechnical Investigation including:
 - 1) Detailed summary of preliminary geotechnical investigations performed, including a description of the rationale for the selection of boring locations and how the data collected will be applied to evaluate the suitability of soils for construction of turbine facilities and other Project Facilities and use of existing soils for re-use as backfill.
 - 2) Results of test borings conducted at a sub-set of turbine locations, including copies of field logs for each boring.
 - 3) Literature review and publicly available data regarding surface and subsurface soil, bedrock, and groundwater conditions.
 - 4) Data analysis.
 - 5) Detailed report with suitability analysis and recommendations.
 - 6) Identification of additional pre-construction geotechnical and geophysical investigations that are recommended for final design of the Facility.
 - 7) The preliminary Geotechnical Investigation Report will be included as an Appendix to Exhibit 21.
- i) A statement that no blasting will be required, if appropriate based on the results and data obtained from the Preliminary Geotechnical Investigation. A preliminary blasting plan will not be included, unless the Preliminary Geotechnical Investigation indicates blasting will be required. If a preliminary blasting plan is

required it will include a pre- and post-construction inventory of adjacent private and public facilities to assess impacts, in any, from blasting operations.

- j) A statement that no blasting will be required, if appropriate based on the results and data obtained from the Preliminary Geotechnical Investigation. An assessment of the potential impacts of blasting will not be included, unless the Preliminary Geotechnical Investigation indicates blasting will be required. The Application will include maps showing the locations of known and permitted quarries and natural gas wells (and associated infrastructure and existing access roads). Information regarding the operating status of existing quarries and gas wells, to the extent that information is available to the Applicant, will be provided. The Application will evaluate potential impacts of Facility construction and operation, including blasting (if proposed), on local mining operations, if present, and will describe construction and setback requirements in relation to gas wells.
- k) A statement that no blasting will be required, if appropriate based on the results and data obtained from the Preliminary Geotechnical Investigation. Mitigation related to blasting will not be necessary, and therefore will not be discussed in the Application, unless the Preliminary Geotechnical Investigation indicates blasting will be required.

If it is determined that blasting will be necessary, the Application will include a description of:

- i. Procedures for notification of blasting operations to municipal officials and potentially affected landowners;
 - ii. Plans for pre- and post-blasting surveys of wells and foundations potentially affected by blasting operations; and
 - iii. Plans for securing timely compensation for damages to wells and foundations that may occur due to blasting.
- l) The Applicant agrees to provide the information required by 1001.21(l). Exhibit 21 will include a description of known or suspected karst features within the Project vicinity and an evaluation of potential karst features to turbine siting and foundation design.
 - m) The Applicant agrees to provide the information required by 1001.21(m), including a preliminary identification and assessment of areas where horizontal directional drilling (HDD) may be performed. If HDD is anticipated, Inadvertent Return (Frac-out) Plan will be included as an Appendix to Exhibit 21 and the Application will include a scaled drawing showing typical HDD equipment staging layout and design.
 - n) Faults within the vicinity of the Facility are not associated with any historic earthquakes. In addition, the USGS Earthquakes Hazards Program does not identify any young faults within the vicinity of the Facility and this will be described in the Application.
 - o) A map delineating soil types at the Facility using data from U.S. Department of Agriculture (USDA) NRCS Web Soil Survey, indicating locations of Prime Farmland, Prime Farmland if drained, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance. Specifically, Prime

Farmland, Prime Farmland if Drained, and Farmland of Statewide Importance will be mapped based on data obtained from the Soil Survey Geographic Database (SSURGO), while Unique Farmland and Farmland of Local Importance will be mapped based on consultation with the local NRCS office (i.e., assuming the local NRCS office is able to provide a list of such soils). The location of drainage tiles will be identified to the greatest extent possible based upon information from landowners and publicly available information. Potential impacts to drainage tile and drainage restoration measures will be discussed in Exhibit 21.

- p) The Applicant agrees to provide the information required by 1001.21(p). The Preliminary Geotechnical Investigation will, in general terms, address the suitability and limitations of existing soils for the proposed site development including excavation stability, erosion hazard, corrosion potential, and foundation integrity. These discussions will be supported by published information of specific soil types and the findings of a limited drilling program (data including soil consistency, composition, density, presence of water/bedrock, etc.) at approximately 10% of the turbine locations. Additionally, these items will also be addressed with discussions pertaining to BMP's that should be employed by the designer/contractor to help minimize potential risks/hazards. Areas where dewatering is anticipated will be identified and typical dewatering methods will be described. If dewatering is addressed in another Exhibit (e.g., Exhibit 23), an appropriate reference to that information will be provided.
- q) Maps, figures, and analyses on depth to bedrock, underlying bedrock types, and vertical profiles of soils, bedrock, water table, seasonal high groundwater (using U.S. Fish and Wildlife Service [USFWS] Online Spatial Geology Data, the USDA NRCS Web Soil Survey, and the Preliminary Geotechnical Analysis), and typical foundation depths. The maps included in the stand-alone Preliminary Geotechnical Investigation will show all Facility components, including access roads and interconnections. Vertical profiles will be associated with test boring locations only, and the locations of borings advanced during the Preliminary Geotechnical Investigations will also be identified on maps included with the report. Areas designated for stockpiling of spoils and fill materials will be identified. If spoil materials will be temporarily stockpiled adjacent to turbine, access road, and trench locations, typical layouts will be provided.
- r) The Applicant agrees to provide the information required by 1001.21(r).
- s) The Facility appears to have minimal vulnerability associated with seismic events based on review of publicly available data. However, components of this Facility will be evaluated, designed, and constructed to resist the effects of earthquake motions in accordance with the American Society of Civil Engineers (ASCE) 7. The seismic design category for Project structures will be determined in accordance with Section 1613 of the New York State Building Code or ASCE 7. In addition, because the Facility is located approximately 14 miles from the nearest large water body (Lake Ontario), there is no vulnerability associated with tsunami events.

Stipulation 22 – 1001.22 Exhibit 22: Terrestrial Ecology and Wetlands

Exhibit 22 shall contain:

- a) Maps, information on, and a description of the plant communities within the Facility Site, and adjacent properties, including plant community mapping using GIS software. For the entirety of Exhibit 22, “GIS”, “GIS software” and “shapefiles” must be compatible with ESRI’s ArcGIS suite of software (e.g. ArcMap). Plant community descriptions will be based on desktop review using National Land Cover Data (NLCD) information and supplemented by Facility-specific field investigations along with roadside observations and aerial photo interpretation for adjacent properties. These maps and shapefiles will show approximate locations and extent of identified plant communities, including areas showing concentrations of invasive species overlaid with areas of proposed disturbance, which will be based on Facility-specific field investigations. In addition, these maps will include the boundary of Deer River watershed, using Hydrologic Unit Code (HUC) 12 boundaries. Specific information on and detailed descriptions of all ecological communities within the Facility Site will follow the *Ecological Communities of New York State. Second Edition* (Edinger et al. 2014). A list of plant species observed during on-site field investigations, and incidentally while on the Facility Site, including the date range(s) of surveys, also will be submitted.
- b) Characterization of impacts to plant communities will be addressed through the following:
 - 1) Proposed temporary and permanent impacts to plant communities, including permanent conversion of forested cover type to another, shall be calculated using GIS software, presented in a summary impact table that will quantify the number of acres of each community type impacted (permanent impact calculations will include all tree clearing for construction and operation of the Facility), include a data table of changes in ecological communities in each HUC 12 watershed and will be discussed in the Exhibit text based on specific assumptions associated with the proposed limits of vegetation clearing for each type of Facility component as identified in the Preliminary Design Drawings associated with Exhibit 11 (soil disturbances will be quantified in Exhibit 21 [Geology, Seismology, and Soils] and reference to soil calculations will be provided in this section of the Application).
 - 2) The plant community mapping referenced in 22(a) above will also depict vegetation cover types throughout the Facility Area in relation to proposed limits of vegetation disturbance. The Applicant will provide to NYSDEC associated GIS shapefiles of all areas of clearing and disturbance. Exhibit 22 will discuss and evaluate fragmentation to grasslands and forested habitat that may occur as a result of Facility construction o.
 - 3) As identified in 6 NYCRR Part 575, a list of all non-native invasive plant, vertebrate, and invertebrate species observed during site-specific field investigation, observed incidentally while in the Facility Area for other purposes, or otherwise known to occur within the Facility Area. Maps and GIS shapefiles (as points or polygons, depending on the amount of area covered) of any observed concentrations of non-native invasive plant species will be included where feasible.

The list of invasive insect species shall be limited to incidental observations of concentrations of insects observed during field surveys conducted in support of Exhibits 22 and 23. This list will include potential evidence of those prohibited and regulated non-native invasive fungal, algal, and cyanobacteria as identified in 6 NYCRR Part 575, and observed during field surveys conducted in support of Exhibits 22 and 23. Evidence of non-native invasive fungal, algal, and cyanobacteria will include, but not be limited to, algal blooms that may be associated with prohibited or regulated algae, or characteristic damage caused to hosts by fungal species (ex. foliar blight or stem lesions cause by Sudden Oak Death). Definitive determination of fungal, algal, or cyanobacteria presence through microscopic or laboratory analysis will not be conducted.

4) An Invasive Species Control Plan that addresses terrestrial and freshwater aquatic species listed in 6 NYCRR Part 575 will be included in the Application. For the purposes of the entirety of Exhibit 22, “invasive species” is defined as all terrestrial and freshwater aquatic species listed at: http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf. Wild parsnip may also warrant specific management and control measures, depending on current populations of such species within and nearby the Facility, which Applicant will discuss with DEC and DPS if appropriate. Specifically, the Invasive Species Control Plan will apply to all prohibited and regulated invasive species and include:

- i. A summary of the survey methods used to identify existing non-native invasive species within the Facility Site. The Application will include preliminary identification of invasive species anticipated to be present within the Facility Site and invasive species incidentally observed during on-site field investigations. The Application will discuss protocols the Applicant will use to confirm baseline invasive species conditions at the Facility Site prior to vegetation clearing or ground disturbance. This effort will help account for any substantial changes between the time of Application submission and start of site disturbance and construction.
- ii. In the event the Applicant proposes possible pre-construction management of non-native invasive species as an avoidance or mitigation measure for potential invasive species impacts from the proposed Project, a plan for those activities, including threshold for action, will be included in the Application. Specific methods the Applicant proposes to use to ensure that packing material, imported fill and fill leaving the Facility site will be free of non-native invasive species, material, seeds, and parts to the extent practicable will be described.
- iii. The Applicant will describe how it plans to determine that fill material brought to the Facility site will be visibly free of non-native invasive species, material, seeds, and parts, by source inspection or other method, or if not free of these species that it will only be used within areas already containing those specific non-native invasive plant and invertebrate species.
- iv. A description of specific methods the Applicant proposes to use to minimize the introduction, proliferation and spread of non-native invasive species associated with site grading, erosion and sediment control measures.
- v. Details of procedures for preventing the spread of invasive species, such as the emerald ash borer, Pine Shoot Beetle, Asian long-horned beetle, and oak wilt, and a discussion of how the Applicant will comply with the state quarantine and protective zones, where applicable.

- vi. Implementation plans for ensuring to the extent practicable that equipment and personnel arrive at and depart from the Facility Site clean and free of all non-native invasive species material, seeds, and parts. The protocol for inspection of equipment arriving at the Project site will be provided in the Application.
 - vii. A detailed description of cleaning procedures for removing non-native invasive species material, seeds, and parts from equipment and, personnel, and proper disposal of materials known to be or suspected of being infested.
 - viii. A detailed description of the Best Management Practices or procedures that will be implemented, and the education measures that will be used to educate workers.
 - ix. A detailed description of a minimum 5-year post-construction monitoring and corrective action plan, and survey measures, including number of sample sites or locations planned to be sampled to identify construction induced changes in non-native invasive species density or distribution, and procedures for revising the Invasive Species Control Plan in the event that the goals of the initial plan (including no net increase in invasive species abundance) are not met within a specified timeframe.
 - x. Anticipated methods and procedures used to treat non-native invasive species that have been introduced or spread as a result of the construction, operation, or maintenance of the Facility.
 - xi. Landscape re-vegetation plans, including specification of native seed mix to be used, as appropriate.
- c) The Applicant agrees to provide the information required by 1001.22(c), and will include a detailed description and quantification of non-invasive plant communities, including grasslands, wetlands, interior forests, shrublands, and young successional forests. Included will be a detailed description of the proposed measures that will be implemented to avoid, minimize, and potentially mitigate for any temporary and permanent impacts to existing non-invasive plant communities as a result of the construction, operation, and maintenance of the Facility, particularly grasslands, wetlands, and interior forests, as applicable, as well as any shrubland or young successional forests identified as occupied habitat for a specific T&E species present in the Facility Area. This will include a discussion of measures to avoid and minimize impacts to vegetation, such as co-location of linear project components (access roads and interconnection lines), and construction of all turbines, buildings, storage areas, and other structures in areas already developed or disturbed. Post-construction vegetative restoration may include reseeding disturbed areas with appropriate native seed mix or other native species, as appropriate and necessary, to recreate or enhance wildlife habitat. An alternatives analysis will be presented in Exhibit 9 (Alternatives), which will include a discussion of vegetative clearing, and the associated impacts under each of the alternatives analyzed.
- d) Information on and a characterization of aquatic and terrestrial vegetation, wildlife, and wildlife habitats that occur throughout the Facility, encompassing all areas that may be disturbed for construction of turbines, roads and electric interconnections, including:

- 1) Identification and description of plant communities, plant species, and wildlife habitat. Such descriptions will include field identification of aquatic habitats, plant communities, and wildlife habitat that could potentially support federally or state-listed threatened and endangered (T&E) species, state species of special concern (SSC), and state species of greatest conservation need (SGCN) as documented during on-site field investigations (e.g., ecological cover type assessments, habitat assessments, and wetland delineations). USFWS and New York Natural Heritage Program (NHP) database information will be used to determine if any bat hibernacula are located within the study area. If hibernacula are identified within the Facility Site or are known to be within 5 miles from any Facility component or boundary, the location and distance to the nearest identified hibernacula will be provided separately and confidentially to NYSDEC and NYSDPS.

- 2) A discussion of the extent, methodology and results of all avian and bat surveys conducted by the Applicant or its agents within or in the vicinity of the Facility Site will be provided in Exhibit 22(h). Avian and Bat Survey Work Plans are attached as Exhibit G to the PSS; teleconferences concerning the surveys scopes were held with NYSDEC in May, June, and July 2016. Draft reports for all surveys will be provided to NYSDEC, USFWS and NYSDPS as soon as possible after they are prepared. These reports will include maps and shapefiles provided to NYSDEC depicting the location(s), observation date(s), species, and behavior(s) of all T&E and SSC individuals observed during pre-construction surveys and incidentally in the Facility Area. Final reports will be included as Appendices in the Application.

- 3) Facility shapefiles suitable for use in GIS software via ESRI's ArcGIS suite of software (e.g., ArcMap); Such shapefiles shall be submitted to NYSDEC and NYSDPS depicting the location of all Facility components including (separately):
 - i) extent of current Facility Site
 - ii) turbine locations
 - iii) access roads
 - iv) electric collection and transmission lines (specified above ground and/or underground)
 - v) laydown and storage area(s)
 - vi) substation(s)
 - vii) temporary and permanent meteorological tower(s)
 - viii) any other temporary or permanent infrastructure proposed by the Applicant in support of the Facility
 - ix) all areas to be cleared around turbines, access roads, electric lines, and all other Facility components.

- 4) Survey shapefiles suitable for use in GIS software via ESRI's ArcGIS suite of software (e.g., ArcMap). Such shapefiles shall be submitted to NYSDEC and NYSDPS, depicting all wildlife survey locations labeled by year, wetland delineations, and streams, including (separately):
 - i) breeding bird survey transects
 - ii) raptor survey locations

- iii) bat acoustic monitoring locations
 - iv) delineated wetland boundaries and adjacent areas within 100 feet
 - v) delineated stream locations
- 5) Information on amphibians and reptiles based on the New York State Amphibians & Reptile Atlas Project (Herp Atlas), database records obtained from NHP, NYSDEC, and USFWS, assessments of suitable habitat in the Facility Area, and any field observations made on site or in the vicinity of the Facility. To the extent that vernal pools and their functions (including the surrounding upland habitat) will be disturbed by construction, operation, or maintenance of the Facility, those features will be identified and assessed in the Application. Such impacts may require, in consultation with NYSDEC and NYSDPS, the development and implementation of site-specific surveys for amphibian and reptile species under appropriate seasonal conditions to quantify the level of impact from the Facility. The Applicant shall submit to NYSDEC detailed location maps and ecological characterization data for all vernal pools or potential vernal pools identified during on-site surveys. Depending on the intended timing of submission, this work may require that study of this topic continue after the Application is submitted. Identification of vernal pools or potential vernal pools will be limited to the area within 500 feet of disturbed areas.
- 6) Information on bird species that may be present or utilize the Facility Area at some point during the year based on the following sources: existing data from NHP, NYSDEC, and USFWS; assessments of suitable habitat within the Facility; field observations made on-site or in the vicinity of the Facility; New York Breeding Bird Atlas (BBA); US Geological Survey Breeding Bird Survey (BBS); Christmas Bird Count (CBC); Hawk Migration Association of North America (HMANA); eBird; The Nature Conservancy surveys/reports; The Kingbird publication; and any other publicly available sources that may provide relevant information regarding bird occurrences within or in the vicinity of the Facility.
- 7) An inventory of wildlife species (i.e., mammals, birds, amphibians, terrestrial invertebrates, and reptiles) known or likely to occur in or near the Facility will be provided in Exhibit 22(e). The Applicant will contact/consult with NHP, NYSDEC and USFWS to identify any potential species of concern, or the habitats that support such species, that may be impacted by the Facility.
- 8) Identification and description of any Significant Coastal Fish and Wildlife Habitat Areas designated by NYS Department of State (NYSDOS) and/or NYSDEC and any unusual habitats or significant natural communities within or adjacent to the Facility that could support federally or state-listed T&E species, SSC, or SGCN.
- 9) Description of potential impacts to karst features, if present within or adjacent to the Facility, and any species that may utilize these habitats if final site design indicates there could be impacts to these ecological communities.

- e) A plant and wildlife species inventory based on existing data available from the NHP, NYSDEC staff, USFWS, Herp Atlas, BBA, BBS, CBC, eBird, and the Hawk Migration Association of North America HMANA, The Nature Conservancy surveys/reports, The Kingbird publication, and any other publicly available source that may provide relevant information regarding wildlife occurrences within or in the vicinity of the Facility and electric interconnection line. The inventory will include the typical species of birds, mammals, herpetofauna, and terrestrial invertebrates found in the region and likely to occur within or in the vicinity of the Facility. On-site field surveys (e.g., ecological cover type assessments, habitat assessments, and wetland delineations), and/or the availability of suitable habitat, will also be used to identify species that could potentially occur in the Facility Area at some time during the year. The inventory will specify whether species were observed, known to occur in the Facility area, or are predicted to occur based on habitat characteristics or historical records. Information regarding terrestrial invertebrates will be limited to a general discussion regarding the range of terrestrial invertebrates likely to occur in the Facility Area.
- f) Impacts analysis to vegetation, wildlife, habitat, and listed species should include the following:
- 1) Impacts to vegetation will be addressed in part (b) of Exhibit 22. A narrative analysis and associated mapping will be included in the Application to explain and illustrate potential and expected construction and operational impacts to vegetative cover types, wildlife habitats (including a discussion of impacts from habitat fragmentation), wildlife concentration areas, travel corridors, if identified, and terrestrial organisms identified during pre-construction field studies in relation to the proposed limits of disturbance.
 - 2) With respect to wildlife and wildlife habitat impacts, the Application will discuss any direct and indirect construction-related impacts that may occur to wildlife and wildlife habitat, including but not limited to incidental injury and mortality due to construction activity and vehicular movement, habitat disturbance and loss associated with clearing and earth-moving activities, and the indirect impacts of displacement of wildlife from preferred habitat.
 - 3) All potential direct and indirect operational impacts, including but not limited to loss of habitat, forest and grassland fragmentation as applicable, wildlife displacement, and avian and bat collisions. To the extent any documented wildlife travel corridors are identified within or adjacent to the Facility Site, direct and indirect impacts to such corridors will be addressed.
 - 4) A discussion of potential short- and long-term impacts to plants, animals, and habitats that may result from the application of biocides, if any, during site preparation, construction, maintenance, or operations.
 - 5) A summary impact table quantifying anticipated temporary and permanent impacts associated with all Facility components in relation to wildlife habitats, identified concentration areas or travel corridors (to the extent data associated with such areas or corridors are readily available

or provided to the Applicant by NYSDEC personnel), and vegetation cover types, particularly grasslands and interior forests, and young successional forests, if affected.

- 6) Information regarding the presence of federally and state-listed T&E species, SSC, and SGCN, and the Facility's potential to impact such species or their habitats will also be discussed. Analysis of documented T&E species, SSC, and SGCN, will be based on database records obtained from the NHP, other known records documented by NYSDEC, USFWS, and observation during on-site wildlife and habitat, ecological, and wetland surveys. A summary impact table containing information on all species within these categories will be compiled and included in the Application.
 - 7) If it is determined by the Applicant or NYSDEC, or USFWS that construction or operation of the Facility is likely to result in take of federally or state-listed T&E species, including the adverse modification of habitat on which a listed T&E species depends, the Applicant will submit an avoidance, minimization, and mitigation plan that demonstrates a net conservation benefit to the affected species pursuant to 6 NYCRR Section 182.11 (Part 182), along with the informational requirements of an Incidental Take Permit (ITP), as provided for in Part 182, including proposed actions to avoid impacts to listed T&E species. If impacts are unavoidable, the Application will discuss proposed minimization and mitigation measures, including how the proposed actions will minimize impacts to the maximum extent practicable, and proposed mitigation actions.
- g) A detailed description of the impact avoidance and minimization efforts used in developing the Facility, as they pertain to vegetation, wildlife, and wildlife habitat, will be included. The Facility design, construction controls, and operational measures that can be reasonably implemented to avoid, minimize or mitigate impacts to wildlife and wildlife habitat within the Facility Site will also be described. This will include a discussion of measures to avoid or minimize direct impacts to individuals of federally and state-listed T&E species, as well as state-designated SSC and SGCN, such as through appropriate and effective turbine siting and operational curtailment regimes, and indirect impacts associated with habitat loss, fragmentation and displacement. A proposal to mitigate, in an appropriate and timely manner, for any unavoidable impacts to listed T&E species will also be discussed and, where required, will demonstrate a net conservation benefit to the T&E species involved. Measures to avoid, minimize and mitigate impacts to vegetation will be addressed in part (c) of Exhibit 22. In addition, a detailed alternatives analysis will be addressed in Exhibit 9 (Alternatives), which will include a discussion and comparison of known, estimated, and expected impacts to wildlife and habitat at all alternative sites and the proposed Facility location.
- h) Avian and bat impact analysis:
- 1) The Application will identify and evaluate anticipated direct and indirect environmental impacts of the facility on avian and bat species. The projected impact of the Facility will be based on information gathered during post-construction reports from studies conducted at wind energy facilities in New York State and on Wolfe Island, Ontario, Canada which measured fatality,

displacement, changes in site usage by species, and/or changes in species composition. To meet the requirements of this section:

- A. The wildlife and habitat impact analyses will include an identification, evaluation and assessment of direct and indirect Facility-related impacts to avian and bat species, particularly:
 - i. Federally and state-listed T&E species and their habitats as well as state SSC and SGCN;
 - ii. Wildlife concentration areas;
 - iii. Migration corridors, if any; and
 - iv. Forest and grassland habitats.

- B. The NYSDEC Region 6 Wildlife Office and USFWS Field Office in Cortland, New York will be contacted to obtain the most recent breeding, wintering, and habitat data for listed T&E species.

- C. The Application will include calculations of direct habitat impacts and potential fragmentation resulting from construction of the Facility. This will include:
 - i. Acres of each habitat type lost directly through clearing and cover type conversion;
 - ii. Acres of each habitat type lost indirectly due to functional loss of habitat (for the purposes of forest fragmentation analyses, it is assumed that indirect effects will extend up to 300 feet beyond the limit of disturbance);
 - iii. The overall habitat fragmentation as a result of the construction of the Facility; and
 - iv. The extent of site-specific forest and grassland fragmentation impacts associated with the Facility.

- D. Draft copies of wildlife survey reports for surveys requested or required by state or federal agencies prior to the submission of the Application and produced for the Facility, including any associated maps and shapefiles, that have not already been provided to NYSDEC will be provided as soon as possible before the Application is submitted. Final reports addressing comments provided by NYSDEC and USFWS, along with any other supplemental survey reports, material or information provided in response to these agencies, will be submitted to the record in the proceeding.

- E. Cumulative and comparative analysis.
 - i. The Application will characterize the Facility Site condition and compare with other proposed and existing facility sites. This discussion will explain if and how the Facility provides unique, important, or sensitive bird and bat habitat. Avian and bat occupancy and usage of the Facility

site will be compared with other proposed¹⁰ and existing wind energy projects located within the same region as the Facility (Lewis, St. Lawrence, Jefferson, Franklin, Oswego, Oneida and Herkimer counties, and Wolfe Island Wind Farm, Ontario, Canada). This discussion will use information from pre-construction reports from these regional facilities. NYSDEC will provide the pre-construction survey reports from these regional facilities to use for the comparisons.

- ii. An analysis of the potential cumulative impacts of the Facility on bird and bat species and the habitats that support them will be included. The scope of the cumulative impacts analysis will include other wind energy projects or turbines that are currently operating, or are fully permitted to begin construction/operation, in New York State and on Wolf Island, Ontario, Canada. To account for proposed and future wind development in New York, this analysis will include a discussion of cumulative impacts of future wind energy development throughout New York State, based on projections and assumptions used by the State in the Clean Energy Standard Final Generic Environmental Impact Statement (FGEIS) adopted May 23, 2016 by the New York State Public Service Commission.
- iii. The cumulative impact analysis will include:
 - 1. An estimate of cumulative forest and grassland habitat loss effects and bird and bat mortality levels resulting from the construction and operation of all proposed and operating wind energy projects in the State, including the proposed Facility.
 - 2. An estimate of cumulative bird and bat mortality levels (in individuals/MW/year over the past 20 years) resulting from the construction and operation of all proposed and operating wind energy projects in the state, including the proposed Facility.
 - 3. An estimate of cumulative take of T&E species, based on post-construction studies done for wind projects in New York State, and including the proposed Facility.
 - 4. A percentage of the Facility's contribution to the cumulative impacts estimated for wind energy projects across New York and the Northeast, defined as those states in USFWS Region 5, for the life of Facility operation.
- iv. The cumulative impact analysis will draw from the post-construction surveys conducted at other operating wind projects in New York and the

¹⁰ For purposes of this analysis, a "proposed" facility will be one for which an Article 10 Application has been submitted, or a final Environmental Impact Statement completed under the State Environmental Quality Review Act has been prepared, such that the pre-construction survey reports prepared for these facilities contain avian and bat occupancy and use data which Atlantic Wind can use for this analysis. NYSDEC will provide the pre-construction survey reports from these proposed facilities to use for the comparisons.

Northeast, if available, and any additional information provided by the NYSDEC or the USFWS.

- 2) The Application will provide an outline of a proposed post-construction monitoring program to be implemented to assess actual direct and indirect impacts of the wind facility on avian and bat species and their habitats in a manner consistent with the NYSDEC's Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects (Guidelines) (Revised June 2016). Details of the post-construction monitoring program will ultimately be determined on a site-specific basis through discussions between the Applicant, NYSDEC, DPS and USFWS, and be in place prior to the start of project operation.
 - 3) The Application will include an outline of a Wildlife Protection Report (WPR) which describes bird and bat impact avoidance and minimization techniques, mitigation options, potential monitoring and adaptive management responses, and operational adjustments (i.e. appropriate and effective curtailment regimes) proposed for implementation at the Facility as necessary and appropriate based on anticipated impacts. This evaluation will include discussion and analysis of information collected as part of pre- and post-construction monitoring surveys at the Facility and other proposed and existing wind energy projects in the state as described in Exhibit 22(h)(1). If it is determined by the Applicant, NYSDEC, or USFWS that take of a listed species is likely to occur as a result of the construction or operation of the Facility, the discussed measures will: include the components of an Incidental Take Permit per 6 NYCRR Part 182.11 for Northern Long-Eared Bat or other T&E species, including proposed impact avoidance, minimization and mitigation actions; be developed in consultation with NYSDEC and, for federally-listed species, USFWS; result in a net conservation benefit to the target T&E species; and require post-construction monitoring that adequately estimates bird and bat fatality rates and evaluates effectiveness of any operational adjustments implemented as minimization. Such a post-construction monitoring plan will specify, at a minimum: the expected and allowed level of take of each target species; survey monitoring methods, effort, duration, data reporting and compliance documentation; construction parameters; operational adjustments; and mitigation measures sufficient to ensure the Applicant complies with the substantive requirements of Part 182. Post-construction monitoring plans will be submitted to NYSDEC prior to the start of project operation. The final WPR will be provided as a compliance filing.
- i) The Application will also include:
- 1) A map and shapefiles showing on-site field delineated and predicted wetland boundaries for federally and state-regulated wetlands and adjacent areas developed using interpretation of aerial imagery signatures, on-site observations, analysis of topography, existing data bases of hydric soils, and wetland mapping maintained by National Wetland Inventory (NWI) and NYSDEC, in the areas described in section (i)(4) below.

- 2) The determination of wetland boundaries during on-site field delineations will be made according to the three-parameter methodology described in the U.S. Army Corps of Engineers (Corps) Wetland Delineation Manual (Environmental Laboratory, 1987) and the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual. In addition, boundaries of freshwater wetlands regulated under Article 24 of the New York Environmental Conservation Law (ECL) must be delineated according to methods described in the New York State Freshwater Wetlands Delineation Manual (1995). These delineations shall include all vernal pools and other similar wetlands regardless of the possible lack of hydrologic connectivity to waters of the United States. Vernal pools shall be identified following the recommended evaluation procedures described under Specific Problematic Vegetation Situations in the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual.
- 3) Wetland boundaries will be defined in the field by sequentially numbered pink surveyor's flagging marked "wetland delineation", the locations that will be located using Global Positioning System (GPS) technology with sub-meter accuracy. Wetlands identified by these methods will be referred to as "delineated wetlands". Wetlands that are verified by the Corps and NYSDEC, if possible, will be referred to as "jurisdictional wetlands".
- 4) On-site field delineations will consist of boundary flagging of all wetlands and adjacent areas with permitted access that occur within 500-feet of proposed limits of disturbance.¹¹ These delineation protocols shall apply to all wetlands and vernal pools.
- 5) All wetland boundaries must be keyed to the submissions described in Exhibit 11 (Preliminary Design Drawings). The predicted wetlands boundaries shown on site plans must be differentiated from field delineated boundaries when displayed on maps, site plans, and shapefiles.
- 6) Information on the on-site interconnections, and predicted presence and extent of wetlands on the remainder of site properties and adjacent properties within 500 feet of areas to be disturbed by construction, will also be included in the Application. For adjacent properties without accessibility, initial surveys may be based on remote-sensing data, interpretation of published wetlands and soils mapping, roadside observations, and aerial photography.
- 7) Maps at a scale that supports legibility, depicting all Facility components to include proposed grade changes and the limits of ground disturbance and vegetative clearing, field-delineated wetlands and adjacent areas, and predicted wetland boundaries and adjacent areas located within 500 feet of all areas to be disturbed by construction will be included in the Application.

¹¹ In the event that access to parcels is not granted to Applicant for purposes of delineations, the method for identifying predicted wetlands will be used, and Applicant will note the inability to access for purposes of delineation.

Shapefiles depicting the same will be provided to NYSDEC and NYSDPS prior to the submission of an Application.

- 8) The Application and its Exhibits shall be updated as needed with final wetland delineations, determinations, and the resulting impact calculations, following field visits by NYSDEC and the Corps.
- j) A description of the characteristics and Cowardin classification of all federally, state, and locally regulated delineated wetland communities; a summary table of the field data collected regarding vegetation, soils, and hydrology; and copies of all Wetland Determination Data Forms will be compiled into a Wetland and Stream Delineation Report and appended to the Application.
- k) A qualitative and descriptive wetland functions and values assessment, including seasonal variations, for all delineated wetlands will be included in the Application. Qualitative scores that assess functions and values for each delineated wetland will be based on a methodology proposed by the Applicant and approved by NYSDEC. The functions and values evaluated will include the following: groundwater recharge/discharge; flood-flow alteration; fish and shellfish habitat; sediment/pollutant/pathogen retention; nutrient removal/retention/transformation; production (nutrient) export; sediment/shoreline stabilization; wildlife habitat; recreation; educational/scientific value; uniqueness/heritage; visual quality/aesthetics characteristics; and protected, threatened and endangered species habitat.
- l) The Application will include a description of the hydrologic connectivity of all wetlands within the Facility, including a summary of those wetlands anticipated to fall under NYSDEC jurisdiction (under Article 24 of the ECL) and Corps jurisdiction (under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act). Assessments of potential state wetlands jurisdiction will include both “mapped” and “unmapped” wetlands that meet NYSDEC’s 12.4-acre size threshold (including any wetlands of any size separated by less than 50 meters which function as a unit in providing wetland benefits, pursuant to 6 NYCRR Part 664, or otherwise meet state criteria for jurisdiction (e.g. wetlands or vernal pools determined to be of Unusual Local Importance, pursuant to 6 NYCRR 664.7 (c)). A summary will be provided of off-site wetlands adjacent to the Facility, and any disturbed areas that may be hydrologically or ecologically influenced or impacted by development of the Facility, including public lands, to determine their general characteristics and relationship, if any, to the delineated wetlands within the Facility. All information (including GIS shapefiles and maps of delineated wetlands), will be provided to NYSDEC once delineations are completed and before the Application is submitted. All wetland shapefiles will also be submitted to NYSDPS.
- m) An identification and quantification of temporary and permanent impacts to, and any permanent conversions of, wetlands and state regulated 100-foot adjacent areas, based on the proposed footprint of all Facility components and associated impact assumptions. This assessment will include a description of permanent forested wetland conversion to other wetland cover types and any forested state regulated 100-foot adjacent area, if any, which would occur as a result of the

construction of the Facility. Impacts will be summarized and presented in a table that identifies and calculates the following: type of impact, including but not limited to permanent fill, temporary fill, and forest conversion, to each wetland and adjacent area; associated crossing methodology for each wetland, discerning between federal and state wetland and 100-foot adjacent area impacts; acreage of each type of impact to regulated wetlands and 100-foot adjacent areas; associated delineation and NYSDEC wetland identification code; and the page number on preliminary design drawings depicting the resource. Impacts to wetlands will also be presented on a separate set of site plan drawings at 1":50' scale, showing wetland boundaries, permanent and temporary structures, stream crossings, roads, power interconnects, and the projected limits of disturbance.

n) The Article 10 Application will include:

- 1) A general discussion of measures considered, and indication of methods to be implemented to avoid wetland impacts, including stream crossing methodology and a description of Facility construction and operation in relation to the standards established by ECL Articles 15 and 24. It is anticipated that direct impacts to wetlands and streams will be minimized by utilizing existing or narrow crossing locations wherever possible. Additional measures may include consideration of alternate siting or routing options, trenchless crossings (such as horizontal directional drilling [HDD] or other special crossing techniques), equipment restrictions, herbicide use restrictions, and erosion and sedimentation control measures. Exhibit 23 (Water Resources and Aquatic Ecology) will contain further discussion of how potential impacts to streams will be evaluated, avoided, minimized, and mitigated.
- 2) Where impacts are unavoidable and have been minimized to the extent practicable, the anticipated mitigation measures to be implemented to offset impacts to wetlands and state-regulated 100-foot adjacent areas will be discussed, including the use of reasonable alternative stream and wetland crossing methods. Pursuant to 6 NYCRR 663.5(g), a conceptual mitigation plan for impacts to state-regulated wetlands and adjacent areas should be provided to NYSDEC before the submission of an Application and at a minimum must meet the following provisions:
 - i) The mitigation must occur on or in the watershed in the vicinity of the Facility;
 - ii) The area affected by the proposed mitigation must be regulated by the Freshwater Wetlands Act and 6 NYCRR Part 663 after mitigation measure are completed; and
 - iii) The mitigation must provide substantially the same or more benefits than will be lost through the proposed activity.
- 3) Discussion of avoidance and minimization based on the updated final verification of wetland boundaries and jurisdictional determinations. Final impact calculations to the 100-foot adjacent area of state-regulated wetlands and associated mitigation will be based on verified delineation boundaries for jurisdictional wetlands.
- 4) Alternative analysis will be based on the final verified delineation boundaries. This section of the Application will also describe the anticipated Environmental Compliance and Monitoring Program

(ECMP) to be implemented during Facility construction to adhere to various permit conditions and protect wetlands, streams, and other waterbodies. The Facility's ECMP will include an Environmental Monitor(s) during construction and restoration activities on the Facility site. The duties of the Environmental Monitor will be described. This section will include a table of all federal wetlands, state-regulated wetlands, streams, and environmentally sensitive areas that could potentially be impacted by the Facility as depicted in preliminary design drawings or wetland delineations. The Table shall:

- i) Identify the corresponding page number on preliminary design drawings depicting the resource
 - ii) Include wetland delineation types, NYSDEC stream classifications, and description of resources within environmentally sensitive areas
 - iii) For each resource explain if the resource could reasonably be avoided
 - iv) Proposed site-specific actions to minimize impacts to resources that are not avoided
 - v) Propose site-specific actions to mitigate impacts that are not avoided
 - vi) Propose an appropriate compliance monitoring schedule to ensure mitigation is successful, including adaptive management actions to be implemented should the planned mitigation fail.
- 5) Identify all State- and federally-listed T&E species documented within or adjacent to the Facility Site.
- 6) Include a discussion of potential direct and indirect impacts, if any, to such T&E species.
- 7) Provide a detailed T&E Species Avoidance, Minimization, and Mitigation Plan, if needed. Please see the T&E discussion above in association with Stipulation 22 (f), (g) and (h) for more information.
- 8) An Invasive Species Control plan will be provided as described in Stipulation 22(b) above, identifying and indicating the presence of invasive species as defined in 6 NYCRR Part 575 and the measures that will be implemented to prevent the introduction of new invasive species and minimize the spread of existing invasive species during construction, soil disturbance, vegetation management, transport of materials, and landscaping/revegetation. This plan will include a description of the monitoring and correction measures that will be implemented to ensure standards are met.
- o) The Application will provide:
- 1) A quantification and analysis of temporary and permanent impacts of the construction and operation of the Facility to agricultural land resources based on the proposed footprint of all Facility components and associated impact assumptions. To minimize impacts to active agricultural land, the Applicant plans to coordinate with NYS Department of Agriculture and Markets (NYSDAM) and the Cornell Cooperative Extension, and to adhere to the NYSDAM's *Guidelines for Agricultural Mitigation for Windpower Projects*.

- 2) A discussion of potential mitigation, if any, following the most recent edition of guidelines established by NYSDAM.
- 3) A map of the Facility Site showing locations of prime farmland, prime farmland if drained, unique farmland, and farmland of state and local importance, if such information is readily available in public databases, as discussed in detail in Section 21(o).
- 4) A discussion of methods for identifying drainage tile lines prior to construction, along with restoration of any tile lines impacted by Facility construction activities.

Stipulation 23 – 1001.23 Exhibit 23: Water Resources and Aquatic Ecology

Exhibit 23 shall contain:

- a) Information on groundwater:
 - 1) Maps, at a scale that supports legibility, showing depth to bedrock, depth to high groundwater, and karst features throughout the Facility area using Soils Survey of Lewis and Jefferson Counties, New York and the results of the Preliminary Geotechnical Investigation.
 - 2) A map based on publicly available information from the US Geological Service (USGS) Office of Groundwater, US Department of Agriculture (USDA) Soil Conservation Service, USDA Natural Resources Conservation Service (NRCS) Web Soil Survey, New York State Department of Health (NYSDOH), NYSDEC, Lewis and Jefferson Counties, and other local municipalities as appropriate, as well as data collected during subsurface investigations in the Facility Site, showing the locations of existing identified public and private water supply wells within 2,000 feet of proposed Facility components and alternative components, and within one mile of any proposed blasting locations. This map will show the approximate location of known groundwater aquifers and groundwater recharge areas, well heads and aquifer protection zones, to the extent possible based on the quality and detail of information available from the above sources, as well as the general flow direction of shallow groundwater aquifers and recharge areas, to the extent known. Applicant will also identify, based on publicly available data or information gathered from the above sources groundwater quality and the depth, yield and use of all public groundwater wells or other points of extraction of groundwater located within the Facility Site, within 2,000 feet of proposed ground disturbances, and within one mile of any proposed blasting activities.
 - 3) The Applicant will distribute a water well survey to residents, businesses and property owners within 2,000 feet of proposed ground disturbances, such as turbine foundations and buried utilities, including proposed alternative turbine locations identified in the Application. If blasting is proposed, Applicant will distribute well surveys to landowners within one mile of proposed blasting locations. The water well surveys will solicit well construction details, usage patterns, and water quality data, if available. Applicant will also enclose with the water well surveys

educational materials describing the Project and the Article 10 process, ways to contact Project personnel, and methods by which survey recipients can obtain additional information regarding the Project and be added to the stakeholder list. A list and summary of responses to well surveys, to the extent requested information is provided by respondents, will be included in the Application based on survey results.

- 4) The locations of public and private water wells within the well search areas described above will be verified through field observations where property access rights are obtained by the Applicant. Water well locations will be indicated on maps showing groundwater aquifer, distinguishing whether each well location is approximate or confirmed. GIS data for the public and private well locations will be provided to NYSDPS staff.
 - 5) An analysis and evaluation of potential impacts (during normal and drought conditions) from the construction and operation of the Facility on public and private drinking water supplies, wellheads, aquifer protection zones, and groundwater quality and quantity in the Facility Area and within 1 mile of Facility components, taking into account publicly available data collected by others regarding the nature and extent of existing groundwater contamination within the region.
 - 6) The Application will include a discussion of potential impacts resulting from dewatering activities during construction and operation, and will be based on publicly available databases and geotechnical borings conducted at a sub-set of turbine locations. However, exact areas of dewatering cannot be known at the time of Application. The determination of long-term dewatering (if necessary) will be addressed during final geotechnical investigations to be conducted at each turbine location following Certification. This section will also include a general discussion of likely sources of water for concrete mixing operations (if needed). Details associated with the design and layout of facilities for withdrawal and transport of source water will be provided post-Certification once the Applicant engages a BOP contractor. Dewatering will be discussed further below, in the section on stormwater runoff.
 - 7) The Applicant will provide a table summarizing the location, depth, usage, and water quality data obtained for all identified public and private water wells, to the extent available. The source(s) of and collection system for water for Facility construction period uses, including for concrete batch plant, invasive species wash station(s), fire control, and other uses will also be described.
 - 8) Plans for notification and complaint resolution during construction of the Facility for owners and operators of public and private wells will be included in the Complaint Resolution Plan and discussed in Exhibit 23.
- b) Information on surface waters:
- 1) A map, at a scale that supports legibility, identifying all surface waters, including intermittent and ephemeral streams, within and adjacent to the Facility using data from Lewis and Jefferson Counties, the Tug Hill Commission, NYSDEC, ESRI, USGS, NWI, and stream data collected during

on-site surveys of water resources. Wetland and stream delineations will identify all surface waters (ponds; vernal pools; ephemeral, intermittent, and perennial streams; and wetlands) within a 200-foot-wide corridor centered on linear components such as proposed access roads, buried electrical collection lines, and all proposed construction work areas, within 200 feet of non-linear, non-turbine components (such as meteorological towers, O&M building, substation, etc.), and within 500 feet of proposed turbines. Stream mapping outside of these areas will be based on NYSDEC mapping and stream classifications and other mapping sources as applicable. Maps and shapefiles identifying the foregoing shall be submitted to NYSDEC and NYSDPS. These data will also be provided in tabular format able to be cross-referenced to maps.

- 2) For each waterbody proposed to be crossed or disturbed as part of the Project, a description of the New York State listed Water Classification and Standards pursuant to 6 NYCRR Part 800-941 and including Part Item Numbers, Water Index Numbers (WIN), physical water quality parameters, and, to the extent such information is available, flow rate, biological aquatic resource characteristics (including species of vertebrates and invertebrates, habitat, and presence of aquatic invasive species), and other characteristics of such surface waters, including intermittent streams, in the Facility Site using publicly available data, and when necessary, supplemented by field data collected during wetland and stream delineations or information provided by NYSDEC.
- 3) An identification of any surface drinking water intakes located within one (1) mile of the Facility and contained within the same drainage basin in which the Facility is located or, if none are located within 1 mile in the same drainage basin, the nearest downstream surface water drinking supply intake. Location(s) of the intakes will be given by latitude and longitude. A discussion of potential impacts to drinking water supplies from Facility construction or operation, if any, will include characterization of the type, nature, and extent of service provided from the identified source.
- 4) A narrative discussion will be provided that describes potential impacts to surface water resources, including streams and lakes, to the extent any are anticipated. Applicant does not propose to withdraw more than 100,000 gallons per day of water; therefore, a discussion of a water withdrawal permit will not be included. Specifically, the surface water impacts discussion would include, where relevant:
 - i. A calculation of the approximate acreage and linear distance of surface waters that will be temporarily or permanently impacted based on the proposed Facility footprint and associated impact assumptions, and field delineated stream boundaries.
 - ii. The construction impact type at each waterbody. As applicable, the crossing methodology at each waterbody (e.g. buried collection line, access road) and construction technique used (e.g., HDD or access road utilizing temporary bridge). Such impacts will be presented in a table that identifies the type of construction (e.g., buried collection, crossing in the dry, HDD, access road).
 - iii. Typical details or BMPs to be used will be provided for each construction technique

as appendixes to the Application. A statement that BMPs and guidelines for crossing streams regulated under Article 15 of the ECL will be developed in consultation with NYSDEC and NYSDPS.

- iv. Applicant does not propose any dredging/sediment removal in connection with this project. If any dredging/sediment removal is required, sediment sampling will be conducted prior to removing material in accordance with protocol established by NYSDEC. Impacts of (potentially contaminated) sediment resuspension/dispersion will be discussed. Where appropriate and practicable, mitigation actions will be discussed, in the event any such impacts are anticipated.
- v. If Applicant proposes any discharge into waters of the United States, Applicant shall demonstrate that it will shall comply with the effluent limitations, effluent prohibitions, water quality-related effluent limitations, and pre-treatment standards set forth in 6 NYCRR 750-1.11 and 750-2.1; water quality standards and thermal discharge criteria set forth in 6 NYCRR Parts 701, 702, 703 and 704; standards of performance for new sources set forth in 6 NYCRR 750-1.11 and 750-2.1; prohibited discharges set forth in 6 NYCRR 750-1.3; and regulations and criteria otherwise applicable to such activities.
- vi. Source(s) of and collection systems for water for construction period uses, including for concrete batch plant, invasive species wash station(s), fire control, and other uses will be provided, where applicable.
- vii. For any HDD installations, a “frac-out” contingency plan shall be provided to address any inadvertent releases. A table will be provided that identifies all resource impacts to surface waters.

5) The Application will identify and evaluate reasonable avoidance measures and Facility layout alternatives which avoid or minimize impacts to surface and groundwater resources. Where impacts are unavoidable, mitigation measures (such as habitat creation, use of water storage, stormwater reuse, or offsetting water conservation) will be discussed for groundwater and surface water impacts. If applicable, work prohibition dates associated with crossings of State-protected streams under ECL Article 15 will be established in consultation with the NYSDEC after the Applicant identifies which streams will be crossed. BMPs will be employed throughout the remainder of the year for all stream crossings. Permanent and proposed stream crossing methods will meet NYSDEC stream crossing guidelines (<http://www.dec.ny.gov/permits/49060.html>). The Applicant will provide NYSDEC and NYSDPS with preliminary engineering plans for all stream crossings prior to the Siting Board’s determination on whether to issue a certification pursuant to Article 10, and final engineering plans prior to construction.

c) Information on stormwater:

- 1) Prior to the commencement of construction activities, the Applicant will submit to NSDEC a Notice of Intent for Stormwater Discharges from Construction Activity and will seek

coverage under the SPDES General Permit issued in January 2015 and effective on January 29, 2015 (modified July 15, 2015)(<http://www.dec.ny.gov/chemical/43133.html>). This authorization is subject to review by NYSDEC, and is independent of the Article 10 process. A preliminary stormwater pollution prevention plan (SWPPP), will describe in general terms the sediment control practices that will likely be implemented during construction activities, and the stormwater management practices that will be used to reduce pollutants in stormwater discharges after Facility construction has been completed and include:

- A. An introduction that will review the proposed project, and the purpose, need, and appropriate contents of the complete SWPP;
 - B. Anticipated stormwater management practices, including temporary and permanent erosion and sediment control measures (vegetative and structural),
 - C. Anticipated construction activities, including a preliminary construction phasing schedule and preliminary definition of disturbance areas,
 - D. Site waste management and spill control measures,
 - E. Proposed site inspection and maintenance measures, including construction site inspection, and construction site record keeping; and
 - F. Conditions that will allow for the termination of the permit coverage.
- 2) The Preliminary SWPPP identified in Stipulation 23(c)(1) above will be prepared in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (NYS Standards), and the New York State Stormwater Management Design Manual and will include typical information on permanent, post-construction erosion and sediment control measures (vegetative and structural), along with the anticipated stormwater management practices that will be used to reduce the rate and volume of stormwater runoff after construction has been completed. However, the Preliminary SWPPP will not include pre- or post-construction stormwater runoff calculations.
- 3) Impacts to wetlands, surface water, and drinking water resources that could result from stormwater runoff from upslope areas will be identified and mitigation measures will be identified.
- 4) A proposed method of dewatering (where needed) will be described in the Application. This method will address concerns and requirements related to runoff and sediment transport as well as any other applicable State Pollutant Discharge Elimination System (SPDES) General Permit (GP) 0-15-002 requirements and, if applicable, the Multi-Sector General Permit (MSGP GP-0-12-001) requirements. In addition, the Preliminary SWPPP will address construction-related best management practices (BMPs) specific to dewatering, will include that information in the Application.
- d) Information on chemical and petroleum bulk storage:
- 1) A description of the Spill Prevention, Control and Counter Measures (SPCC) Plan that will be in place for the small volumes of chemical, petroleum or hazardous substances that may be stored

on site. Spill containment requirements for electric transformers at the substation and turbines sites will be provided.

- 2) It is not anticipated that the Facility will require on-site storage or disposal of large volumes of any substances subject to regulation under the State of New York's chemical and petroleum bulk storage programs (e.g., fuel oil, petroleum, etc.). If construction, operational, or maintenance activities at the Facility require petroleum or other hazardous chemicals to be stored on-site, the Application will identify such substances and demonstrate compliance with State laws and guidelines.
 - 3) It is not anticipated that the Facility will require the on-site storage or disposal of large volumes of any substances subject to regulation under local laws. If construction, operational, or maintenance activities at the Facility require petroleum or other hazardous chemicals to be stored on-site, the Application will identify such substances and demonstrate compliance with the Local laws and guidelines.
- e) Information on aquatic species will be provided as follows. Information on invasive species, including aquatic invasive species, will be addressed in Exhibit 22.
- 1) A discussion and analysis of the impacts of the construction and operation of the Facility is anticipated to have on biological aquatic resources and critical or sensitive aquatic habitat, including species listed as Threatened and Endangered (T&E), state-listed species of special concern , (SSC) as described in 6 NYCRR Part 182, and species of greatest conservation need (SGCN), that are known or suspected of being present within the water bodies proposed to be disturbed in connection with construction or operation of the Facility. Discussion of the potential for introducing or spreading invasive species will be addressed in Exhibit 22 and cross-referenced in this section.
 - 2) An identification, discussion, and evaluation of reasonable avoidance and minimization measures and, where impacts are unavoidable, mitigation measures regarding impacts on aquatic biological resources. If it is determined by the Applicant, NYSDEC, or USFWS that the construction, operation or maintenance of the Facility is likely to result in the take of a listed T&E aquatic species, including the modification of habitat on which a listed T&E species depends, the Applicant will submit with the Application a minimization and mitigation plan that demonstrates a net conservation benefit to the affected T&E species as defined pursuant to 6 NYCRR Part 182.11 (Part 182), along with the informational requirements of an Incidental Take Permit (ITP), as provided for in Part 182. This section will also include a discussion of the measures that will be taken to ensure compliance with applicable water quality standards pursuant to 6 NYCRR Part 703.
- f) The Facility will not require cooling water and, therefore, the parties agree cooling water withdrawals, or permits related thereto, will not be addressed in the Application.

Stipulation 24 – 1001.24 Exhibit 24: Visual Impacts

Exhibit 24 shall contain:¹²

- a) A Visual Impact Assessment (VIA) conducted to determine the extent and assess the significance of Facility visibility. The VIA procedures used for this study will be consistent with Exhibit 24 (§1001.24) requirements and the general approach included in methodologies developed by various state and federal agencies, including the Federal Highway Administration (2013); U.S. Department of the Interior, Bureau of Land Management (1980); USDA, National Forest Service (1974); and the New York State Department of Environmental Conservation (2000). The components of the VIA shall include a characterization of the study area, identification of visually sensitive resources, viewshed analysis, photographic documentation, viewpoint selection, visual simulations, visual impact analysis, including cumulative effects, and proposed visual impact mitigation. Specifically, the VIA shall include:
 - 1) Description of the Study Area Character and Quality: Distinct Landscape Similarity Zones (LSZs) within the visual study area will be identified, defined, and the approximate location of these LSZs will be illustrated and narratively described in the VIA. which are defined based on the similarity of features such as landform, vegetation, water, and land use patterns.
 - 2) Inventory of Visually Sensitive Receptors: The VIA will include an inventory of aesthetic resources and visually sensitive receptors of statewide significance within a 10-mile radius study area. An inventory of locally significant visually sensitive resources will be conducted for the area within 5 miles of the proposed Facility. The inventory will include:
 - i) Identification of visually sensitive resources will be defined through a variety of data sources including digital geospatial data obtained primarily through the NYS GIS Clearinghouse or ESRI, national, state, county and local agency/program websites as well as websites specific to identified resources; USGS 7.5-minute topographical maps; and web mapping services such as Google Maps.
 - ii) Visually sensitive resources will include specific publicly accessible locations identified by municipal planning representatives, DPS, NYSDEC and NYSOPRHP. These will include classes or areas of scenic resources identified in §1001.24 (b)(4).
 - iii) The Parties agree that the Coastal Area Scenic Areas of Statewide Significance, Adirondack Park Scenic Vistas and Palisades Interstate Park will not be affected by any activities or development in the Facility Area.
 - 3) Topographic and Vegetation Viewshed Analyses: Viewshed maps will be created to identify potential visibility of wind turbines, and the VIA will describe the methodology for these analyses. A viewshed analysis will be included in the VIA that identifies the locations within the visual study area where it may be possible to view the proposed wind turbines from eye-level (1.7m) vantage

¹² The sections of this Stipulation have been organized in the manner that provides the greatest clarity regarding the information to be provided in the Application. They do not adhere to the subsection numbering in 16 NYCRR 1001.24. A table or key will be provided in the Application to correlate the information provided with the relevant section of the regulations, and the relevant section of the stipulations.

points. This analysis includes identifying potentially visible areas on viewshed maps. The viewshed analysis methodology includes:

- i) Maps showing the results of viewshed analysis prepared based on the screening effect of topography alone, and the combined screening effect of mapped forest vegetation and topography will be prepared. Viewshed analysis will be based on maximum blade tip height, FAA warning light height, and the height and location of proposed overhead transmission structures. These maps will be presented on the most recent edition 1:24,000 scale USGS topographic base map. Additionally, results of the viewshed analyses will also be shown on maps that depict visually sensitive sites, viewpoint locations, foreground, mid-ground, and background distances, and LSZs. Viewshed mapping will indicate ranges of turbines visible (e.g., “heat mapping” or color coding for 0, 1-5, 6-10, 11-20 turbines potentially visible, etc., as reasonable). Viewshed will not be a binary figure (i.e., showing only “Visible” and “Not Visible”).
 - ii) Topographic viewshed maps will be prepared using USGS DEM data, coordinates, and dimensions of all proposed turbines, an assumed viewer height of 1.7 meters, and ESRI ArcGIS® software with the Spatial Analyst extension. The viewshed analyses will be based upon a 180-meter blade tip height, the corresponding appropriate FAA warning light height, and the location of all proposed turbines. The analyses run at blade tip height illustrates maximum potential day time visibility, while the analyses run at the height of the FAA warning light defines maximum potential nighttime visibility, based on an anticipated FAA lighting plan. The resulting topographic viewshed maps define the maximum area from which any turbine within the completed Facility could potentially be seen within the 10-mile study area.
 - iii) The combined topographic and vegetation viewshed will be prepared in the same manner as the topographic viewshed, except that a base vegetation layer will be created using the most recent USGS National Land Cover Dataset (NLCD) or LiDAR to identify the mapped location of forest land within the visual study area. If NLCD or bare earth LiDAR data is used, the mapped locations of the forest land will be assigned an assumed height of 40 feet and added to the DEM.
 - iv) To evaluate the potential cumulative visibility of existing or proposed wind power projects within the 10-mile study area, cumulative viewshed analyses will be prepared. This will be prepared based upon reasonably available data at the time the Applicant prepared the analysis, and include at a minimum Maple Ridge, Copenhagen Wind, Roaring Brook Wind, and Mad River Wind, although those projects will be in various stages of development and finalization.
- 4) Field Documentation and Photography: Visual field review will be conducted in the study area. During site visits, public roads and public vantage points will be visited to document locations from which the turbines would likely be visible, partially screened, or fully screened. This determination will be made based on the results of viewshed analysis, and visibility of site ridges/landforms, as well as existing tall structures on the Facility site, which will serve as locational and scale references. Site visits will result in photographs from representative viewpoints within the study area. The viewpoints will document potential visibility of the Facility

from the various LSZs, distances, directions, visually sensitive resources, and areas of public use throughout the visual study area. During the field review, photos will be taken using a full-frame digital SLR cameras with a 50mm lens. Viewpoint locations will be documented using GPS coordinates and aerial photography. The results of the field review will be presented in photographic logs and documentation in the VIA.

- 5) Representative Viewpoint Selection. To ensure that a variety of views are represented in simulations, viewpoints will be selected based upon consultation with, and feedback provided by, municipal planning representatives, DPS, NYSDEC, and NYSOPRHP. The Applicant will continue to conduct outreach to agency staff and stakeholder groups to determine an appropriate set of viewpoints for the development of simulations. This outreach is expected to include:
 - i) The Applicant will distribute a request to appropriate agency personnel, municipal representatives, and other visual stakeholders, seeking feedback regarding the identification of important aesthetic resources and/or representative viewpoints in the Facility vicinity to inform field review efforts and the eventual selection of candidate viewpoints for the development of visual simulations;
 - ii) Following the visual fieldwork and associated data processing, the Applicant will distribute a memorandum related to recommendations for Visual Simulations to the visual stakeholders; and
 - iii) The Applicant will solicit comments from municipal planning representatives and visual stakeholders on the viewpoints selected. The selected viewpoints would:
 - Viewpoint locations will be informed by viewshed mapping and direction of views selected for simulation will be “toward the Facility site,” as specified in Section 1(e)(iii). Provide open views toward the Facility site from different directions throughout the visual study area;
 - Represent potentially significant aesthetic resources within the visual study area.
 - Illustrate open, representative views from the various LSZs within the visual study area;
 - Illustrate open views of the proposed Facility that may be available to representative viewer/user groups within the visual study area; and
 - Illustrate views of different numbers of turbines and other Facility infrastructure, from a variety of viewer distances and directions, and under different lighting/sky conditions, to illustrate the range of visual change that could occur with the Facility in place.
 - iv) The Applicant will include visual stakeholders that have been identified on the master stakeholder list in visual consultations.
- 6) Photographic Simulations (representative viewpoints shall be established in consultation with DEC, DPS, OPRHP, NYSDOT and APA where appropriate): Based upon the viewpoint selection, photographic simulations will be developed by constructing a three-dimensional computer model of the proposed turbine and turbine layout based on specifications and coordinates,

including elevation. Along with the turbines, proposed clearing limits and the location and appearance of proposed meteorological towers or other visible components of the Facility, including access roads, overhead collection lines and substation facilities, will also be incorporated into the photographic simulations. Photographic simulations will be developed by using industry standard software (Autodesk 3D Studio Max or equivalent) to create a simulated perspective (camera view) to match the location, bearing, and focal length of each existing conditions photograph. Existing elements in the view (e.g., buildings, existing transmission structures, roads) will be modeled based on aerial photographs and DEM data. A three dimensional topographic model of the landform (based on DEM data) will then be utilized. At this point minor adjustments are made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. Access roads will be included in visual simulations in which they would be visible. With respect to any proposed overhead collection line, photographic simulations would be based on preliminary design of overhead collection lines. Photographic simulations of completed turbines and other visible Facility infrastructure from each of the selected viewpoints will be provided. Viewpoints will be selected, in part, for their open views and as such there will be no significant screening of the proposed Facility due to vegetation in the photographic simulations. Therefore, it is not anticipated that both leaf-on and leaf-off simulations will be prepared.

- 7) Visual Impact: The VIA will include a narrative discussion of short term visual impacts associated with the clearing of trees, construction of access roads, erection of turbines and transmission structures, and general construction activity. The VIA will also include a narrative discussion of the potential long-term operation and visibility of the project based upon viewshed analysis, field documentation and photographic simulations. This would include an assessment of visual change through contrast ratings for each viewpoint selected for simulation. Contrast ratings are made by comparing the basic elements of form, line, color, and texture of the existing landscape with the proposed development, using the photographic simulation to guide the assessment of expected future conditions. All contrast ratings will be documented on contrast rating forms included in the VIA along with a narrative description of the existing view and overall visual effect representing the nature and degree of visual change resulting from construction and operation of the Facility on aesthetic resources and viewers represented by each of the selected viewpoints. Contrast ratings will be undertaken by qualified environmental scientists, landscape architects or community planning professionals. Based on rating panel evaluations, provide the following:
 - i) A summary narrative characterizing effects on receptor locations;
 - ii) Contrasts and considerations of impact avoidance; and
 - iii) Minimization and mitigation strategies.
- 8) Mitigation Strategies: An assessment of various visual/shadow flicker impact mitigation strategies including screening (landscaping), architectural design, visual offsets, relocating or rearranging Facility components, reduction of Facility component profiles, alternative technologies, Facility color and design, and lighting options, with the understanding that FAA requirements will limit available turbine lighting options. Mitigation will also be assessed in relation to NYSDEC Program Policy DEP-00-2 (NYSDEC, 2000). Due to the typical height of

individual turbines and the geographic extent of a given wind power Facility, mitigation measures such as screening of individual turbines with earthen berms, fences, or planted vegetation will generally not be effective in reducing visibility. Therefore, additional simulations specific to mitigation are not anticipated. However, to the extent that site-specific mitigation measures are proposed, then simulations will be prepared to show the effect of mitigation.

- b) A Facility-specific shadow flicker analysis using industry standard modeling software. Input variables and assumptions used for shadow flicker modeling calculations for the proposed Facility will include:
- 1) Latitude and longitude coordinates of proposed wind turbine sites.
 - 2) The rotor diameter and hub height of the largest turbine model under consideration.
 - 3) Latitude and longitude coordinates for occupied residential structures, schools, churches, community buildings, or known public recreation areas (e.g., campgrounds) or other receptors located within a 10-rotor diameter radius of all proposed turbine locations. For ease of identification and comparison, both the shadow flicker study prepared for Exhibit 24 and the sound study prepared for Exhibit 19 will use the same definition of “sensitive receptor” and will employ a common receptor labelling system (showing receptor locations and identification numbers on shadow flicker mapping).
 - 4) USGS 1:24,000 topographic mapping and best publicly available and formatted DEM data.
 - 5) Annual wind rose data.
 - 6) The average monthly percent of available sunshine for the nearest National Oceanic and Atmospheric Administration weather station.
 - 7) The Applicant will work with the Towns to identify, within the 10-rotor diameter radius study area, any officially announced planned land use developments, such as residential sites or community buildings, under review or already approved for site plan development or building permit issuance at the time of filing the Application. Data obtained will be used in the shadow flicker assessment.

The results of the shadow flicker analysis will be presented in a stand-alone report to be appended to the Application. The report will describe the input variables, data sources, methods, and results of the analysis. Results will include contain a tabular summary of estimated impacts at each receptor and mapping that depicts potentially affected receptors with contour lines representing cumulative shadow flicker hours per year. Shadow flicker results will be presented both in a “worst case” scenario (no cloud cover, sun always shining) and “expected” (based on an historical sunshine and wind direction data). The “expected” impact analysis is conservative because it does not take into account vegetative or structural screening and assumes that turbines are in continuous operation.

The report results section will be presented both tabularly and with mapping exhibits. Results will include estimates of the maximum number of days per year with shadow flicker and the maximum duration (in minutes) of shadow flicker modeled on any single day. Tabular results will provide categories of annual hours of exposure (e.g., 0 to 10 hours; 10 to 20 hours; 20 to 30 hours;

30 or more hours). The Applicant will provide a table summarizing applicable regulatory standards and guidance. Mapping at 1:24,000 scale or less will be included which depicts the turbine locations and areas of estimated shadow flicker exposure. Mapping will illustrate estimated shadow flicker within the study area and areas where receptors may be exposed to shadow flicker from two or more wind turbines. Report appendices will include maps showing shadow flicker contour lines, sensitive receptors, property lines, public roads, and turbine locations identified with labels will be provided. The report will also contain the full result output from the shadow flicker modeling software, including detailed tables and calendars showing the times of day and seasons when shadow flicker is most likely to be experienced. Exhibit 15 will provide a literature review of international, peer-reviewed research and government reports on shadow flicker and health effects. This information will be used to contextualize the results of the shadow flicker analysis to be provided in Exhibit 24.

Stipulation 25 – 1001.25 Exhibit 25: Effect on Transportation

Exhibit 25 shall contain:

- a) A conceptual site plan that will identify access road locations and widths, the number of turbines to be accessed per road and other access roads associated with staging yards, O&M building, batch plant, and substation/switchyard locations. The preliminary design drawings prepared in support of Exhibit 11 will satisfy the requirement for the site plan required by this subpart. In addition, a Route Evaluation Study will be prepared for the Facility and included in the Article 10 Application, which will identify public road constraints (e.g., inadequate turning radii/intersections and road widths) and potential haul routes. A discussion of route evaluation information will be referenced in the emergency plans discussed in Exhibit 18.
- b) A description of the pre-construction characteristics of roads in the area including:
 - 1) Data will be obtained from the NYSDOT Traffic Data Online Viewer to review existing traffic volumes along proposed approach and departure routes for the Facility. Accident information along those routes contained in the Accident Location Information System (ALIS) will be requested from the local police agencies and/or NYSDOT regional office. These data will be compared with the Transportation Study Area, which will be identified and presented in the Application. However, the final haul routes ultimately will be defined in coordination with the BOP contractor and turbine manufacturer.
 - 2) The Application will include a review of school district routes for those districts that serve the Facility Site. This will be accomplished by obtaining school bus routes, number of buses, and times from the Copenhagen School District, Lowville Academy and Central School District, and South Jefferson Central School District.
 - 3) A review of locations of emergency service provider stations (police, fire, ambulance, and hospitals) that serve the Facility Site, based on consultation with local emergency service providers. A map of locations and routes. In addition, during Facility operation a map of all emergency service provider locations and routes will be posted in the Facility's O&M building

(and provided to the emergency service providers), and all turbines will have a unique 911 ID/address.

- 4) The Applicant's consultant will drive all potential haul routes roads to identify Load Restricted Bridges and/or roadways along the proposed approach and departure routes for the Facility. For non-posted bridges along those routes, information from the NYSDOT's Highway Data Services website will be reviewed to determine potential load capacity restrictions. In addition, consultations with local highway supervisors will be summarized in the Application.
 - 5) The Facility site is not within a congested urbanized area; therefore, the parties agree 24-hour traffic counts are not applicable and will not be included in the Application. The Applicant will discuss the process it intends to use to determine whether roadways needed for project construction may also be used by other project construction efforts, in the event those projects proceed, and what mitigation or avoidance measures may be needed to address impacts prior to construction.
 - 6) The Towns of Harrisburg and Montague have a standard road agreement that has been utilized in previous wind farm developments in these Towns, which has also been accepted by Lewis County as part of previous wind projects. This standard road agreement will be the basis of the evaluation and protection of the Town and County Highway road systems through the course of this project. A copy of the standard road agreement will be provided as an attachment to the Application.
- c) Facility trip generation characteristics including:
- 1) An estimate of the number, frequency and timing of vehicle trips will be based on the haul routes, site plan and location of turbines as presented in the Application, along with the number of phases, estimated quantities of earthwork and materials to construct Facility. Exact scheduling of construction work and required vehicles will be determined by the Applicant's contractor. Therefore, the study to be conducted and included in the Application will only provide an estimate based on typical volume of materials and number of vehicles per turbine installation. The Application will tabulate construction vehicle volumes for the Facility broken down by Facility component/truck type.
 - 2) Information and routes regarding trucks carrying water, fuels, or chemicals.
 - 3) An estimate, based on site plan and location of turbines in the Application, of anticipated quantities of earthwork and materials to construct facilities. An estimate based on typical volume of materials and number of vehicles per turbine installation will be provided.
 - 4) Please note that the final haul routes cannot be determined until the turbine manufacture has been selected and has reviewed and approved, or amended, the haul routes, and therefore the final haul routes will be provided prior to Facility construction. However, conceptual haul routes will be identified by an experience transportation engineer, the details of which will be included in the Application. Approach and departure routes will be based on the anticipated type of delivery vehicle to be used, and such routes will also be identified to and from the facility site (or parking areas) for construction workers and employees of the facility.
 - 5) The Towns of Harrisburg and Montague have a standard road agreement that has been utilized in previous wind farm developments in these Towns, which has also been accepted by Lewis

County as part of previous wind projects. This standard road agreement will be the basis of the evaluation and protection of the Town and County Highway road systems through the course of this project.

- d) Traffic and transportation impact information:
- 1) A summary of levels of service for linear segments of highways used by construction and delivery vehicles using Synchro and HCS software, which will be compared to the existing levels of service. The anticipated extent and duration of traffic interferences/delays during construction will be described.
 - 2) A Route Evaluation Study that will include anticipated delivery routes and an analysis of the adequacy of these routes to accommodate construction and operation of the Facility. This will include an evaluation of the potential for increased traffic accidents associated with the transportation of facility components and equipment.
 - 3) An assessment of over-size load deliveries and the adequacy of existing roads to accommodate such deliveries. A turning template of anticipated delivery vehicles and a review of aerial photography and online street view maps in conjunction with driving all potentially impacted roads will be conducted to identify physical restrictions (widths, turning radius, overhead clearance). An identification of required temporary and/or permanent roadway improvements and a location map will be provided and potential impacts at each temporary improvement location will be summarized. However, all improvements identified in the Application will require verification and/or update following Certification when the final turbine supplier is identified.
 - 4) Identification of measures to mitigate traffic and transportation impacts, which will be presented in the Route Evaluation Study. This analysis will include any time restrictions regarding delivery of facility components.
 - 5) This section of the Application will identify and tabulate all anticipated Town, County, and State permits that will be required for construction and post-construction use of public roads, including highway work permits and special use permits from the NYSDOT. The Applicant will provide a draft road use agreement as an Appendix to the Application. This section of the Application will also generally discuss use agreements with private landowners that may be required for construction and post-construction use of private property along public roads. The Application will provide a description of all use and restoration agreements, per 1001.25(d)(5).
- e) No rail or bus mass transit systems are expected to be impacted by this Facility. The Application will provide in-depth description of the Facility components and potential aviation impacts in relation to the local airports within 12 miles of the Facility.
- f) A discussion of the aeronautical studies for the proposed Facility along with a discussion of potential impacts to air traffic control and air navigation. This section of Exhibit 25 will also include:
- 1) An overview of the consultations the Applicant has had with representatives of Ft. Drum/Wheeler Sack Army Airfield and the National Weather Service regarding compatibility with aviation and weather radar systems in proximity of the proposed Project. A procedure for updating DPS of

ongoing correspondence with the above noted representatives will be described in the Application.

- 2) A statement that the Applicant has formally consulted with the FAA, including determination(s), if available, regarding a Notice of Proposed Construction (to be submitted to the administrator of the FAA), and thus the DoD. Any correspondence including response from the DoD and FAA will be provided. The Application will also include an overview of the FAA Notice of Proposed Construction review process including status of any informal or formal review; additionally, any mitigation measures proposed resulting from the FAA process will be detailed in this section, to the extent available. Furthermore, if any Facility components are eliminated through recommendations or requirements of the FAA Notice of Proposed Construction process, explanations for the eliminations will be provided in the Application. Also, a protocol for notifying DPS of updated correspondence with FAA/DoD will be described in the Application.
- 3) The Applicant's correspondence with airports and heliports, if any.
- 4) The Application shall include all information required by 1001.25(f)(3), including descriptions of the responses received in reviews and consultations detailed in 1001.25(f)(1) and (2).

Stipulation 26 – 1001.26 Exhibit 26: Effect on Communication

The Applicant agrees to provide the information required by 1001.26. This Exhibit will also describe the Applicant's proposed Complaint Resolution Plan. Further, this Exhibit will include information on consultations with, and the potential impacts of the Facility on, National Weather Service radar, the Ft. Drum/Wheeler Sack Army Airfield, and an evaluation of potential impacts on data communication for the NYS Mesonet System (which is a resource for emergency response), and local emergency communications systems.

The Application will also include an overview describing the Notification of Proposed Project procedure through the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. A summary of coordination to date between Applicant and NTIA will be provided, and will include information such as any determination(s) made, any elimination of Facility components, or mitigation requirements or recommendations provided through the notification process to NTIA will be included as part of the Application.

Additionally, the Application will include a description of the National Weather Service Radar Operations Center (ROC) impact zones in the vicinity of weather surveillance radars. Figures will be included depicting locations of Facility components within any of the impact zones, if applicable. In the event that components were previously or are currently proposed to be located within radar "No Build" or "Mitigation" zones, Applicant will include a description of any changes made to Facility layout to address NWS concerns, and/or any planned mitigation actions.

The Applicant will coordinate with Jefferson County regarding the approximate locations of the proposed emergency communication towers, as identified in the *Fort Drum Joint Land Use Study Report*, dated November 2017, and to the extent that information is available from the County. The Application will also

include all information required by 1001.26 regarding these proposed approximate tower locations, to the extent specific locations are available from the County.

A description of a procedure will be provided for updating DPS regarding ongoing correspondence between the Applicant and National Weather Service, NTIA (and other noticed agencies), the Fort Drum/Wheeler Sack Army Airfield, and local emergency communications system representatives, including the Jefferson and Lewis County Offices of Fire and Emergency Management and the Jefferson and Lewis County Sheriff's Offices.

Stipulation 27 – 1001.27 Exhibit 27: Socioeconomic Effects

The Applicant agrees to provide the information required by 1001.27.

The Application will include estimates of the impact that the proposed Facility may have on the economy including:

- a) On-site labor impacts (including peak construction employment level, and an estimate of the number of jobs and the on-site payroll, by discipline, during a typical year of operation).
- b) Local revenue and supply chain impacts.
- c) Induced impacts associated with the construction and operation of the Facility.
- d) The Applicant will provide information supporting how the estimated number of jobs expected to be generated by the Project were determined.
- e) To the extent reasonably practicable, the analysis of secondary employment and economic activity will also reflect the economic impacts associated with possible changes in the price of electricity due to the Project.

Stipulation 28 – 1001.28 Exhibit 28: Environmental Justice

Exhibit 28 shall contain:

- a) A statement that the Facility is not expected to have any impacts on Environmental Justice areas.
- b) A map and description of nearby potential Environmental Justice areas identified within the Village of Lowville, portions of the Town of Martinsburg and the City of Watertown, all of which are located outside the project area, and analysis pursuant to §1001.28 if they fall within the area defined by 6 NYCRR Part 487.

Stipulation 29 – 1001.29 Exhibit 29: Site Restoration and Decommissioning

Exhibit 29 shall contain:

- a) The Applicant agrees to provide the information required by 1001.29(a). The Applicant agrees that foundations will be removed to a depth of 48 inches below the soil surface in agricultural areas, unless otherwise required by land owner agreements.
- b) The Applicant agrees to provide the information required by 1001.29(b), the Application will also include:
 - a) A detailed estimate to support the proposed decommissioning and site restoration funding, upon cessation of operation of the Facility based on the expected turbine model(s) to be used and actual decommissioning and site restoration costs from other similar projects, if available; and
 - b) A section describing the financial security mechanism for decommissioning and site restoration.
- c) The Applicant agrees to provide the information required by 1001.29(c).
- d) Information related to nuclear power facilities will not be included in the Application.
- e) The Application shall include the decommissioning and restoration plan procedures for notifying landowners and municipalities of decommissioning and restoration activities.

Stipulation 30 – 1001.30 Exhibit 30: Nuclear Facilities

Exhibit 30, Nuclear Facilities, is not applicable to the Facility, and therefore the parties agree nuclear facilities will not be addressed in the Application.

Stipulation 31 – 1001.31 Exhibit 31: Local Laws and Ordinances

During preparation of the Application, the Applicant will continue its consultation with the Towns of Pinckney, Harrisburg, Montague and Rodman to determine whether all such requirements have been correctly identified, and to determine whether any potential request by the Applicant that the Board elect to not apply any such local requirement could be obviated by design changes to the proposed Facility. Exhibit 31 shall contain:

- a) An updated list of applicable local ordinances, laws, resolutions, regulations, standards, and other requirements of a procedural nature required for the construction (including maintenance of construction equipment) or operation of the proposed Facility. A copy of all local laws obtained by the Applicant and/or provided by the host municipalities, including maps, figures, tables and other attachments to local laws (assuming such information is readily available), will be included as an appendix to the Application.

The procedural local ordinances to be discussed in the Application will include, but may not be limited to,¹³ the following:

Town of Harrisburg Zoning Law (Local Law No. 1 of the year 2012)

- Section 605 (Special Uses) General Requirements
- Section 705 (Special Use Review Procedure) Authority
- Section 710 Objectives
- Section 715 Procedure
- Section 805 (Special Use Review Standards) General
- Section 810 Erosion Control Plan
- Section 905 Zoning Permits
- Section 915 Certificates of Occupancy
- Section 930 Violations and Penalties

Town of Montague Land Use Law (Local Law No. 1 of 2002 as revised by Local Law No. 1 of 2005)

- Article C. Section 2 Special Areas
- Article E. Administration and Enforcement
- Article F, Section 9(3) Special Use Permit required for certain disturbances of a water body or wetland
- Article G. Special Use Permit Requirements and Process
- Montague Driveway Installation Law (Local Law Number 1 of 2016), Sections 2, 3, 5 and 8, Permit, Application Procedures, Zoning Permit, and Violation

Town of Pinckney Zoning Law (Local Law Number 2 of The Year 1998 Reenactment of Town of Pinckney Zoning Law as revised by Windpower Local Law, Local Law No. 1 of 2006, as revised by Local Law Number 1 of 2011 and Local Law Number 1 of 2018)

- Article 5 General Regulations, except as identified in section (c) below
- Article 6 Site Plan Review
- Article 8 Administration and Enforcement
- Pinckney Driveway Installation Law (Local Law Number 1 of 2015), Sections 3, 4 and 6, Permits, Application Procedures and Zoning Permit

Town of Rodman Development Laws (Local Laws Number 1-6 of 1998, as amended by Local Law Number 1 of 2000, Local Law Number 1 of 2005, and Local Law Number 1 of 2008).

- Article III, Section 310 Special Use Permits
- Article V, Special Use Review
- Article VII, Section 710, Soil Erosion and Sediment Control (portions)
- Article VIII, Section 804-808, Development Permits
- Article VIII, Section 815, Certificate of Compliance
- Article VIII, Section 818, Special Use Permit Application and Review

¹³ This section will include all procedural local ordinances enacted up to the time of Application.

- b) To the extent that the Towns require permits or other approvals for work performed on Town roads or within the Towns’ right of way, at this time, it is the Applicant’s intent to request that the Board expressly authorize the Towns to issue such permits or alternatively enter into road use agreements with the Applicant. The Applicant will work with the Towns to follow their procedural and substantive requirements for the permitting of highway work permits. Highway work and similar road permits are primarily an issue of local concern and ministerial in nature provided the Applicant meets the applicable standards.
- c) The Applicant agrees to provide the information required by 1001.31(c).

An updated list of applicable local ordinances, laws, resolutions, regulations, standards, and other requirements of a substantive nature required for the construction or operation of the proposed Facility, including local wind energy laws and substantive Wind Overlay Zone requirements. Copies of zoning, flood plain, and similar maps, tables and/or documents related to local substantive requirements will be included in the Article 10 Application. The substantive local ordinances to be discussed in the Application will include, but may not be limited to,¹⁴ the following:

Town of Harrisburg Zoning Law (Local Law No. 1 of the year 2012)

- Section 405 Zoning District Uses
- Section 510 Corner Lots
- Section 520 Parking, General
- Section 525 Parking, Specific Standards
- Section 530 Off Road Loading
- Section 535 Signs, Exempt
- Section 540 Signs, Prohibited
- Section 545 Signs, General Standards
- Section 565 Access Standards
- Section 575 Roads
- Section 580 Fences, Walls, Shrubbery
- Section 625 Essential Facilities¹⁵
- Section 665 Major Wind Energy Generating Facilities (A-B)
- Section 720 Financial Guarantees for Public Improvements(A-B)
- Section 810 Substantive Erosion Control Standards (A-B)
- Section 815 Landscaping and Screening (A-H)
- Section 820 Drainage
- Local Law Number 1 of 2004, Minimum Maintenance and Rehabilitation Guidelines and Standards for Low-Volume Rural Town Roads (to the extent applicable)

Town of Montague Land Use Law (Local Law No. 1 of 2002 as revised by Local Law No. 1 of 2005)

- Article D, Lot Size and Setbacks

¹⁴ This section will include all substantive local ordinances enacted up to the time of Application.

¹⁵ As written, the Town law defines these structures as those operated by the municipality or a public utility, with “public utility” currently undefined. Applicant will consult with the municipality to determine applicability of the provisions in this section to the proposed project.

- Article E (1)(11) Setbacks for Wind Power Generating Facilities and Wind Test Towers
- Article F, Section 2 Line of Sight for Traffic Safety
- Article F, Section 3 Parking for Public and Commercial Facilities
- Article F, Section 4 Basic Performance Standards
- Article F, Section 5 Height of Structures
- Article F, Section 9 Water Related Areas
- Article F, Section 10 Wetlands
- Article F, Section 11 Sewage and Waste Disposal Standards (if applicable)
- Article F, Section 16 Road Access
- Article G, Section 2 (12) Requirements for Major Wind Power Generating Facilities
- Local Law Number 1 of 2002, as amended by Local Law Number 1 of 2004 and Local Law Number 2 of 2016, Minimum Maintenance and Rehabilitation Guidelines and Standards for Low-Volume Rural Town Roads (to the extent applicable)
- Montague Driveway Installation Law (Local Law Number 1 of 2016), Section 4, Requirements and Responsibilities

Town of Pinckney Zoning Law (Local Law Number 2 of The Year 1998 Reenactment of Town of Pinckney Zoning Law as revised by Windpower Local Law, Local Law No. 1 of 2006, as revised by Local Law Number 1 of 2011 and Local Law Number 1 of 2018)

- Section 410 Allowed Uses
- Section 420 Lot Size and Setbacks
- Section 510 Line-of-Sight for Traffic Safety
- Section 515 Height of Structures
- Section 525 Accessory Uses and Structures
- Section 530 Signs
- Section 540 Parking
- Section 580(3)-(5) Public Utility Structures (Transformer Facilities and Substations)¹⁶
- Section 582 Major Wind Generating Facilities
- Section 585 Streams, Wetlands and Water Bodies
- Local Law Number 1 of 2000, Minimum Maintenance and Rehabilitation Guidelines and Standards for Low-Volume Rural Town Roads (to the extent applicable)
- Pinckney Driveway Installation Law (Local Law Number 1 of 2015), Section 5, Requirements and Responsibilities

Town of Rodman Development Laws (Local Laws Number 1-6 of 1998, as amended by Local Law Number 1 of 2000, Local Law Number 1 of 2005, and Local Law Number 1 of 2008)

- Article IV, Section 410
- Article V certain substantive special use permit requirements, including Section 535 (financial guarantees for public improvements), to the extent applicable
- Article VII, Section 705 Access

¹⁶ As written, the Town law defines these structures as those operated by the municipality or a public utility, with “public utility” currently undefined. The Applicant will consult with the municipality to determine applicability of the provisions in this section to the proposed project.

- Article VII, Section 710 Soil Erosion and Sediment Control (portions)
 - Article VII, Section 720 Line of Sight for Traffic Safety
 - Article VIII, Section 805, Development on Seasonal and Limited Use Roads
 - Local Law No 1 of 2002 and Local Law No. 1 of 2010, Minimum Maintenance and Rehabilitation Guidelines and Standards for Town Roads (to the extent applicable)
- d) The Applicant agrees to provide the information required by 1001.31(e).
- e) The Applicant agrees to provide the information required by 1001.31(f).
- f) The Applicant agrees to provide the information required by 1001.31(g).
- g) The Applicant agrees to provide the information required by 1001.31(h).
- h) A summary table that has two columns, one consisting of applicable substantive requirements to the Facility and the second containing a description of how the Applicant plans to adhere to those requirements. To the extent that the Applicant intends to seek relief from substantive local zoning requirements, the Application will identify those requirements and explain why they would be unreasonably burdensome as applied to the Facility.
- i) Identification of the zoning designation or classification of all lands constituting the Facility site, and a statement indicating if the Facility would be considered a permitted use in accordance with the zoning ordinance or local laws.

Stipulation 32 – 1001.32 Exhibit 32: State Laws and Regulations

The parties hereby stipulate and agree to the following:

- a) The following is a listing of state approvals, consents, permits, or other conditions of a procedural nature which may be required for the construction or operation of the proposed Facility, as summarized in the following table:

List of State Approvals for the Construction and Operation of the Facility that are Procedural in Nature and supplanted by PSL Article 10

State Agency	Requirement	Discussion
New York State Department of Environmental Conservation	Water Quality (WQC), Section 401 of the Clean Water Act	The request for a 401 WQC will not be filed until a federal U.S. Army Corps of Engineers permit application is filed (if necessary). Under the Siting Board regulations, the WQC will be issued by the Siting Board.

State Agency	Requirement	Discussion
New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP)	Consultation Pursuant to §14.09 of the New York State Historic Preservation Act	The Applicant has initiated (and will continue) consultation with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) to ensure compliance with §14.09 of the New York State Historic Preservation Act.
New York State Department of Environmental Conservation	Endangered and Threatened Incidental Take Permit Article 11, 6 NYCRR Part 182	The NYSDEC may issue a license or permit to “take” any species listed as endangered or threatened. This permit may be required if, in consultation with state agencies, it is determined that the project could result in incidental take of any state-listed endangered or threatened fish or wildlife species. If this permit is required, the procedural requirements are supplanted by Article 10.
New York State Department of Environmental Conservation	Permit for Use and Protection of Waters Article 15, 6 NYCRR Part 608	This permit would be required for the disturbance of the bed or banks of protected streams and excavation and fill of navigable waters by Facility components. Protected streams are streams designated by the NYSDEC and as defined in 6 NYCRR Part 608 with one of the following classifications: AA, AA(t), AA(ts), A, A(t), A(ts), B, B(t), B(ts), C(t) or C(ts). The permit is required for any change, modification, or disturbance of any protected streams, streambeds, or stream banks or for the excavation from or placement of fill in any navigable waters of the state as defined in 6 NYCRR Part 608. If this permit is required, the procedural requirements are supplanted by Article 10.
New York State Department of Environmental Conservation	Permit for Freshwater Wetlands Article 24, 6 NYCRR Part 663	This permit would be required for the temporary or permanent disturbance of regulated freshwater wetlands or adjacent areas, as defined in 6 NYCRR Part 663, by Facility components. Regulated freshwater wetlands are designated and mapped by the NYSDEC, and are generally 12.4 acres or larger, and subject to verification of field delineations by NYSDEC staff. All regulated freshwater wetlands also contain a 100 foot regulated adjacent area which is subject to permitting requirements to provide protection for the wetland. If this permit is required, the procedural requirements are supplanted by Article 10.

State Agency	Requirement	Discussion
New York State Department of Environmental Conservation	SPDES General Permit for Construction Activity	This permit is required for construction projects that disturb one or more acres of soil. In accordance with 16 NYCRR 1001.32(a) this is identified as a state procedural requirement issued by the NYSDEC pursuant to federal recognition of state authority. This approval is subject to review by the NYSDEC independent of the Article 10 process.
New York State Public Service Commission	Certificate of Public Convenience and Necessity NY PSL §68	No electric corporation shall begin construction of an electric plant, having a generating capacity of at least 80 MW, without first having obtained the permission and approval of the commission.

As indicated in the table above, some of these state procedural requirements are supplanted by PSL Article 10, except for permits to be issued by the New York State Department of Environmental Conservation (NYSDEC) pursuant to Federal recognition of State authority, or pursuant to federally delegated or approved authority, in accordance with the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, and permits pursuant to Section 15-1503, Title 9 of Article 27, and Articles 17 and 19 of the ECL.

- b) The Applicant agrees to provide the information required by 1001.32(b).

- c) The following is a listing of state approvals, consents, permits, or other conditions of a substantive nature which may be required for the construction or operation of the proposed Facility:
 - 1) Water Quality Certification (WQC), Section 401 of the Clean Water Act 6 NYCRR Part 621.4e (Water Quality Certifications in Accordance with Section 401 of the Clean Water Act)
 - 2) Consultation Pursuant to Section 14.09 of the New York State Historic Preservation Act
 - 3) Endangered and Threatened Incidental Take Permit Standards Article 11, 6 NYCRR Part 182.12
 - 4) Permit for Protection of Waters, Article 15, 6 NYCRR Part 608.7b (Permit Application Review) and 608.8 (Standards)
 - 5) Permit for Freshwater Wetlands, Article 24, 6 NYCRR Part 663.5 (Standards for Issuance of Permits and Letters of Permission)
 - 6) SPDES General Permit for Construction Activity, Article 3, 6 NYCRR Part 750-1.11 (Application of Standards, Limitations, and other Requirements)
 - 7) NYSDOT Use and Occupancy of State Highway Rights-of-Way (17 NYCRR Part 131 Accommodation of Utilities within State Highway Right-of-Way).
 - 8) PSL Section 68.

- d) Summary Table of Substantive State Requirements
 - 1) The substantive state requirements preliminarily identified above will be presented in a table in the Article 10 Application, and formatted per the associated requirements.

- e) State Approvals/Permits/Etc. for Offsite Features Not Encompassed by Major Electric Generating Facility
 - 1) To the extent that off-site ancillary features that are not considered part of the Major Electric Generating Facility are needed, a list of all state approvals, consents, permits, certificates, or other conditions for the construction and operation of said offsite ancillary features will be listed in the Application.

Stipulation 33 – 1001.33 Exhibit 33: Other Applications and Filings

The Applicant agrees to provide the information required by 1001.33, along with any current participation by the Applicant which is in the public domain, in renewable energy markets/RFPs. The Applicant will provide the information required by 1001.25(f), including a discussion of the status of review by the FAA, DoD and other relevant entities.

Stipulation 34 – 1001.34 Exhibit 34: Electric Interconnection

Exhibit 34 shall contain:

- a) The length and anticipated number of circuits for the electrical collection system will be described in the Application, along with the design voltage and voltage of initial operation.
- b) The length of the collection system, broken down by anticipated length of overhead and underground lines, will be described in the Application. Typical details related to conductors will also be included.
- c) Typical utility-grade ceramic/porcelain or composite/polymer insulators, designed and constructed in accordance with ANSI C29, are anticipated to be used. Insulators in the POI substation are anticipated to be porcelain. That information will be described in the Application.
- d) The Facility is not proposed to include a transmission line.
- e) It is anticipated that the overhead collection line will be carried on treated wood pole structures, and anticipated pole heights will be presented in the Application.
- f) It is anticipated that the towers used for the overhead collection line will be wooden. The design standards for the overhead collection line wooden pole will be described in the Application.
- g) The type of cable system to be used and the design standards for that system.
- h) A typical drawing of the underground collection cable and associated material will be provided in the Application.

- i) The POI substation equipment and collection substation will be described in the Application, which will also include a plan/overview of the POI substation and collection substation.
- j) Description of POI and collection substation as the terminal facilities.
- k) There are no cathodic protection measures expected to be required for installation of the underground systems, as no metallic pipelines are anticipated to be used. Therefore, cathodic protection measures will not be discussed further in the Application.

Stipulation 35 – 1001.35 Exhibit 35: Electric and Magnetic Fields

Exhibit 35 shall contain:

- a) None of the electrical lines from the turbines to the collection station/POI station will exceed 34.5 kV; therefore, the Facility will not have a Right-of-way (ROW) associated with high voltage transmission power lines. However, the Application will identify 34.5 kV ROW segments with unique EMF characteristics, which will be evaluated in the EMF study.
- b) For each of the unique ROW segments, the EMF study will provide both base case (where existing facilities are present) and proposed cross sections that show:
 - 1) Any known overhead electric transmission, sub-transmission, and distribution facilities showing structural details and dimensions and identifying phase spacing, phasing, and any other characteristics affecting EMF emissions.
 - 2) Any known underground electric transmission, sub-transmission (i.e., 34.5 kV collection system), and distribution facilities.
 - 3) ROW boundaries.
 - 4) Structural details and dimensions for all structures (dimensions, phase spacing, phasing, and similar categories) and an overview map showing locations of structures.
- c) The EMF study to be included in the Article 10 Application will include a set of aerial photos/drawings showing the exact location of each unique ROW segment and each cross-section, and any residences or occupied buildings within the ROW segments. If no residence or occupied building is within the ROW segments, the measurement of the distance between the edge of the ROW segment and the nearest residence or occupied building will be provided.
- d) An EMF study with calculation tables and field strength graphs for each unique ROW cross section and including:
 - 1) A signature and stamp/seal by a licensed professional engineer registered and in good standing in the State of New York.
 - 2) The name of the computer software program used to model the facilities and make the calculations.

- 3) The EMF study will model the strength and locations of electric fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Application. Electric field strength graphs depicting electric fields along the width of the entire ROW, and out to 500 feet, will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations will be provided under separate cover.
- 4) The EMF study will model the strength and locations of magnetic fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Application. There is no expected change in amperage under any of the following conditions: summer normal, summer short term emergency, winter normal, winter short term emergency. Therefore, the magnetic field modeling to be performed will be applicable to any of these conditions. Magnetic field strength graphs depicting magnetic fields along the width of the entire ROW and out to 500 feet will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations are being provided under separate cover.
- 5) There is no expected change in amperage in maximum average load initially versus for 10 years after initiation of operation. Therefore, the modeling of magnetic fields described above in 1001.35(d)(4) (including both the graphs and tables included in the EMF study) will be applicable to both initial operation and operation after 10 years.
- 6) There are no proposed high voltage transmission lines, therefore the parties agree this analysis is not applicable to the proposed Facility.

Stipulation 36 – 1001.36 Exhibit 36: Gas Interconnection

Exhibit 36, Gas Interconnection, is not applicable to the Facility, and therefore will not be included in the Application.

Stipulation 37 – 1001.37 Exhibit 37: Back-up Fuel

Exhibit 37, Back-up Fuel, is not applicable to the Facility, and therefore will not be included in the Application.

Stipulation 38 – 1001.38 Exhibit 38: Water Interconnection

Exhibit 38, Water Interconnection, is not applicable to the Facility; however, water supply needs for the concrete batch plant and at the O&M building or other Facility facilities will be explained in the Application.

Stipulation 39 – 1001.39 Exhibit 39: Wastewater Interconnection

Exhibit 39, Wastewater Interconnection, is not applicable to the Facility; however, wastewater treatment at the O&M building or other Facility locations will be explained in the Application.

Stipulation 40 – 1001.40 Exhibit 40: Telecommunications Interconnection

Generally, it is not anticipated that the Facility will require telecommunication interconnections as defined by Article 10, 16 NYCRR 1000.40, in that new off-site telecommunication lines are not anticipated at this time. Exhibit 40 shall contain:

- a) information on the Facility’s meter location, the means of providing the operational data to NYSEG, and the secure communications network for this operational data.

- b) information regarding a high-speed internet (T-1 or other provider) to be established, and the means of transmitting the necessary data and other information to the appropriate parties for monitoring and reporting purposes.

Stipulation 41 – 1001.41 Exhibit 41: Applications to Modify or Build Adjacent

The Applicant is not proposing to modify or build adjacent to an existing facility, and as such, the requirements of this exhibit are not applicable and will not be included in the Application.

Atlantic Wind LLC

As to all Stipulations identified above agree:

By: _____

Name: _____

Dated: _____

New York State Department of Public Service

As to all Stipulations identified above agree:

By: _____

Name: _____

Dated: _____

NYS Department of Environmental Conservation

As to all Stipulations identified above agree:

By: _____

Name: _____

Dated: _____

NYS Department of Agriculture and Markets

As to all Stipulations identified above agree:

By: _____

Name: _____

Dated: _____

New York State Department of Health

As to all Stipulations identified above agree:

By: _____

Name: _____
Dated: _____

Town of Pinckney

As to all Stipulations identified above agree:

By: _____
Name: _____
Dated: _____

Town of Harrisburg

As to all Stipulations identified above agree:

By: _____
Name: _____
Dated: _____

Town of Montague

As to all Stipulations identified above agree:

By: _____
Name: _____
Dated: _____

Lewis County

As to all Stipulations identified above agree:

By: _____
Name: _____
Dated: _____

Concerned Citizens of Deer River Wind Energy Project

As to all Stipulations identified above agree:

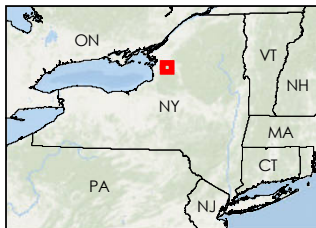
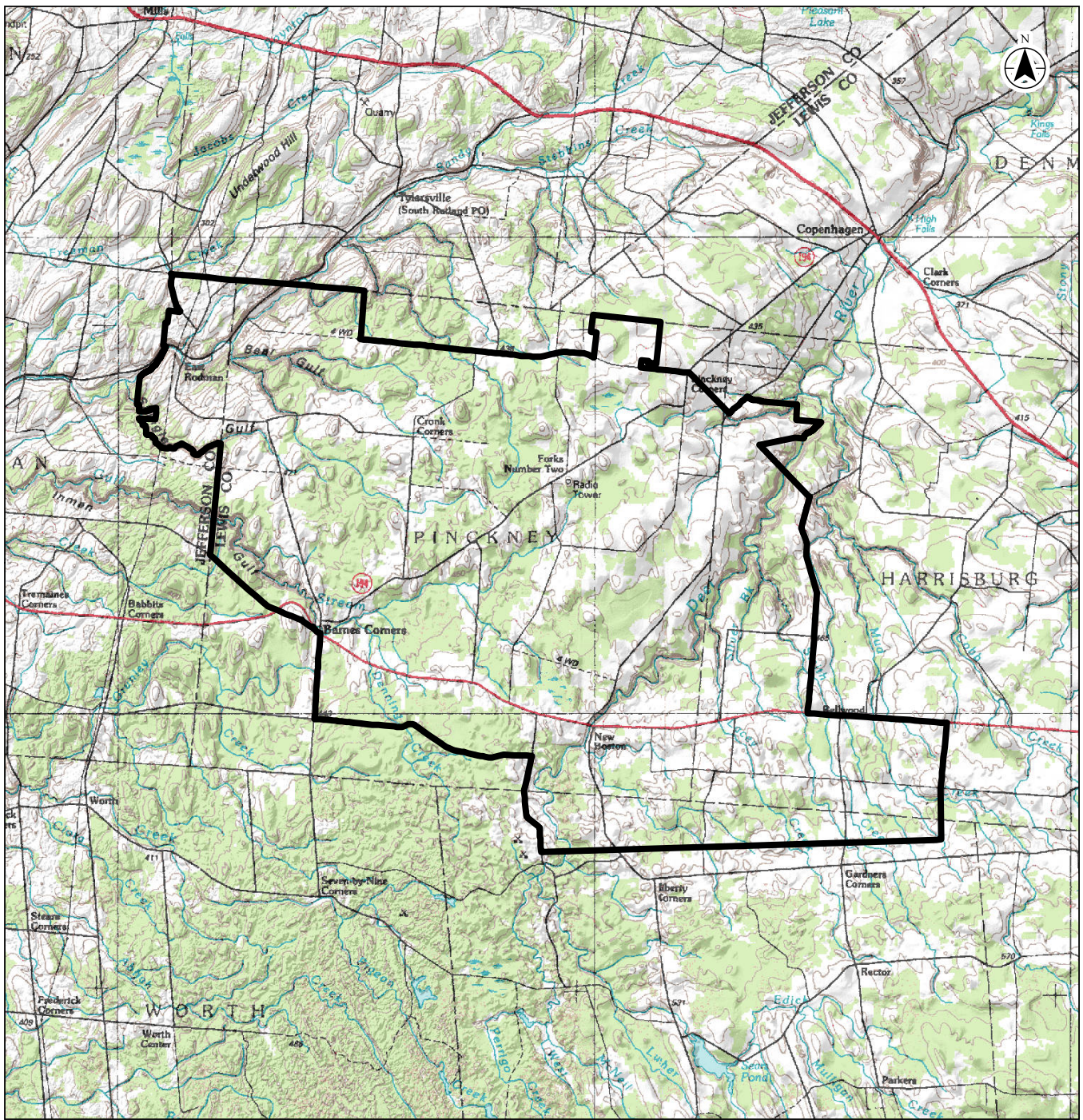
By: _____
Name: _____
Dated: _____

Norman Roof

As to all Stipulations identified above agree:

By: _____
Name: _____
Dated: _____

Stipulations Figure 1 – Facility Location Map



Legend
 Deer River Wind Farm Project Area



Project Location
 Lewis County
 New York
 195601185
 Prepared by GAC on 2018-06-20
 Reviewed by KAP on 2018-06-20

Client/Project
 Atlantic Wind LLC
 Deer River Wind Farm

Figure No.
 1

**Deer River Wind Farm
 Facility Location Map**

- Notes**
 1. Coordinate System: NAD 1983 UTM Zone 18N
 2. Base map: 1:100,000 Watertown USGS Topographic Map

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants, and agents, from any and all claims arising in any way from the content or provision of the data.

Stipulations Attachment 1 – Map Sizes and Scales

Deer River Wind Farm, Case 16-F-0267

Preliminarily Proposed Map Sizes and Scales for Article 10 Application For Printed Maps (for full-size copies of drawing sets)

Exhibit	Title	Format	Extents	Scale (mi/in)	Scale (ft/in)	Scale (in/in)	Size	# Sheets	16 NYCRR Ref.
3	Layout	PDF	PA	0.4	2,000	24000 *	B	TBD	1001.3 (a) (1) & (4)
3	Study Area	PDF	SA	0.4	2,000	24000 *	B	TBD	1001.3 (a) (5)
3	Towns	PDF	PA	0.4	2,000	24,000	B	TBD	1001.3
3	School Districts	PDF	PA	1	5,280	63,360	B	TBD	1001.3 (b)
3	Fire Districts	PDF	PA	1	5,280	63,360	B	TBD	1001.3 (b)
3	Project Location	PDF	PA	0.4	2,000	24,000	B	TBD	1001.3 (b)
4	Land Use Map	PDF	PA	0.2	1,000	12,000	B	TBD	1001.4 (a)
4	Utility Infrastructure Map	PDF	SA	1	5,280	63,360	B	TBD	1001.4 (b)
4	Land Ownership Map	PDF	PA	0.2	1,000	12,000	B	TBD	1001.4 (c)
4	Zoning Districts (if applicable)	PDF	SA	1	5,280	63,360	B	TBD	1001.4 (d)
4	Proposed Land Uses	PDF	PA	1	5,280	63,360	B	TBD	1001.4 (f)
4	Agricultural Districts	PDF	SA	1	5,280	63,360	B	TBD	1001.4 (g)
4	Utility Infrastructure Map	PDF	SA	1	5,280	63,360	B	TBD	1001.4(h)
4	Recreation and other uses	PDF	SA	1	5,280	63,360	B	TBD	1001.4 (h)
4	Aerial Photographs and Vegetation Clearing Map	PDF	SA	0.2	1,000	12,000	B	TBD	1001.4 (m) & (n)
9	Alternative Sites	PDF	TBD	0.4	2,000	24,000	B	TBD	1001.9 (a)
9	Alternative wind project layout(s)	PDF	TBD	0.02	100	1,200	D2	TBD	1001.9 (c) (4)
11	Overall Site Plan for all facilities	PDF	TBD	0.02	100	1,200	D2	TBD	1001.11 (a)
11	Site Plans (may range from 1" = 30' to 1"-100' scales, where appropriate)	PDF	PA	0.02	100	1,200	D2	TBD	1001.11 (a)
11	Site Plan for Project Substation	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.11 (a)
11	Site Plan for O&M Building	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.11 (a)
11	Site Plan for Batch Plant	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.11 (b)
11	Site Plan for Laydown Yard	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.11 (b)
11	Site Plan for Typical Wind Turbine Assembly Area During Cons	PDF	TBD	0.02	100	1,200	TBD	TBD	
11	Site Plan for POI Switchyard	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.11 (h)
11	Transmission Line Plan and Profile, Route Plan	PDF	TBD	0.04	200	2,400	B	TBD	1001.11 (h)
13	Real Property	PDF	PA	0.2	1,000	12,000	B	TBD	1001.13 (a) & (b)
15	Public Health and Safety	PDF	SA	1	5,280	63,360	B	TBD	1001.15 (f)
18	Security Site Plan	PDF	TBD	0.02	100	1,200	TBD	TBD	1001.18 (a) (1) & (4); (b) (1) & (5)
19	Noise contour map	PDF	PA	0.2	1,000	12,000	D2	TBD	1001.19 (a)

21	Slopes	PDF	PA	1	5,280	63,360	B	TBD	1001.21 (a)
21	Soil Types	PDF	PA	0.4	2,000	24,000	B	TBD	1001.21 (o)
21	Bedrock	PDF	PA	2	10,560	126,720	B	TBD	1001.21 (q)
22	Delineated Wetlands Map	PDF	PA	0.4	2,000	24,000	B	TBD	1001.22 (i)
23	Water Resources - Groundwater	PDF	PA	0.4	2,000	24,000	B	TBD	1001.23 (a) (2)
23	Water Resources - Surface Waters	PDF	PA	0.4	2,000	24,000	B	TBD	1001.23 (b) (1)
23	SWPPP (preliminary)	PDF	PA	0.02	100	1,200	D2	TBD	1001.23 (c) (1) & (2)
24	Viewshed map(s)	PDF	SA 10mi	0.4	2,000	24,000 *	B	TBD	1001.24 (b) (1)
25	Site plan access roads	PDF	TBD	0.02	100	1,200	D2	TBD	1001.25 (a) (2)
26	Microwave Paths - Facilities near paths shown in greater detail	PDF	PA	2.6	13,750	165,000	A	TBD	1001.26 (a) (5)
28	Potential Environmental Justice Area Map	PDF	SA	2	10,560	126,720	B	TBD	1001.28 (a)
35	EMF and residences	PDF	TBD	0.02	100	1,200	D2	TBD	1001.35 (c)

Notes: PA = Project Area, SA= Study Area, Size A = 8.5"x11", Size B = 11"x17", Size C = 18"x24", Size D2= 22"x34", Size D=24"x36"

* Denotes scale requirements of Part 1001 *Content of an Application*

All maps will be delivered in PDF format with the Article 10 application, and shape files or CAD files can be supplied where requested.

All scales above are proposed based on preliminary analysis and may need to be adjusted based on actual data.