

**SUMMARY OF RESPONSES TO PSS COMMENTS
ARTICLE 10 – PRELIMINARY SCOPING STATEMENT
PURSUANT TO PSL 164; 16 NYCRR 1000.5**

LIGHTHOUSE WIND PROJECT
TOWNS OF SOMERSET AND YATES
NIAGARA AND ORLEANS COUNTIES, NEW YORK

Lighthouse Wind, LLC
310 4th Street NE, Suite 200
Charlottesville, VA 22902

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Introduction and Summary of the Scoping Process for Major Electric Generating Facilities under PSL Article 10

Lighthouse Wind, LLC (“Lighthouse Wind” or “the Applicant”), a subsidiary of Apex Clean Energy Holdings, LLC (“Apex”), has proposed a 201 megawatt (MW) wind energy generating facility, to be located in the Towns of Somerset (Niagara County) and Yates (Orleans County), New York (“the Lighthouse Wind Project” or “Project”). Prior to submitting an Application for a Certificate of Environmental Compatibility and Public Need (“Certificate”) to construct and operate this facility, pursuant to Article 10 of the Public Service Law (“Article 10”), NY PSL § 160 *et seq.*, Lighthouse Wind was required to comply with certain pre-application procedures set forth in PSL § 163 and 16 NYCRR §§ 1000.4 and 1000.5. Among these pre-application steps was the requirement that Lighthouse Wind submit a Preliminary Scoping Statement (PSS) to the New York State Board on Electric Generation Siting and the Environment (“Siting Board”) and to other parties. Lighthouse Wind submitted its PSS on November 23, 2015.

The purpose of a PSS is to provide an outline of the scope and methodology of studies a prospective Applicant proposes to employ in order to gather information necessary to submit an Article 10 Application. In the PSS, a prospective Applicant provides an overview of potential impacts which could result from the proposed Project; a summary of how it will assess impacts in the formal Application; and a list of the sources from which it proposes to gather information necessary to make impact determinations, develop potential avoidance strategies, and/or identify potential mitigation measures. The PSS process, and subsequent opportunities for pre-application stipulations, also provide any potentially impacted or interested parties or “stakeholders” an opportunity to become involved in these discussions and decision-making before the Application is filed. Involving stakeholders early in the process—at a point when the study and planning processes are in their early stages, and can be adjusted—allows the prospective Applicant to gather initial feedback and respond to potential concerns about how it plans to study possible impacts, to identify local resources or other matters which may not have been included in the Applicant’s initially proposed plan of study (the PSS), and to identify for the public the information that will be provided in the Application based on the requirements of the Article 10 regulations.

It is important to note that a PSS is not the same as an Application. Because not all of the information gathering and studies necessary to site this wind farm Project have been performed, the Applicant cannot yet respond to some specific comments relating to the location of Project components and some details regarding the Project, since the PSS document is compiled and issued before a developer has had the opportunity to perform thorough environmental and community impact analysis, or to utilize that analysis and data to shape its decisions on siting and other Project specifics. The PSS is not intended to provide a full evaluation of potential impacts, a specific and detailed Project layout, or a comprehensive mitigation plan—those issues are addressed in the Application stage, once the studies and analysis proposed in the PSS have been completed, and

once the Applicant has had the opportunity to fully evaluate its plans within the context of the local environment and setting.

Some comments submitted on Lighthouse Wind's PSS criticized the document as offering insufficient evidence to support approval of the Project, or to comprehensively address all possible impacts and mitigation.¹ However, such comments fundamentally misunderstand the purpose of the PSS and the scoping process. These details will be provided in the Application, which Lighthouse Wind has not yet submitted, but anticipates doing so in late summer 2016. By contrast, the PSS is focused on the methods and means for information-gathering, so that the Applicant can provide the results from the studies and ongoing consultations in the Application.

PSS Comments and Responses

Over 1,100 comments were received in response to Lighthouse Wind's PSS. There were 254 unique commenters. See Appendix A. Lighthouse Wind has reviewed and individually addressed each comment with a response. To the extent that comments are repetitive of other comments submitted, responses may necessarily be the same or similar. The full recounting of all submitted comments and responses is documented in Lighthouse Wind's Matrix Individual Responses to Comments ("Comment Matrix") attached as Appendix B.

Many of the comments received were directed at general concerns relating to the Project and generalized support or opposition. As discussed throughout this document, these comments are received and noted. However, the focus of this document is to summarize and respond to comments directed toward the PSS and the studies to be included in the Article 10 Application.

Given the number of comments, the Comment Matrix document is lengthy. It is organized into general comments, followed by labelled topic areas which reflect the different sections of the PSS, as well as other areas for which comments were submitted that went beyond the PSS document and, therefore, there was not necessarily a devoted PSS section covering them. During

¹ Some commenters also sought to have the PSS stricken on this basis, or sought to have it be supplemented or refiled. However, on January 21, 2016, the Hearing Examiners denied these motions, holding that "the purpose of the pre-application scoping phase is to ensure meaningful public input at an early enough point in the project development process to allow the developer in crafting its formal proposal to account for specific conditions within the project study area and to account for community concerns. Scoping is based on early public input to allow a developer to make changes early in the project formulation process before the developer has become committed to a specific layout or approach. Initial studies and investigations will be conducted pursuant to the PSS after modifications based on comments on the PSS and pursuant to the stipulations [process] . . . The findings of those initial studies and investigations will then be used by the project sponsor to make decisions about the preliminary project layout including the specific proposed placement of individual project elements, both in the PSS and by means of [the] stipulation process which will shape those decisions. There's nothing in the rules that requires the project sponsor [to] include the level of detail that the movants seek. The motions, in essence, proceed on a misapprehension of the purpose and intent of the scoping process." Because those motions were resolved by the Hearing Examiners' decision, portions of any PSS comments or motions which pertain to striking or requiring amendment of the PSS will not be substantively discussed in this document, or in the Comment Matrix at Appendix B, as they have been addressed by the Hearing Examiners' decision.

the process of reviewing the comments, it was apparent that many comments had similar themes, and required similar responses. Therefore, Lighthouse Wind has prepared and hereby submits this PSS Comment Response Summary (“Response Summary”), which highlights these common material comment themes and summarizes the Applicant’s response to them in this narrative format.

Based on the material comments received on the PSS, Lighthouse Wind intends to use this document to expand on or clarify information provided in the PSS. Where adjustments are proposed to a given study or Application section, based on comments received, those adjustments are noted in this document or in the Comment Matrix at Appendix B. These responses are intended to help address some of the specific concerns raised by some parties, as well as to facilitate a pre-application stipulations process and narrowing of issues. It is Lighthouse Wind’s intention that this document provide an accessible summary of comments and responses, highlight planned adjustments to study scopes and methodologies, and provide additional clarification of, or commitment to, the inclusions of details or discussions into Lighthouse Wind’s formal Application.

By and large, the Certificate Application is the appropriate place for the Applicant to provide many of the details requested by commenters, such as information on specific Project layout, turbine specifications, and analysis of potential impacts identified by some commenters during the PSS comment period, as summarized below. Where a specific item requested by commenters in their feedback on the PSS will be provided at the Application stage, such as in an exhibit required by the Article 10 Regulations, this document and/or the Comment Matrix will refer those commenters to a specific Application section, exhibit or relevant study that will address the specific comment.

Since the filing of the PSS over three months ago, Lighthouse Wind has prepared additional items, such as mapping and scoping documents, which are attached to this document, and are being provided to stakeholders in advance of Lighthouse Wind’s Application filing in order to provide additional information in response to the PSS comment process and to help begin the discussion on stipulations.² These additional items include the following:

Buildable Area Map

Attached in Appendix C is a map showing potential “Buildable Area” under consideration for wind turbines within the Project Area. This map was created by applying a number of different distance setbacks, which are shown in detail on the preliminary setback map in Appendix D, and are listed in the map key to Appendix C. The buildable areas shown in this illustrative scenario are not final, and may require modification based on stakeholder consultation, study results,

² The stipulation process is a voluntary stage of the pre-application phase of the Article 10 process whereby stakeholders may reach formal agreements in writing with the Applicant as to the scope and methodology of studies and any aspect of the Application. See PSL § 163(5) and 16 NYCRR 1000.5(i)-(j).

turbine model selection, and other factors. Because many of the local wind turbine setbacks are based on wind turbine tip height, it was necessary to make a preliminary assumption on the height of turbine to be considered for setback calculation. For this illustrative scenario, a turbine tip height of approximately 615 feet was chosen based on the range of turbine models under consideration. The final turbine model height may differ from this height, and any change in height would require a corresponding shift of the buildable area to reflect setbacks applicable for the selected turbine height.

Setback Map

Attached in Appendix D is a preliminary setback map which shows the Project Area, overlaid with a number of different color-coded distance setbacks based on current town laws, as well as other setbacks prescribed by the company or regulatory bodies and typically considered for wind turbine locations. In order to standardize the setbacks across both towns, the more restrictive setbacks from the Somerset Wind Ordinance (Somerset Town Law § 205-43.2) were applied across the entire Project Area. The setbacks calculated in this Appendix may change based on ongoing consultation with stakeholders, study results, final turbine model selection, and other factors. As discussed in the preceding paragraphs, because many of the Somerset Wind Ordinance setbacks are calculated based on wind turbine tip height, it was necessary to make a preliminary assumption on the height of turbine to be used. For this illustrative scenario, a turbine tip height of approximately 615 feet was chosen based on the range of turbine models under consideration. The final turbine model may differ from this height, and any change in height would require a corresponding shift of the distance setbacks applicable for the selected turbine height.

Specific Study Scopes

Detailed scopes of noise (Appendix F), visual (Appendix G), and cultural resources (Appendix H) studies are attached, as well as updated lists of identified visual/aesthetic (Appendix I) and historic resources (Appendix J), which incorporate sites and resources which may not have been included in the PSS and which, in many cases, were identified in comments or through consultations with stakeholders. Throughout the stipulations process, and in preparing the Application, Lighthouse Wind will continue to refine these resource lists based in some instances on ongoing calculations, as well as stakeholder consultations, which will eventually support Exhibits 4, 20, 24 and 27.

PSS Correction

In the originally filed PSS, Table 1 included errors in the PSS section numbers that address specific Exhibits of the Application. The following corrections to Table 1 of the PSS are in bold in the revised Table 1 below:

Revised PSS Table 1

Application Exhibit	PSS Section that Addresses Preliminary Scope of Environmental Impact Analysis
Exhibit 4: Land Use	2.1 Land Use
Exhibit 5: Electric System Effects	2.2 Electric System Effects
Exhibit 9: Alternatives	2.15 Evaluation of Alternatives; 2.17 Benefit of the Preferred Alternative
Exhibit 15: Public Health and Safety	2.3 Public Health and Safety
Exhibit 19: Noise and Vibration	2.4 Noise and Vibration
Exhibit 20: Cultural Resources	2.5 Cultural Resources
Exhibit 21: Geology, Seismology and Soils	2.6 Geology, Seismology and Soils
Exhibit 22: Terrestrial Ecology and Wetlands	2.7 Terrestrial Ecology and Wetlands
Exhibit 23: Water Resources and Aquatic Ecology	2.8 Water Resources and Aquatic Ecology
Exhibit 24: Visual Impacts	2.9 Visual Impacts
Exhibit 25: Effect on Transportation	2.10 Effect on Transportation
Exhibit 26: Effect on Communications	2.11 Effect on Communications
Exhibit 27: Socioeconomic Effects	2.12 Socioeconomic Effects
Exhibit 28: Environmental Justice	2.13 Environmental Justice
Exhibit 35: Electric and Magnetic Fields	2.14 Electric and Magnetic Fields

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- Appendix F: Full Scope of Sound Study, Including a Map of Summer Monitoring Locations
- Appendix G: Full Scope of Visual Impact Assessment (VIA)
- Appendix H: Full Scope of Cultural Resources Study
- Appendix I: Updated List of Visual/Aesthetic Resources of Statewide and Local Importance
- Appendix J: Updated list of NRHP Listed and Eligible Properties
- Appendix K: List of Individuals Served with Notice of the PSS, Who Will Be Served With Notice of the Application
- Appendix L: Letters Submitted to the Niagara County Board of Health Regarding the Project

Summary of Responses

1. General Project Information and Layout

The PSS Executive Summary and Introduction (Section 1) provided an overview of the proposed Project Area, while noting that the specific location of turbines and other components was not yet known.³ It was further noted that, at the PSS stage, Lighthouse Wind's Project Area was a conceptual, best estimate of the bounded area within which all Project components could be located, based on the size and scope of the company's proposed Project, the topography and available wind resources, the pending interconnection request, and the ability of the company, at an early stage, to obtain land agreements or options for parcels which could potentially be used for future siting of turbines or other related components.

Numerous commenters requested additional information on the specific location, size, configuration, and specifications of the wind turbines which would be utilized in this Project, as well as detailed information about all other Project components. Commenters also sought information regarding Lighthouse Wind's land holdings, the extent to which land would be purchased for the Project, what portions of the Town likely to be the proposed location of turbine components, how close turbines would be located to the shores of Lake Ontario, and what setbacks would be used between turbines and property lines, structures, roads, etc.

Summary of Responses:

As noted above, the PSS document is a scoping tool meant to establish the scope and methodology of studies to be conducted in support of a Certificate Application. The Certificate Application will provide much of the information commenters seek, including details and specifics in regards to Project layout, turbine specifications, setbacks, and other details regarding the scope of the Project. As was explained in the PSS, the Article 10 process requires input and public outreach at a very early stage in the development cycle of a wind farm and, as such, the PSS is filed and circulated to stakeholders before details regarding the Project's specific location and turbine information have been identified. Project component locations will be based on, among many other factors, the information provided in the environmental and other studies that have been or will be conducted for the Project.

Lighthouse Wind recognizes the need for stakeholders to better understand the Project area and the type of turbines (size, characteristics, etc.) that are likely to be used for the Project. As was indicated in the PSS, at this time, based on available turbine technology, Lighthouse Wind is considering turbines which range from 2.85 MW to 3.5 MW in size, and up to 71 turbines total for

³ As described in the PSS, Project components include: wind turbines, access roads, interconnection substation, electrical collection lines, meteorological towers and an Operations and Maintenance building. Project component locations of access roads and electrical collection lines cannot be determined until turbine locations are identified.

a Project total of 201 MW. As previously mentioned, Lighthouse Wind continues to evaluate the turbine models and layout which would best achieve the goals of this Project. Since many setback distances are dependent on the height of turbines, the turbine model chosen will also impact the number and placement of turbines in the Project. Therefore, a range of potential turbine heights and arrangements will be evaluated in the Application.

To assist stakeholders in gaining a better understanding of the potential Project component layout at this early stage, and in response to comments in this regard, Lighthouse Wind has prepared a figure to accompany this response which presents potential “buildable” locations for wind turbines based on a current, preliminary understanding of environmental and regulatory constraints within the entire Project Area. See Appendix C. This figure shows all of the possible locations that could support wind turbines, based on a hypothetical turbine tip height of 615 feet; it is not a definitive depiction of the number or location of final turbine sites selected for this Project. Final siting of the turbines will be based upon the studies performed in accordance with the PSS and the stipulations process.

A setback map utilizing a hypothetical turbine tip height of 615 feet is also provided at Appendix D, to show how existing setback requirements would guide turbine placement for models of that size. This map shows the Lighthouse Wind Project Area, overlaid with a number of different color-coded setbacks based on current Somerset Town laws and other setbacks prescribed by the company. In order to standardize the setbacks across both towns, the more restrictive setbacks from the Somerset Town Law were used across the entire Project Area. Because many of the Somerset Wind Ordinance setbacks are a factor of wind turbine tip height, it was necessary to make a preliminary assumption on the height of turbine to be used. It is important to note that this setback map is intended for illustration only, and may not reflect the turbine model or size ultimately selected for this Project. The setbacks shown in this Appendix are subject to change based on consultation with stakeholders, study results, final turbine model selection, and other factors. Further, any change in turbine height would result in a corresponding shift of the buildable area to reflect adjusted setback distances, since setbacks are measured as a factor of turbine tip height.

Both of these figures are intended to provide stakeholders with a refined concept of the proposed Project and its location. Lighthouse Wind continues to work through its required studies and stakeholder outreach, and will utilize the information gleaned to further refine the Project Area and specific component locations, based on continuing identification of constraints at this location. Neither map is intended to suggest that turbines will be located in “buildable” locations, as other constraints may limit availability of the identified locations. A detailed Project layout will be provided in the Application.

To the extent that a turbine model is selected for which there is a manufacturer's setback specification, that information will be provided, and a discussion regarding compliance (or reasons

for deviation, if applicable) with applicable setbacks will be included in the Application. There are various setbacks used in the design and alternative analysis of a Project. These setbacks come from internal standards, current local laws, manufacturer requirements, and those put forth from regulatory bodies such as Public Service Commission,⁴ New York State Department of Environmental Conservation (“NYSDEC”), and New York State Department of Agriculture and Markets (“Ag & Mkts”), and are based on many variables, such as the potential for noise or shadow flicker. The development of Project component locations requires an iterative process of applying all such setbacks. Information on the range of proposed setbacks, depending on turbine model selected, will be included in the Preliminary Design Drawings at Exhibit 11 of the Certificate Application.

At this time, it does not appear that the height of the proposed turbines would comply with existing height limitations on structures in the Towns of Yates and Somerset. Therefore, a waiver of this local requirement may be required, as further discussed below and in the Application, Exhibit 4 (Land Use).

The scope and methodology of many environmental studies presented in the PSS are based on the broader Study Area for this Project and therefore, the results of those studies will generally not be affected by turbine height or specific locations of Project components. To the extent that portions of studies are dependent on turbine heights and locations, such as visual assessments and wetlands delineations, a range of turbine heights will be used, or specific locations will be chosen so that field investigations can be performed.

At present, Lighthouse Wind has erected two temporary wind measurement towers to obtain information regarding the wind resource in the Project Area that is required for its Certificate Application—one in the Town of Yates (at the corner of Marshall Road and Lakeshore Road) and one in the Town of Somerset (across from the entrance to Golden Hill State Park, on private land on Lakeshore Road). These met towers are approximately 197 feet in height and continue to collect meteorological and wildlife data using instruments currently installed. In addition, Lighthouse Wind has applied for two additional wind measurement towers in the Town of Somerset. Those proposed towers would be located at 8746 Lake Road and at 7469 West Somerset Road, both on private land in Somerset. These towers would also be 197 feet in height. An additional wind measurement tower may also be proposed in the Town of Yates. A map showing all of the existing and proposed wind measurement towers, as well as information on each tower’s specific location and technical specifications, is included as Appendix E. This information is being provided in response to comments seeking details regarding the location of the met towers.

⁴ For example, the Commission uses a guideline of 1.5 times the turbine tip height. *See* Case 07-E-0213- Petition of Sheldon Energy LLC for an Original Certificate of Public Convenience and Necessity, Issued and Effective January 17, 2008.

With regard to land holdings, Lighthouse Wind has secured easements or leases with private landowners to obtain the rights to place Project components, whether temporary or permanent, on private lands within the Project Area. These leases have been and continue to be recorded with the County Clerk as they are entered into with local landowners. Lighthouse Wind's discussions with landowners interested in hosting Project components is ongoing and will further clarify the potential layout and location of Project components. Out of respect of the privacy of its land owners, Lighthouse is not providing a list of current participating landowners at this time. Moreover, contractual negotiations with potential land owners are ongoing and the Applicant is concerned about interfering with these discussions. Lighthouse Wind does not anticipate purchasing property for turbine siting, nor does Lighthouse Wind have the authority to take property for turbines via eminent domain, or any intention of seeking such authority in order to construct this Project. Therefore, the requisite land control is highly dependent on leased private land. However, some land purchases may occur, for example, for the Operations and Maintenance building proposed to serve the Project. Updated information on status of land holdings will be included in the Application at Exhibit 13.

Finally, some commenters inquired about construction and design details, such as fencing around turbines, or the handling of wood wastes and other materials during construction and operation. These specific PSS comments are addressed in greater detail in the attached Comment Matrix. However, generally, Lighthouse Wind notes that the specific engineering and layout for the Project have not yet been completed, particularly at the level of detail requested. Lighthouse Wind will work with host property owners to determine a final layout, based on any environmental or operational limitations at a given site. The Certificate Application will include details on the design and construction of the Project, as well as a full summary of applicable local laws pertaining to issues such as fencing, and a discussion of whether the Project will comply with those laws or whether a waiver will be needed.

In response to the PSS comments received on this topic, Lighthouse Wind will provide or propose to stipulate to the following:

- Updates to the PIP to update stakeholder information, to be filed at a later date;
- The most recent New York State Building Code will be used in the final project design;
- Applicant will provide updates to the Department of Public Service about consultations with highway departments regarding potential impacts to local roads and potential mitigation through road use agreements;
- Applicant will review Part 1001 Exhibits 38, 39 & 40 to determine whether they apply to the proposed Project, and what information covered therein will be included in the Application, if applicable.

Lighthouse Wind will provide in its Article 10 Application, in addition to the items already discussed in the PSS and among other items required by the Article 10 law and regulations:

- A layout of the Project and its components;
- Tax parcel maps which identify owners of record of all parcels included within the Project and all adjacent properties (such information may be depicted on the maps and/or included on an associated table);
- A description of titles or leases for parcels that are secured or under option for the Project, including ingress/egress, access to public roads, and a statement that Lighthouse Wind has or can obtain access to parcels needed for title or lease interest in the Project. To the extent that additional work is required toward securing all land necessary to construct and operate the Project, Lighthouse Wind will indicate this in the Certificate Application;
- A statement that Lighthouse Wind has or can obtain access to parcels needed for the Project's electrical collection system;
- Information on turbine models being evaluated and any manufacturer-recommended setbacks for those models;
- A discussion of the sufficiency of setbacks based on proposed turbine height, including additional analysis/recommendations for minimum setbacks if the proposed turbines significantly exceed local height restrictions on structures;
- An evaluation, based on consultations with DPS Staff, of any potential modifications to the existing Certificate held by the Somerset coal plant which might be required to proceed with Lighthouse Wind's proposed Project;
- A discussion, based on consultations with DPS Staff, of whether the Project will require any proposed interconnection or transmission lines which are regulated by Article VII of the Public Service Law;
- Applicant's discussion of solid waste will consider handling of slash, stumps, stones and non-merchantable wood waste, etc., which results from clearing and construction activities, in Exhibit 12 (Construction);
- Information/proposed method for performing inspections of road bearing/load and documentation of existing road conditions;
- Any other relevant items required by Article 10, specifically in 16 NYCRR Part 1001, Exhibits 3, 4, 6, 9, 11, 13, and 24.

2. Project Need and Public Policy

Some of the comments on the PSS were directed to the need for the Project. As Lighthouse Wind stated in the PSS, Section 1.5 (Project Purpose, Need and Benefit), in September 2004, the New York State Public Service Commission issued an Order adopting a Renewable Portfolio Standard (RPS), with a goal of increasing the proportion of renewable energy used by New York consumers from the then-current 19.3% to at least 25% by the end of 2013. In January 2010, the

RPS goal was increased: the goal for the proportion of renewable energy used by New York consumers for renewable resources was revised from 25% to 30% and the term for attaining the program goal was extended to 2015. The State Energy Plan has since extended this goal further, setting forth a new aim last year to achieve 50% renewables for New York's electric generation mix by 2030. The PSC is currently considering the mechanisms necessary to achieve the goals set forth in the State Energy Plan.⁵

A number of comments were submitted which did not relate directly to the PSS, but rather generally addressed a number of State energy policy issues, objected to renewable energy development generally, questioned the need for additional renewable generation in New York, and disagreed with the Legislature's decision to enact Article 10. These issues will not be comprehensively addressed in this PSS Comment Response, since they did not pertain to the PSS itself. However, Lighthouse Wind notes that its Application, Exhibits 2 (Overview and Public Involvement), 9 (Alternatives), and 10 (Consistency with Energy Planning Objectives), will address such matters as the Project's consistency with the State Energy Policy, the public need for the Project, and the environmental and social benefits of renewable power in this location. To the extent that some issues raised by these comments far exceed the scope of this proceeding, and address issues more appropriately raised in such contexts as the ongoing REV proceeding, those issues will not be included in the Application. To the extent that comments raised questions or requested specific information regarding the cost/benefit analysis for the proposed Lighthouse Wind Project, those will be addressed in the Application, Exhibit 14 (Cost of Facility).

Some commenters also requested information about the anticipated property taxes, PILOT agreements, agreements with County IDAs, and other financial incentives expected for this Project, as well as a more detailed cost-benefit analysis for the Project. Further discussion of potential tax implications and other benefits associated with the Project will be included in the Application, Exhibits 14 (Cost of Facility) and 27 (Socioeconomic Effects).

Summary of Responses:

Federal and State energy and environmental policies have strongly emphasized the need for renewable energy generation and climate change solutions for more than a decade. Wind energy, one of the cleanest forms of energy, is critical to tackling the challenge of combating climate change and reducing carbon emissions. This "home grown" power pays back any carbon used in manufacture, transportation, erection and startup within a few months. Adding wind power to America's energy mix diversifies the nations' energy portfolio, diminishing our reliance on fossil fuels, and increasing grid reliability.

⁵ See generally the Reforming the Energy Vision (REV) proceedings (<http://www3.dps.ny.gov/W/PSCWeb.nsf/All/CC4F2EFA3A23551585257DEA007DCFE2?OpenDocument>), particularly Case 15-E-0302 on Large Scale Renewables and Case 14-M-0094 on the Clean Energy Fund. The State Energy Plan is also available online at: <http://energyplan.ny.gov/>.

Some of the publications cited by commenters in opposition to wind energy, such as Mr. Willem Post's "Wind Energy Does Little to Reduce CO2 Emissions" on The Energy Collective website, should be considered in light of the various questionable sources, including Wikipedia and a Bentek report (natural gas), that the publication utilizes. There are various robust and reliable studies, such as those by Stanford University Professor Mark Z. Jacobson,⁶ from which more accurate conclusions can be drawn in regard to the expansion of wind power. Mr. Post acknowledges that, while global warming is a "given... reductions would not affect global warming/climate change, unless ALL other nations would do the same, which is highly unlikely." The latter piece was written three months before the United Nations Conference on Climate Change, and was likely intended as commentary on the need for an international solution to carbon emissions, rather than a scientifically supported indictment of wind power. The Certificate Application, Exhibit 10 (Consistency with Energy Planning Objectives), will include a discussion of the Project's consistency with existing energy policy, and the social and environmental benefits of renewable power generation.

With respect to financial incentives and cost-benefit analysis, many of the comments focus on incentives for wind power and criticize the need for such incentives. It is important to note that many energy sources in the U.S. receive subsidies in some form, and wind energy is certainly not unique in that regard.⁷ As a percentage of inflation-adjusted federal spending, nuclear subsidies accounted for more than 1% of the federal budget over their first 15 years, and oil and gas subsidies made up half a percent of the total budget, while renewables have constituted only about a tenth of one percent.⁸ That is to say, the federal commitment to oil and gas was five times greater than the federal commitment to renewables during the first 15 years of each subsidy's life, and it was more than 10 times greater for nuclear.⁹ On both the State and Federal level, policymakers have determined the benefits associated with the generation of electricity from wind powered facilities, including benefits to public health and the environment as compared with the generation of electricity from fossil fuels and other energy sources, is important and must be encouraged and incentivized.

In its Article 10 Application, as part of Exhibit 27 (Socioeconomic Effects), Lighthouse Wind will identify taxing jurisdictions within which the project would be located, and "any entity from which payments in lieu of taxes will or may be negotiated." 16 NYCRR § 1001.27(h).

⁶ See, e.g., Mark Z. Jacobson, Providing All Global Energy with Wind, Water, and Solar Power, Part I: Technologies, Energy Resources, Quantities and Areas of Infrastructure and Materials, Energy Policy Vol. 39 (2011) pages 1154-69, available online at <https://web.stanford.edu/group/efmh/jacobson/Articles/I/JDEnPolicyPt1.pdf>. A comprehensive list of links to Dr. Jacobson's work is available here: <https://web.stanford.edu/group/efmh/jacobson/>.

⁷ Nancy Pfund and Ben Healy, What Would Jefferson Do? The Historical Role of Federal Subsidies in Shaping America's Energy Future (September 2011), available at <http://www.dblpartners.vc/wp-content/uploads/2012/09/What-Would-Jefferson-Do-2.4.pdf?597435&48d1ff>

⁸ *Id.*

⁹ *Id.*

Further, Lighthouse Wind must provide, “for each jurisdiction, an estimate of the incremental amount of annual taxes (and payments in lieu of taxes, benefit charges and user charges) it is projected would be levied against the post-construction facility site, its improvements and appurtenances,” and “For each jurisdiction, a comparison of the fiscal costs to the jurisdiction that are expected to result from the construction and operation of the facility to the expected tax revenues (and payments in lieu of taxes, benefit charge revenues and user charge revenues) generated by the facility.” 16 NYCRR § 1001.27(i)-(j). If, at the time of the Application, a tentative plan for any PILOT agreement is being negotiated, the relevant materials and information related to that proposed PILOT will be included along with the Application.

It is further anticipated that the Project will seek Renewable Portfolio Standard incentives or other New York State applicable incentives intended to encourage large scale renewable development projects such as the Lighthouse Wind Project. A discussion of these programs will be provided in the Application, in addition to how these programs will help New York State achieve the goal provided in the State Energy Plan of 50% of the State’s electricity needs met from renewables by 2030.

Lighthouse Wind is required to provide, in its Application, “a detailed estimate of the total capital costs of the proposed facility, including a separately stated estimate for each interconnection, broken down in a rational manner by Lighthouse Wind into major cost components appropriate to the facility,” as well as the sources of information used to calculate costs. 16 NYCRR § 1001.14(a)-(c). Therefore, to the extent that Lighthouse Wind plans to seek out financial incentives, such as RPS or equivalent types of funding, or via state or federal renewable energy credits, which would affect the overall cost of the project, that information would be discussed in Exhibit 14 (Cost of the Facility) of the Application. Further details outlining economic concerns expressed will be provided in Exhibit 27 of the Certificate Application.

Finally, with regard to the public need for this project at this location, some commenters asserted that this Project is contrary to public policy because generation should be located closer to major electric load centers. However, Lighthouse Wind notes that renewable energy resources must be sited in locations which have sufficient renewable resources, in this case, wind. In New York State, significant wind resources exist in northern and western New York. This particular location offers strong wind resources, making it a suitable site for wind development, giving the State greater ability to reach its renewable energy goals.

Lastly, Lighthouse Wind received requests for clarification of such terms as “strong wind resource” and “sufficient wind resource,” as used in the PSS, and an explanation of how it was determined that this location was suitable for wind development. As noted elsewhere, this area has a “strong wind resource,” that is, wind resources that are in at least the top 25% of available wind resources in the respective energy market. “Sufficient wind resource” is defined as wind

resources which measure in at least in the top 40% of wind resources in the respective energy market.

The assessment of local wind resources was determined by using two meteorological towers and one remote sensing SODAR, and the resulting data, for over a year. This data is input into the linear flow model called “OpenWind” to extrapolate annual wind speed across the site. To date, three total meteorological study instruments have been used. The devices used were two NRG 60m XHD meteorological towers with Riso Class One anemometers, two wind vanes, a thermometer, barometer, and a pyrometer and one SecondWind Triton Sodar Unit.

The devices are located at:

- NY_Nellist4180Nellist4180-43.36008, -78.48711 (installed on the Nellist property in December 2014);
- NY_Bane9763- 43.36658, -78.42192 (installed on the Bane property in July 2015);
- NY_Nellist562Nellist562-263: 43.36043, -78.48782 (Sodar) (placed on the Nellist property in September 2015).

The data collected from these meteorological study instruments is gathered and extrapolated across the site horizontally using proprietary modeling. They are also extrapolated vertically using the power and log law equations of wind shear. The Sodar unit provides data for and resources up to 650 feet in height, which covers the entirety of any potential wind turbine rotor and is helpful in reducing power production uncertainty. A map of all current and proposed meteorological towers, and their specifications, is attached as Appendix E.

Lighthouse Wind received specific requests for wind resource data. However, most wind resource data collected for this Project is proprietary and the release of this data to the public is not required under the Article 10 regulations. Information justifying the capacity of and justification for the Project will be submitted to the Records Access Officer of the PSC with a request for consideration of an exemption from disclosure, and/or the Applicant will seek a Protective Order to ensure the confidentiality of the highly sensitive information. There is a New York Wind Resource Map available on the U.S. Dept. of Energy's website.¹⁰ According to generally available data and data acquired by meteorological towers in the Project Area, there is a “strong” wind resource in the Project Area, as mentioned above. The Application will generally discuss the strength of the available wind resources as part of the Project’s justification.

Further, Exhibit 8 of the Certificate Application will include information on electric system production modeling which will include more specific details on wind resource modeling, as well as a discussion of how the Project will impact the State’s energy grid and contribute statewide efforts to combat climate change.

¹⁰ http://apps2.eere.energy.gov/wind/windexchange/images/windmaps/ny_80m.jpg

3. Public Outreach

Lighthouse Wind initiated the Article 10 process by filing a Public Involvement Program (PIP) plan in accordance with the requirements of 16 NYCRR § 1000.4. The PIP was submitted to the Siting Board on October 31, 2014. Following the receipt of comments on the PIP, the PIP was updated, finalized, and filed by the Applicant on December 31, 2014. An additional update to the PIP was filed January 15, 2015 that updated stakeholder information based upon changes in elected and appointed officials. The PIP and all other submissions under Article 10 are available online at http://www.lighthousewind.com/article10_submissions.

Additionally, hard copies of the PIP have been and continue to be available at four different locations that have served as document repositories in the general Project Area. These include the Village of Barker Library, the Village of Lyndonville Library, the Town Hall of Somerset, and the Town Hall of Yates. Finally, a copy of the PIP is available at the Project office, located at 8691 Main Street, Barker, NY, 14012, and on the Siting Board website.¹¹

Commenters requested that Lighthouse Wind continue to seek non-stakeholder input from the general public, that the Applicant sign a State ethics agreement, and that specific agencies or entities be consulted and/or added to the stakeholder list for this project. Some commenters were critical of what they perceived as a failure of the Applicant to perform public outreach, as required by Article 10.

Summary of Responses:

As required by Article 10 and as set forth in the PIP, the Applicant has been conducting stakeholder consultations with local, state, and federal agencies, the public and others in order to provide information regarding the Lighthouse Wind Project and the Article 10 process. Public outreach activities have been documented by the Applicant, and bi-monthly reports have been updated and submitted to the Siting Board since January 2015. These reports provide details regarding the stakeholder meetings that have been ongoing, as identified in the PIP and elsewhere. In addition to the outreach component of the PIP, the Applicant has also been engaged in soliciting feedback, comments and information from stakeholders regarding the Project Area and the Project. The information received during this stage of the process continues to inform the scoping process and the areas of inquiry for further study and evaluation.

Throughout the remainder of the Article 10 process, the Applicant will continue to implement the PIP and conduct outreach activities. The PIP will also be discussed in Exhibit 2 of the Application, pursuant to the requirements of 16 NYCRR § 1001.2.

¹¹ <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=46604&MNO=14-F-0485>

The information regarding these stakeholder meetings has been available to stakeholders on the Siting Board and Project website and any other parties seeking the information. With respect to engagement at the local level, prior to and following the submittal of the PIP, the Applicant has:

- Hosted three open houses in Project Area. The first occurred on October 10, 2014 at the Barker Fire Department in Somerset, Niagara County. The second occurred on December 9, 2014 at the Yates Town Hall in Lyndonville, Orleans County. The third occurred on April 1, 2015 at the Barker Fire Department in Somerset, Niagara County. Since that time, the Applicant has appeared at local board meetings on applications relating to the Project and has been active in the Article 10 pre-application process.
- Regularly sent informational mailings to a mailing list of over 4,000 households in the study area, as recorded in the PIP event tracking logs.
- Held numerous stakeholder meetings, as described in the submitted PIP event log trackers.
- Actively updated lighthousewind.com.
- Launched and regularly updated a Project Facebook page, starting in July 2015.
- Opened an office in the project study area in April 2015. The office is located at 8691 Main Street, Barker, NY, 14012. Office hours are posted in storefront, on lighthousewind.com, and on Facebook.
- Hired a local employee in July 2015 to assist with staffing the office, PIP activities, and project development.
- Regularly attended local town and county meetings to provide updates and answer questions, the times and locations of which are recorded and posted in Lighthouse Wind's regularly filed Event Tracking logs, available on the DPS website.
- Engaged in frequent contact with local stakeholders regarding the next phases of the Article 10 process, such as attendance at local town board meetings on a monthly basis, to offer updates on the development process.

Public involvement activities and stakeholder identification are ongoing. These activities will continue to be described in the event tracking logs, which are submitted on a bi-monthly basis to the Siting Board. In this way the public and other stakeholders can be fully informed on the status of consultations. The Applicant has fully complied with 16 NYCRR § 1000.4 and there has been no indication from the Siting Board otherwise. The Applicant will continue to solicit input from the Towns, as it has in many meetings in the past, and is available to meet with the Towns to discuss any comments or questions they may have.

As noted above, a Comment Matrix summarizing and responding to all PSS comments received during the comment period, as well as additional summaries of and responses to PSS

comments submitted after the PSS comment deadline elapsed, is attached to this submission at Appendix B. A table summarizing all comments on the PSS is included as Appendix A.

A list of the parties, agencies and individuals who were served with notice of the PSS, and who Lighthouse Wind intends to serve with notice of the Application, is attached as Appendix K. The Application will also be filed with the Secretary, posted on the DPS website and on lighthousewind.com, and paper copies submitted to the document repositories. If a party has changed its contact information or service preferences, or if a party believes it has been erroneously omitted from this list of individuals to receive Notice of important Project milestones, Lighthouse Wind respectfully requests that those individual issues be raised as soon as practicable by email to info@lighthousewind.com to ensure accurate and timely service of important Article 10 milestone documents once they are filed.

In response to these PSS comments, Lighthouse Wind will provide or stipulate to the following:

- Continue outreach and consultation with Niagara County and Genesee-Orleans County Boards of Health, and update Stakeholder list to reflect these entities;
- Consult with or continue to consult with other agencies, authorities, and potentially impacted parties, such as the Department of Defense, the Cornell Cooperative Extension, the Niagara Military Affairs Council, Mercy Flight, county Soil and Water Conservation District, Great Lakes Seaway Trail, local historical societies, and others, as specifically discussed below in the relevant topic areas;
- Provide a revised Stakeholder list and post the list electronically and provide copies of the updated list at the document repositories, at a later date;
- Updated versions of the PIP event tracking logs to accurately reflect meetings attended, and an updated PIP, will be uploaded to the Siting Board docket for this matter.

Following the submission of this PSS Comment Response, Lighthouse Wind will also initiate the stipulations process with the parties, at which time there will be additional opportunity for affected stakeholders to come together and discuss potential stipulations on scoping and methodology.

In its Application, in addition to the items already discussed in the PSS or required by Article 10, Lighthouse Wind will:

- Discuss its past and ongoing public outreach efforts, at Exhibit 2 (Overview and Public Involvement).
- To respond to comments regarding a Complaint Resolution plan, as described in Sections 2.3, 2.4 and 2.11 of the PSS, such a plan will be developed for the Project. A draft of this plan will be included in the Certificate Application (Exhibit 15) that will outline the process of how Lighthouse Wind intends to address specific complaints from the local community during construction and operation.

Lastly, with regard to comments pertaining to ethics codes, Lighthouse Wind understands that in the past, the Attorney General's Office has entered into Code of Conduct Agreements with wind developers in New York. Given the enactment of Article 10 and the preemption over certain aspects of local authority, some of the concerns which gave rise to the Code of Conduct may no longer be applicable to the wind industry in New York. Apex has successfully developed and permitted projects in many states and it prides itself on ensuring the development process adheres to a high standard of ethical conduct and avoidance of potential conflicts of interest. As part of its continuing PIP consultation, Lighthouse Wind has reached out to the AG's office regarding the status of the Code and potential revisions in light of Article 10 and has received a revised Code of Conduct from the AG. Lighthouse Wind is reviewing the 2016 version of the Code and in discussions with the AG's office regarding certain clarifications and questions and anticipates executing the Code in the future. Lighthouse Wind is committed to the standards and operating procedures set forth in the Code of Conduct.

As part of Lighthouse Wind's own procedures to avoid conflicts of interest in development of the project, and to prepare for executing the Code of Conduct, Lighthouse Wind has taken two measures to ensure any current or future participant discloses any potential conflict, and, if they are a "Municipal Official," does not take any action which may pose a potential conflict of interest. These measures include requesting that all participating landowners review and sign a "municipal officer questionnaire," which clearly spells out the definitions of "municipal officer" and "relative," and requires the participating landowner to disclose whether they or their relatives meet any of these definitions, thereby ensuring that potential conflicts are identified.

4. Applicable Laws, Consistency with Applicable Planning and Coastal Management Policies

As stated in the PSS, Lighthouse Wind anticipates that its Project would comply with most applicable zoning requirements in place at the time the PSS was filed, and would be consistent with existing comprehensive plans and coastal management policies, where applicable. Section 5 of the PSS includes a preliminary list of substantive requirements of the Towns of Yates and Somerset, and a discussion of whether Lighthouse Wind anticipates compliance therewith. Where the studies and analysis undertaken in the pre-application stages indicate that a waiver from certain local requirements may be necessary, Exhibit 31 of the Application will include a detailed description of the provisions of local law for which a waiver is requested, and the reasons justifying such a waiver. It would be up to the Siting Board to determine whether such a waiver is granted.

Commenters on these topics primarily contested the Siting Board's authority to override local zoning laws, objected to the notion that any substantive local requirements might be waived for this Project, and questioned what standard the Siting Board would apply for such waivers. Comments also focused on the assessment of compliance with local zoning codes, and consistency

of the proposed Project with local planning documents, such as comprehensive plans, Local Waterfront Revitalization Plans, and Coastal Management Policies.

Summary of Responses:

In enacting Article 10, the State Legislature intended the Siting Board requirements under the Public Service Law and 16 NYCRR § 1000.1 *et seq.* to preempt procedural requirements or local approvals which would otherwise apply to the construction and operation of a major electric generating facility, and empowered the Siting Board to decline to apply substantive local zoning requirements where an Applicant can show that those requirements are unduly burdensome. NY Public Service Law § 172(1) states that “No state agency, municipality or any agency thereof may, except as expressly authorized under this article by the Board, require any approval, consent, permit, certificate or other condition for the construction or operation of a major electric generating facility with respect to which an application for a certificate hereunder has been filed.” Article 10 distinguishes between procedural requirements and substantive requirements of local law. The Applicant will be consulting with the local municipalities regarding the contents of Exhibit 31 and will be specifically seeking input on the list of substantive and procedural laws included in the PSS.

The Town of Yates specifically asserted that its local application requirements must be applied to the Project, and cannot be waived. Application requirements fall under the scope of this preemption; they are procedural submissions which must be made to a local government in furtherance of obtaining the local zoning permit, for a local government's purposes, and therefore are preempted by the Article 10 siting process. However, with respect to compliance with the standards of the local zoning provisions governing wind projects, as Lighthouse Wind noted in the PSS Section 5.3, the proposed Project will likely comply with most of the substantive requirements of the Town of Yates' local laws, except where indicated in the PSS and Application. In addition, the Yates Zoning Law Section 591.8, items A.1 through A.20, which were cited by the commenter, list required information and studies which are all already contained within the Article 10 regulations' required submissions for an Application, with one exception—Article 10 does not require that Lighthouse Wind engage a licensed appraiser to perform a property value analysis (the issue of property values will be addressed in the Application and is discussed further below in Section 11 of this document, on Socioeconomic Effects). In order to submit a complete Application which complies with the Article 10 requirements, Lighthouse Wind will be providing all of the other information currently required by the provision of the Yates law cited by the Town in its PSS Comments; the Applicant will generally address property values in the Application, through a literature review of studies that have evaluated such potential impacts from wind farm projects. Therefore, even if application of Yates' cited requirements was applicable, the information required therein is almost fully duplicative of requirements already folded into Article 10.

Similarly, Wind Energy Conversion System application requirements implemented by the Town of Somerset required an Applicant to submit information which is largely the same as the information now required by Article 10, and which constitute procedural requirements preempted by PSL 172. The information required for a wind farm Applicant, as set forth in Somerset Town Code Section 205-43.2 (B), includes such items as biographical information about the applicant, a visual study, a site plan showing lot lines and Project components, an agricultural restoration plan which follows guidelines set forth by NYSDEC and NY Ag & Mkts, descriptions of proposed construction routing and road maintenance, a construction plan, a noise study, turbine information, a geotechnical report, ice and blade throw analysis, tower failure analysis, FAA notification, notification of utilities and communications providers, and other relevant information. Additional local permitting requirements, such as excavation and construction permits, are procedural requirements supplanted by Article 10, since they are local approvals covering construction and operation of a major electric generating facility. Again, the required studies, permits and information contained in the Somerset law are largely duplicative of the requirements of Article 10. Thus, the preemption of these local procedural requirements by Article 10 does not result in these communities receiving less or different information than that required under their existing local laws.

In terms of substantive requirements, as discussed in the PSS, Lighthouse Wind anticipates being able to comply with most of the existing and applicable local laws, with a few identified exceptions, such as turbine height, excavation limitations, visual screening and fencing, hours for construction activities, location of turbines near streambeds, noise, local financial contributions to funds (such as the Yates Testing Fund in Yates Town Law Section 591.18(A) or the Somerset development fees in Somerset Town Law Section 96(E)(2)), and certain use restrictions. See PSS Sections 5.2.2 and 5.3.2. Since the Town of Somerset's existing setback requirements are the more stringent of the two Towns, those are currently being used as a benchmark for setback requirements Project-wide. See Wind Turbine Setback Map at Appendix D. To the extent that any waivers from these setback requirements may be required, that will be indicated in the Certificate Application.

In the Certificate Application, Lighthouse Wind will provide a summary of all local laws applicable to the Project, a determination as to whether the project will comply with these local laws, or a request that certain provisions be waived and an explanation as to why the Siting Board should elect not to apply any specific provision of local laws that would be unduly burdensome as applied to this Project, as is set forth in 16 NYCRR 1001.31(e), if applicable. This standard looks at the burden of applying the local law "in view of the existing technology or the needs of or costs to ratepayers." 16 NYCRR 1001.31(e). As stated in the PSS, Lighthouse Wind anticipates that the Project would comply with most of the applicable zoning requirements in place at the time the PSS was filed. Lighthouse Wind will be scheduling consultations with the local governments to discuss the lists required to be prepared for Exhibit 31 of the Application and to seek agreement regarding the applicable local requirements. Further, in accordance with its obligations under Article 10,

Lighthouse Wind will also assess the Project's consistency with applicable Comprehensive Plans. As stated in Section 2.1.1.1 of the PSS, Lighthouse Wind will review the local goals and character statements provided in the applicable Comprehensive Plans and provide a discussion in the Application of how the Project will be consistent with those goals and missions. For example, both the Town of Somerset and Orleans County Comprehensive Plans include a goal of maintaining and preserving the rural and agricultural character of the Towns. The Application, Exhibit 4 (Land Use), will address how the Project advances these goals.

Because of the number of comments regarding the application of the policies in New York's Coastal Zone Management Program and the Local Waterfront Revitalization Plans (LWRPs), Lighthouse Wind will provide some background to explain these programs and how they may apply to the Project. Section 2.16 of the PSS included a preliminary assessment of the coastal zone and LWRP areas which are located within the vicinity of the Project.

New York State has a unique and diverse coastal zone area covering about 3,200 miles of coastline. Designated coastal zone areas include segments of the Atlantic Ocean and Long Island Sound, the Hudson River, Lakes Erie and Ontario, the Niagara and St. Lawrence Rivers and numerous tributaries to these waterbodies and watercourses. Over the course of many years the New York State coastline has changed as a result of increased residential, recreational, tourist and commercial developments focused on the coastal corridor. Dramatic increases in coastal population associated with this development induced many of the impacts sought to be addressed by coastal management programs.

In order to better manage the coastal zone and improve land and water use planning, the New York State Legislature passed the Waterfront Revitalization and Coastal Resources Act (WRCRA) in 1981, pursuant to the Federal Coastal Zone Management Act of 1972 (CZMA), as amended. The aim of the Waterfront Act is to ensure "that coordinated and comprehensive policy and planning for preservation, enhancement, protection, development and use of the state's coastal and inland waterway resources take place to insure the proper balance between natural resources and the need to accommodate the needs of population growth and economic development." The New York State Coastal Management Program was approved by the U.S. Department of Commerce in September 1982, in accordance with the standards set forth in the CZMA. The state agency responsible for administration of the coastal management program is the New York State Department of State (NYSDOS), Division of Coastal Resources.

The principal function of the New York State Coastal Management Program is to provide a framework for government decision-making processes in the coastal zone and to balance the use of coastal areas and plan for the fact that certain uses are water dependent. The Coastal Management Program is based on 44 policies which are grouped into 11 categories that address: 1) Development, 2) Fish and Wildlife, 3) Flooding and Erosion Hazards, 4) General Safeguards, 5) Public Access, 6) Recreation, 7) Historic and Scenic Resources, 8) Agricultural Lands, 9) Energy and Ice Management, 10) Air and Water Resources, and 11) Wetlands. Under the Federal

Consistency Provisions of the CZMA, applicants for Federal licenses or permits, including certifications, approvals, leases and other forms of permission must submit a certification that their proposal is consistent with all applicable State coastal policies. In this case, if the Project required federal permits or approvals and it is determined that the Project would impact the coastal zone, it would be required to prepare a Consistency Assessment Form. The NYSDOS is required to review the consistency statements provided by applicants and make a decision as to whether the activity is consistent with applicable policies and any approved Local Waterfront Revitalization Plans (LWRP) that Project components may be located in. Many issues covered in the LWRP typically overlap with the state Coastal Zone policies.

Local Waterfront Revitalization Plans (LWRPs), once approved by the NYSDOS, allow local governments the opportunity to adopt and implement their own coastal policies for uses within the LWRP. An LWRP is essentially a refinement of the State's coastal policies, developed jointly by the State and a municipality. The LWRP is also a community's planning document for use of its waterfront.

At this time, Lighthouse Wind does not propose to place any wind turbines within the coastal zone area or in the Joint Kendall, Yates, Carlton LWRP area. However, Lighthouse Wind notes that the Kintigh Substation and related transmission facilities, which are proposed as the interconnection point for this Project, are located within the Somerset LWRP, and may be located in the coastal zone. Therefore, to the extent that Project components are proposed for areas covered by the Town of Somerset LWRP or the coastal zone, such as an interconnection at the Kintigh Substation, a review of these policies will be included in the Application, as required by Article 10. A full assessment of these issues, and other applicable coastal zone matters, will be provided as part of Exhibit 4 of the Certificate Application.

With respect to particular policies in the LWRP, the intent of the PSS was to describe how the Project's consistency with the State coastal policies and LWRPs will be addressed in the Application. For example, it has been recognized that the essence of Coastal Policies 1-5 is to encourage a dynamic and working waterfront. The Policies seek to preserve the use of coastal lands for development that is water dependent. In this regard, the Application will consider these policies and how the Project can encourage economic activity within the coastal zone and LWRPs and foster use of the unique wind resource in the coastal area consistent with these policies. A number of the coastal policies have parallels that will be addressed throughout the Article 10 application, such as Fish and Wildlife policies 7-8, Water and Air Resources policies, 30 32-39 and 43 and Wetlands policy 44. A further example is consistency with Policies 27 and 29 relating to energy use. One method of determining consistency with these policies is a review of State and Federal policy with regard to the use of coastal lands for renewable energy development. The United States Department of Commerce, National Oceanic and Atmospheric Administration, which administers the Coastal Zone Management Act, at the federal level, has made the judgment that the development of wind and other energy resources in coastal areas is a high national priority consistent with protection of coastal resources. (See U.S. Department of Commerce, National

Oceanic and Atmospheric Administration, Energy and Government Facility Siting, October 12, 2007). The Article 10 Application will review these policies and similar statements by the State and Federal government addressing the State and Federal policies which suggest that the use of the State's coastal lands for renewable energy use is a beneficial use of the State's coastal areas.

If Project components are proposed in the Somerset LWRP area, the Application will review the policies set forth in the Somerset LWRP, and assess the Project's consistency with the policies and goals provided in that plan. For example, the Town of Somerset LWRP Policy 13 indicates an intent to promote appropriate use and development of energy and mineral resources and, Policy 13.2 states it is the intent of the LWRP policy to "promote alternative energy sources that are self-sustaining, such as solar and wind powered energy generation." The Policy goes on to include conditions to ensure that wind powered energy generation is conducted in a manner that avoids interference with lakeshore resources and processes, including interference with migratory birds. The Application will review these policies and discuss how the Project is consistent and can promote the efforts laid out in the Somerset LWRP. Lighthouse Wind will consult with the Town of Somerset, as well as the NYSDOS, to identify any specific policy concerns and will supply information necessary for a consistency determination, in the Certificate Application.

In response to comments on these topics, Lighthouse Wind will provide or stipulate to:

- Consulting with the Towns of Yates and Somerset, and other regional planning bodies, to gather relevant comprehensive planning documents and other relevant information on local laws;
- Consulting with the New York State Department of State and the Town of Somerset, to gather coastal zone management and LWRP documents and information, and to assess consistency, if needed;
- Seek input on the proposed Project from regional and local planning bodies, including the Genesee/Finger Lakes Regional Planning Council, the Niagara County Center for Economic Development, and the Orleans County Department of Planning and Development.

In the Certificate Application, in addition to the items already discussed in the PSS, Lighthouse Wind will provide:

- A full analysis of applicable local regulations and an assessment of the Project's compliance therewith, in Exhibit 31;
- Where a waiver of a substantive local zoning provision is sought, Lighthouse Wind will provide an explanation of how the provision is unduly burdensome as applied to the Project, and what circumstances justify the Siting Board's issuance of a waiver;
- An analysis of all other state laws and requirements which are applicable to the project, in Exhibit 32;
- An assessment of the project's consistency with the 2014 New York Open Space Plan;
- An analysis of the Project's consistency with the Town of Somerset Comprehensive Plan 2010 Update and the Western Orleans Comprehensive Plan 2003, and, where applicable,

Local Waterfront Revitalization Plans, coastal management policies, and other applicable regional and local planning schemes.

5. Land Use

a. Agricultural Land

Commenters submitted a number of comments specifically pertaining to the Project's potential impacts to agricultural lands, including requests for more investigation into potential impacts to orchards, soils, crops, and pollinators, potential impacts of the use of concrete turbine foundations on agricultural lands, and discussions of agricultural mitigation and restoration.

Summary of Responses:

Lighthouse Wind notes that wind energy development has been found by many independent fact-finders, including the Department of Agriculture and the Union of Concerned Scientists¹² to be an attractive and highly compatible option to farmers, since wind use can exist alongside continued cultivation of fields on the same piece of land.

Further, the income received by farmers who lease their land to wind developers assists in stabilizing the income they receive from their lands. Lease payments to agricultural landholders provide income stability to hedge against volatility that has been experienced generally within the agricultural industry. Given the potential for frequent and unpredictable market shifts and disruptions, as well as the risks inherent in raising crops or stock in any given year, this insulates farmers from dramatic losses and helps keep farms active even during lean times. The research and literature available on these benefits to agricultural landowners and communities will be discussed and substantiated with citations to existing literature in Exhibit 4 of the Certificate Application.

The Certificate Application will provide a discussion of farming trends including conversion of traditional farming practices and the development of value-added activities such as Agricultural Support Businesses and Agritourism. The Certificate Application will also include a discussion of how wind energy projects have been integrated into other farming communities throughout New York State.

¹² See Union of Concerned Scientists, Renewable Energy and Agriculture: A Natural Fit, available at http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/renewable-energy-and.html#.Vsb_AfkrKM8. See also, Union of Concerned Scientists, Farming the Wind: Wind Power and Agriculture, available at http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/farming-the-wind-wind-power.html#.VriuV1L3TVI

Further, the Certificate Application will include an analysis of the temporary and permanent impacts of the construction and operation of the facility and the interconnections on agricultural resources, including the acres of agricultural land temporarily impacted, the number of acres of agricultural land that will be permanently converted to nonagricultural use, and mitigation measures to minimize the impact to agricultural resources.

It is expected that construction and restoration within agricultural areas will generally follow the New York State Agriculture & Markets Guidelines for Agricultural Mitigation for Wind Power Projects.¹³ Lighthouse Wind will continue to consult with Ag & Mkts and the Certificate Application will include all agricultural protection and restoration measures, including any site-specific measures developed in coordination with Ag & Mkts. Potential measures for avoiding, minimizing, or mitigating adverse agricultural impacts are presented in PSS Sections 2.1.4 and 2.1.5 and follow the New York State Agriculture & Markets Guidelines for Agricultural Mitigation for Wind Power Projects, and in keeping with commitments this includes the remediation of disturbed soils, construction techniques and methods, and avoidance or mitigation of impacts to agricultural lands. Lighthouse Wind will also work with landowners and the appropriate government agencies to ensure that best management practices and mitigation measures are used to avoid and minimize any potential negative impacts to agricultural land.

In many cases, any soils excavated from an agricultural field would be appropriately staged and preserved such that those soils could be returned to areas of construction disturbance once components are installed. Specific agricultural restoration practices will be developed in coordination with Ag & Mkts and will be presented in Exhibit 4 (Land Use) of the Certificate Application.

Lighthouse Wind will consult with the County Soil and Water Conservation District offices, USDA Natural Resources Conservation Service offices, Ag & Mkts and each affected farm owner/operator to determine the location of engineered conservation practices and/or drainage features that have been installed.

Site soils and geology will be analyzed and discussed at greater length within the Article 10 Application at Exhibit 21 (Geology, Seismology and Soils). Lighthouse Wind anticipates compliance with Ag & Mkts guidelines in order to minimize impacts on agricultural land and farming practices. Waste rock will be monitored and planned for on-site and will not be used to backfill within the top two feet of subsoil working surface within agricultural areas. Geotechnical investigations will be completed at the proposed turbine sites and any soils which might be encountered as potentially requiring special restoration techniques will be identified and planned.

¹³ http://www.agriculture.ny.gov/ap/agsservices/Wind_Farm_Guidelines.pdf

Lighthouse Wind recognizes the importance of agriculture to the local region. Lighthouse Wind will consult with NY Ag & Mkts in developing best management practices and mitigation measures to avoid and minimize where necessary any potential impacts to agricultural land. In response to comments received on the PSS, Lighthouse Wind will consult with the local Cornell Cooperative Extension office on potential impacts, if any, from the operation of the Project to orchards, pollinators, or other agricultural resources.

Regarding issues in this topic area, Lighthouse Wind will perform or stipulate to the following:

- Consult with the New York State Department of Agriculture and Markets, the Cornell Cooperative Extension, and local Soil and Water Conservation bodies to discuss such issues as potential impacts to orchards, crops and stock, agricultural soils, and pollinators.

In the Certificate Application, in addition to the items already discussed in the PSS, Lighthouse Wind will:

- Identify agricultural land uses in the Project Area, including parcels located within designated agricultural districts, as well as active farm operations not necessarily in a designated district;
- Include a discussion of farming trends and the integration of wind energy in farming communities, including those in New York and elsewhere;
- Investigate possible deviation in subsoil decompaction/deep shattering sequences in agricultural areas;
- Discuss, assess and describe agricultural impacts, restoration, mitigation and monitoring;
- Address compliance with Ag & Mkts' guidelines for Wind Power Projects, agricultural restoration and mitigation techniques.

b. Stray Voltage

A small number of comments were raised regarding the potential impacts of stray voltage from the Project on livestock and dairy operations. The electric facilities of Lighthouse Wind will be constructed according to the most current versions of the National Electric Safety Code (NESC) and any other relevant standard. Construction based on the NESC effectively eliminates the risk of stray voltage effects from a wind Project.

Because the wind turbines are not directly connected to the local electric distribution network serving farms and dairies, it is not anticipated that the new facilities will place any additional currents or voltages on the local network. This is important because the source of stray voltage is mostly due to improper grounding connections of the electrical service to the dairy itself. Secondary causes of stray voltage are improper grounding connections or imbalanced current in the local electrical distribution systems in the area. Lighthouse Wind will not be directly connected

to agricultural operations or to the local distribution system, and therefore is not likely to be a primary contributor of stray voltage for dairy or other livestock operations. As most sources of stray voltage are due to improper local grounding installations, no further study of stray voltage issues is anticipated.

c. Other Land Impacts

Additional comments pertained to potential impacts to forested lands, identification of recreational resources and residential areas in project mapping, and requests that certain information be included in the Application, such as on-site confirmation of vacant lands and identification of officially planned subdivisions and developments within the study area. Further, land uses which were not specifically identified in the PSS were identified in comments, and will be incorporated into the Land Use section of the Application. Finally, commenters objected to statements made in the PSS that the Study Area included some industrial and commercial development.

Summary of Responses:

In accordance with 16 NYCRR § 1001.4, Exhibit 4 of the Certificate Application will include the necessary maps showing: existing land uses, existing zoning districts and proposed districts, designated coastal areas, inland waterways and local waterfront revitalization program areas, groundwater management zones, designated agricultural districts, flood-prone areas, critical environmental areas, and recreational and other land uses within the study area that might be affected by the Project. To develop the mapping needed for the Certificate Application, Lighthouse Wind will use tax parcel data labelled with the same land use classifications used by the New York Office of Real Property Services (NYSORPS), based on information available from Niagara and Orleans Counties. Where such classifications are overly broad or unrepresentative, such as Vacant Land, a more representative classification will be provided. On-site confirmation of vacant lands will be performed, as well as an assessment of officially planned subdivisions and developments in the study area, as requested by commenters.

The Certificate Application will include a summary describing the nature of any probable impacts to uses of Golden Hill State Park and other recreational areas within the study area. This summary will be informed by the results of the topic-specific studies proposed in the PSS (e.g., noise impact analysis, visual impact analysis, wetland and stream delineation, and impact calculations, etc.). Lighthouse Wind will continue to consult with area managers of Parks and Recreation agencies to identify and address specific concerns.

Based on comments received, the Certificate Application will also include Krull Park and all other parks, designated trails, public-access fishing areas, and community and municipal

facilities within the Study Area in mapping for the Application and for potential impact and assessment purposes.

To the greatest extent possible, the Project will utilize previously disturbed areas, and avoid forested areas, for the placement of turbines, access roads, and interconnect routes. Any anticipated impacts to forested lands will be included in the Certificate Application, along with a discussion of consistency between the Project and existing land uses. As will be discussed and analyzed in more detail in the Application, the planning documents cited by commenters have recognized the large availability of open land and wind resource as important assets in this area. Both the Town of Yates and Somerset have specific zoning regulations providing for wind projects as a permitted use, and Lighthouse Wind will aim to minimize potential impacts associated with this Project by adhering, where practicable, to the spirit of standards set forth in the zoning laws. This will help ensure that the Project, as proposed, is consistent with the surrounding setting and existing land uses.

6. Evaluation of Alternatives

Commenters sought additional information on the alternatives to be evaluated, and requested evaluation of certain alternative scenarios, including an assessment of a natural gas plant alternative, and alternatives which comply with all local zoning restrictions.

Summary of Responses:

The Article 10 Application will include a detailed analysis of Project Alternatives and further quantification of impacts in regards to existing land uses and development within the proposed Alternative locations. Statements will be provided as to the reasons why the proposed facility (including layout) are best suited among the alternatives to promote public health and welfare. General site selection process and Project details will be provided in the Application in Exhibit 9 (Alternatives).

The Applicant's private landowner agreements strictly limit the use of land to a wind power project, and as such, do not allow for the siting of other alternative energy production facilities (e.g., solar, hydro, biomass, or fossil fuel). Any detailed alternatives analysis will be limited to sites owned by, leased, or under option to Lighthouse Wind. Further, the Applicant's business is in the development of wind energy; Lighthouse Wind is not a gas plant developer and its reasonably available alternatives will be limited to those that are feasible considering the objectives and capabilities of Lighthouse Wind or its affiliates. Accordingly, other power generation technologies are not reasonable alternatives, and do not warrant consideration in the Article 10 Application. Rather, this Exhibit of the Application will provide details on the Project's design and technology including:

- 1) The general arrangement and design.
- 2) Wind turbine technology and alternate turbine models, including a discussion of turbine hub and tip heights, and rotor diameter.
- 3) Alternate scale and magnitude of the Project in the context of the interconnection position (i.e., maximum generating capacity of 201 MW) and information on the economic benefits to local communities related to scale and magnitude of the Project.
- 4) A discussion of the final, maximum number of turbines that could be constructed based on siting factors (including setbacks) and identification of the position of all potential turbine locations, as well as an alternate layout based on land control in the Project area. The discussion will include examples of the number of turbines to be constructed depending on the turbine model selected. This section of the Application will also address why turbines of certain heights and dimensions are best suited for this Project, including an analysis of compliance with existing local height restrictions and turbines that would exceed local height restrictions. Additionally, this section of the Application will address the environmental impacts of the following alternative layouts:
 - i) The use of taller turbines in the same locations 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 Project Area.

As a part of the evaluation of alternatives in the Article 10 Application, it is anticipated that information regarding scale and magnitude will be inclusive of the height of turbines. Evaluations will be made regarding comparative advantages and disadvantages of the proposed facility including engineering feasibility, reliability and electric system effects, environmental impacts, economic considerations, environmental justice considerations, security, public safety, emergency planning, public health, and the objectives and capabilities of Lighthouse Wind. This information will be provided within Exhibit 9 of the Article 10 Application.

7. Public Health and Safety, Noise and Vibration

a. Public Health Concerns and Studies

Numerous comments addressed perceived potential health impacts, safety concerns, and questions/concerns about noise and vibration, shadow flicker, EMF, infrasound, blade and ice throw, and sleep disturbance. In some cases, specific study scoping issues were raised. Scopes for some studies, such as noise, are included with this comment response. See Appendix F. In

other cases, comments raised public health concerns which will be addressed more broadly in Lighthouse Wind’s literature review and discussion of these matters in the Application, Exhibits 6, 15, 18, and 19.

Comments on the PSS also included requests that Lighthouse Wind consult with the Niagara County and Genesee-Orleans County Boards of Health in relation to this Project. The following is a summary of consultation activities which have taken place between Lighthouse Wind and these Boards of Health to date. This list is not all-inclusive, but is instead meant to provide a representative snapshot of the type and nature of outreach performed. Please note that outreach is ongoing.

October 16, 2015: Lighthouse Wind sent package of information and an introductory letter which included contact information to all members of both the Niagara County Board of Health and the Genesee/Orleans County Board of Health. These studies were summarized and offered in printed form along with a thumb drive with the full studies. The studies sent were the following:

- “Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005” by Fabio Caiazzo, Akshay Ashok, Ian A. Waitz, Steve H.L. Yim, Steven R.H. Barrett
- “The Clean Air Benefits of Wind Energy” by AWEA
- “Wind Turbine Noise and Health Study: Summary of Key Findings” by Health Canada
- “Health Effects and Wind Turbines: A Review of the Literature” by Knopper and Ollson
- “Wind Energy for a Cleaner America II: Wind Energy’s Growing Benefits for Our Environment and Our Health” by Jordan Schneider and Tony Dutzik, Frontier Group and Rob Sargent, Environment America Research & Policy Center
- “Wind Farms and Health: Australian Medical Association Position Statement 2014” by AMA
- “Wind Health Impacts Dismissed in Court” by Mike Barnard, Senior Fellow on Wind Energy for the Energy and Policy Institute
- “Wind Turbine Noise and Health Study: Summary of Results” by Health Canada
- “Wind Turbines and Human Health” by Knopper, Ollson, McCallum, Whitfield Aslund, Berger, Souweine, and McDaniel.
- “Wind Turbine Health Impact Study: Report of Independent Expert Panel, January 2012” prepared for Massachusetts Department of Environmental Protection and Massachusetts Department of Public Health

October 22, 2015: Lighthouse Wind representative attends Niagara Board of Health meeting.

December 3, 2015: As described in the previously submitted “Lighthouse Wind Project Event Tracking Log” for November – December, 2015, the Lighthouse Wind team made a verbal and PowerPoint presentation at regularly scheduled Niagara County BOH meeting. The team included Taylor Quarles (Lighthouse Wind), Dan Fitzgerald (Lighthouse Wind), Chris Ollson (Ollson Environmental), and Rob O’Neal (Epsilon Associates). The Lighthouse Wind team provided outline of the proposed Lighthouse Wind project along with discussion of the process and permitting requirements. Mr. Ollson and Mr. O’Neal made detailed presentations on health and noise issues, with all participants taking questions by the board. Additionally, Mr. Ollson and Mr. O’Neal both submitted detailed letters outlining their positions on health and noise related issues. See attached at Appendix L. During this meeting members of the Lighthouse Wind team recorded input of Board members.

February 8, 2016: Lighthouse Wind representative calls Orleans/Genesee Board of Health

February 12, 2016: Lighthouse Wind representative calls Orleans/Genesee Board of Health

February 18, 2016: Lighthouse Wind representative calls Orleans/Genesee Board of Health

Lighthouse Wind will continue its efforts to consult with these agencies, as it develops and submits its Application.

Summary of Responses:

The Application will include a comprehensive discussion and analysis of international and domestic research in wind turbines and public health effects, including potential health concerns raised by PSS commenters such as noise, sleep disturbance, infrasound, EMF, blade throw, ice throw, and shadow flicker. In addition to the studies already committed to in Sections 2.3, 2.4, and 2.14 of the PSS, Lighthouse Wind has committed to providing additional details on construction and health effects in its Certificate Application, as discussed in greater detail below.

To assess noise and vibration impacts, a Noise Impact Analysis (NIA) will be completed and included in Exhibit 19 of the Certificate Application. The scope of this proposed study is included with this submission at Appendix F. The NIA will assume worst-case conditions for calculating expected sound levels from the Project in the area. The sound level study for this Project will include summer and winter conditions. Actual ambient sound levels in the Project area will be presented in the Application. The sound level measurements will be conducted 24

hours/day so as to capture representative sampling of sources currently operating in the community. Further, the NIA will be prepared consistent with Exhibit 19, Section 205-43.2 of the Town of Somerset Municipal Code, Section 591.13 of the Town of Yates Zoning Regulations, and the NYS DEC's Assessing and Mitigating Noise Impacts (DEP-001-1) (NYSDEC, 2001). Additional details on the NIA are included in Appendix F to this document.

It is important to understand that from a health perspective it is not the height of the turbines, or the noise output at their hub, that is the important. Rather, it is the measurement of sound levels at receptors that is important to assessing potential impacts. Every wind turbine model available for purchase on the commercial market must have undergone extensive testing of acoustics, among many parameters. Therefore, sound level data for a wind turbine under consideration by the Project will provide acoustical testing data, and this data will be used in the NIA. The NIA will use computer noise modeling values that match the characteristics of the "worst case" turbine model proposed for the Project.

In addition to noise investigations, Sections 2.3 and 2.4 of the PSS describe a number of other studies and measures to be undertaken with respect to overall public health, as well as specific public health impacts, such as ice shedding, blade throw/tower collapse, stray voltage, fire, lightning strikes, and gaseous/liquid and solid wastes. Further, PSS Section 2.9 describes the Applicant's proposed shadow flicker analysis, and Section 2.14 provides details on EMF exposure assessment.

Lighthouse Wind will also have a comprehensive complaint resolution process in place, which will be discussed in the Application. In the event of residents' complaint of turbines causing sleep disturbance or other health concerns, Lighthouse Wind will work with the concerned resident in accordance with a compliant resolution process, which will be outlined in the Certificate Application. However, based on the international scientific literature and Lighthouse Wind's commitment to a 45 dBA or less nighttime sound level at non-participating residences, such issues are not anticipated.

The effects of shadow flicker will be assessed in the Certificate Application. The shadow flicker report will contain a summary of impacts at each receptor within the assessment area that is expected to receive over 30 hours of shadow flicker per year (the most commonly used threshold for significant impacts). Potential mitigation measures are described in the PSS at Section 2.9 and may be implemented at significantly affected receptors on a case-by-case basis.

Lighthouse Wind will also include a shadow flicker model that will take into account cumulative effects of multiple turbines within the actual Project layout. The Certificate Application will provide review of the potential health effects of shadow flicker specific to the modeled results. The shadow flicker analysis that will be included in the Certificate Application

will describe in more detail the methods used and the basis of any thresholds of significance that are applied.

The U.S. Department of Interior's Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States indicates shadow flicker effects are dramatically mitigated at distances beyond 10 rotor diameters.¹⁴ Similarly, the Rhode Island Land-Based Wind Siting Guidelines and the Massachusetts Model As-of-Right Zoning Ordinance or Bylaw: Allowing Use of Wind Energy Facilities state "the impacts of shadow flicker diminish rapidly with distance and should be minimal at 10 or more rotor diameters."¹⁵ This standard is commonly used on projects in New York State as well as in other states and countries.

There is significant experience in New York and the United States generally regarding the appropriate setbacks to minimize potential impacts to public health and safety. The Company has internal standards for setbacks as discussed above, and will also seek to conform the Project to existing setback requirements in the local zoning laws of the Town of Somerset and the Town of Yates. Additional setbacks criteria based on regulatory requirements and guidelines from such agencies as the DEC, PSC, and Ag and Markets will also be considered.

Lighthouse Wind notes that multiple commenters requested that Lighthouse Wind conduct a baseline health study of residents living in the Project Area. Lighthouse Wind believes the weight of scientific evidence demonstrates that a baseline health study is not required prior to the construction of the Project and that the evidence supports the position that a properly sited wind project will not result in adverse health effects in the community. For example, the scientific evidence has demonstrated that a project that complies with a 45 dBA sound level at the exterior of residences will not affect health, well-being, or sleep of residents. This is highlighted by the comprehensive Health Canada Wind Turbine Noise Study released in 2014 as well as other studies. Wind turbines, unlike fossil fuel plants, do not emit toxic chemicals into the atmosphere. We are not aware of any power projects (including wind, solar, coal or gas) required to conduct baseline health studies in New York. Such studies are complex, require significant population participation, can be intrusive and not warranted when a Project is not anticipated to impact health. This evidence sensitive literature and studies in support will be discussed further in the Application at Exhibit 15. As noted above, Lighthouse Wind has consulted with Niagara and Genesee/Orleans

¹⁴ U.S. Department of Interior. 2005. Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States. <http://windeis.anl.gov/documents/fpeis/maintext/Vol2/Vol2Complete.pdf>

¹⁵ Massachusetts Executive Office of Environmental Affairs - Department of Energy Resources. 2012. Model As-of-Right Zoning Ordinance or Bylaw: Allowing Use of Wind Energy Facilities. <http://www.mass.gov/eea/docs/doer/green-communities/grant-program/wind-model-bylaw-mar-2012.pdf>; Rhode Island Office of Energy Resources. 2016. Rhode Island Land-Based Wind Siting Guidelines (Proposed). http://www.energy.ri.gov/documents/landwind/WindSitingDoc_2016-1-6_FINALforPublicReview.pdf

County Board of Health and presented some of the information that will be included in the Application.

In response to comments on this topic area, Lighthouse Wind agrees to perform or stipulate to the following:

- Further consult with the Niagara County and Genesee-Orleans County Boards of Health in relation to this Project;
- Design a project with a maximum nighttime sound level of 45 dBA at non-participating residences, regardless of the height of the turbines.

In the Certificate Application, Lighthouse Wind will:

- Perform a literature review and assessment of potential public health effects, including concerns raised by PSS commenters such as noise, sleep disturbance, infrasound, EMF, blade throw, ice throw, tower collapse, shadow flicker, fire, lightning strikes and wastes;
- In the Noise study:
 - Model expected sound levels from the wind turbines at residences in the Project Area and compare to World Health Organization guidelines;
 - Assume worst-case conditions for calculating expected sound levels from the Project;
 - Include assumptions using the “worst-case” turbine model considered for the Project;
 - Include summer and winter conditions; include actual ambient sound levels in the Project area;
 - Conduct sound measurements 24 hours/day, so as to capture representative sampling of sources currently operating in the community.
 - Further, the NIA will be prepared consistent with Exhibit 19, Section 205-43.2 of the Town of Somerset Municipal Code, Section 591.13 of the Town of Yates Zoning Regulations, and the NYS DEC’s Assessing and Mitigating Noise Impacts (DEP-001-1) (NYSDEC, 2001);
- Develop and include a comprehensive complaint resolution process for noise and public health issues;
- Identify planned subdivisions and residential developments within the shadow flicker study area and include these locations within the shadow flicker study.

b. Emergency Response

A number of PSS comments pertained specifically to emergency response matters, including consultation with local emergency departments, procedures for responding to events such as turbine fire or construction accidents, and an assessment of whether local first responders are capable and adequately equipped to respond to such emergencies. Further, PSS commenters urged consultations with specific Fire Departments, and sought information about such consultations.

Summary of Responses:

Existing emergency services in the vicinity of the project are expected to be sufficient to address any public health and safety issues that may arise during construction or operation of the project. The types of emergencies that could occur are listed in PSS Section 2.3, Public Health and Safety. Meetings will be held with local first responders to determine their ability to respond to certain types of emergencies and an emergency response plan will be created and added to the Certificate Application.

Prior to construction, a Fire Protection and Emergency Response plan will be developed in consultation with the Fire Departments and other emergency service providers that have jurisdiction over the Project Site. Lighthouse Wind will include such consultation with all emergency service providers listed in the PSS. A Fire Protection and Response Plan will be presented as part of Exhibit 15 of the Certificate Application and will provide information on the rescue response procedures.

Lighthouse Wind has already engaged in consultation with a number of emergency service providers in the area. A brief summary of contact with emergency services follows:

Lyndonville Fire Department:

- Identified as stakeholder in PIP. Sent letter upon filing of PIP
- Phone call in 2014 after filing PIP, left message
- Two Telephone calls made and messages left in 2015
- January 19, 2016 left message
- January 22, 2016 spoke with representative, was told based on current status a meeting was not necessary. They requested we continue to consult after we have filed and presented a site plan (in Application).

Barker Fire Department

- Identified as stakeholder in PIP. Sent letter upon filing of PIP
- Phone call in 2014 after filing PIP, left message
- Two Telephone calls made and messages left in 2015
- January 19, 2016 left message

Other Fire Departments

- Olcott Fire Co. and Miller Hose Fire Co. were also included in the PIP stakeholder list
- Phone calls/messages to each of these groups after filing in 2014

Mercy Flight (based on responses to comments)

- January 19, 2016 call to Director of Flight Operations Marc Boies
- January 23, 2016 called about arranging meeting
- January 26, 2016 spoke with Marc Boies
- January 27, 2016 met with representatives of Mercy Flight at their headquarters in Buffalo; discussed Mercy Flight's operational procedures, especially in Western NY areas with existing wind farms, such as in Wyoming County. Sought Mercy Flight's input on the Project, including any concerns they may have. Agreed to continue an open dialogue throughout the stipulations process to ensure the final Project is designed in a responsible manner, taking their operations into account.

In accordance with its PIP obligations and its continued public outreach and involvement efforts, Lighthouse Wind will continue these outreach and consultation efforts with local emergency departments. The Application will include a discussion of these issues at Exhibits 15 and 18 and a summary of any additional consultations with these departments.

8. Cultural Resources and Visual Impacts

Commenters raised concerns about the potential visual impacts of the project, including the visibility of turbines from Lake Ontario and lakefront properties and residences, hazard lighting of turbines, the visibility of the project from historic landmarks and scenic areas, and general opinions on aesthetics. Commenters also sought more information on potential impacts to cultural resources, recreation areas and parks, and a number of historic buildings and archeological sites which were not specifically identified in the PSS, such as the Thirty-Mile Point Lighthouse, Krull Park, scenic byways and the Niagara Historic Trail.

Summary of Responses:

The Certificate Application will include a Visual Impact Assessment (VIA), which is a technical process that will provide a potential visibility of the project and accurate simulations of project components, such as wind turbines, that allows for an assessment of the potential impact. Other facilities such as any new substation, associated transmission line, overhead electric collector lines, Operations and Maintenance (O&M) building and turbine lighting will be included in the VIA. The VIA will include simulations to allow stakeholders to see a visual representation

of the project. The VIA will be conducted in accordance with the requirements of Article 10 and DEC Guidance, and Exhibit 24 of the Certificate Application will include an updated, final list of visually sensitive locations.

The VIA will include viewpoints representative of the study area and simulations from specifically identified visually sensitive sites, consistent with DEC Guidance. In addition, during the remaining stipulations phase, the Applicant will be reaching out to the Towns and other stakeholders regarding their input on viewpoint locations to be included in the VIA to determine potential project visibility from those locations and the preparation of visual simulations for select locations, if appropriate, consistent with the regulatory requirements. This is in addition to the input from stakeholders on the topic that was already gathered prior to submission of the PSS. Viewpoint selection is based upon input from public comments, municipal planning representatives, DPS, DEC, and SHPO. Lighthouse Wind will evaluate potential visual impacts on the shoreline community in the Certificate Application and prepare a representative simulation(s) in the VIA. The scope of the VIA is included as Appendix G to this document. An updated list of visual/aesthetic resources of statewide and local significance within 10 miles of the Project, for use in the visual assessment, is included as Appendix I. An updated list of National Register of Historic Places and eligible properties within 5 miles, which will be used for the Historic Structures Survey, is included as Appendix J.

A more detailed review of potential visual impacts to sensitive cultural resources will be included in Exhibit 24 of the Certificate Application. Specific sensitive cultural resources highlighted in the PSS comments include the Great Lakes Seaway Trail, Thirty Mile Point Lighthouse, and Golden Hill State Park. A third request is being sent to Towns and Historic Societies included in the visual study area for any or additional sensitive locations for consideration in the VIA. In its Application, Lighthouse Wind will include an updated list of cultural resources in the Project Area, which will include sites not listed in the PSS but identified in PSS comments, and assess the potential impacts to these cultural and historic resources.

Temporary construction areas will be selected based upon land-owner approval and Project needs. These areas may be visible from historic structures or properties, but the impacts will be limited to periods when the project is under active construction.

Lighting for wind turbines is specified by the FAA lighting standards (Advisory Circular AC No: 70/7460-1L) and will include the lighting of turbines with FAA-approved, red flashing lights directed upward to provide maximum pilot visibility and minimize visibility to viewers at lower elevations. A lighting plan will be developed to incorporate these requirements. All outdoor lighting on project buildings will be down-shielded. To preserve dark skies, Lighthouse Wind will limit hazard lighting to the minimum number of lights at the minimum intensity required by the FAA.

Lighthouse Wind recognizes that the most effective means of mitigating visual impacts is through optimal siting and design of Project components. Potential visual impacts to sensitive receptors will be evaluated in the Certificate Application, allowing for specific avoidance or mitigation measures to be applied on a case-by-case basis.

Finally, Lighthouse Wind will prepare a Phase I archaeological survey to identify and assess potential impacts to cultural resources, including resources identified through historical research, coordination with the NY State Office of Parks, Recreation and Historic Preservation (SHPO), and public comments. Where warranted based upon Phase I surveys, and through coordination with SHPO, Lighthouse Wind will conduct Phase II studies or otherwise mitigate potential cultural impacts. A scope of the Cultural Resources Study is attached to this document as Appendix H.

In response to comments and questions on visual and cultural impacts, Lighthouse Wind agrees to provide or stipulate to the following:

- Evaluating potential visual impacts on historic resources such as the Thirty Mile Point Lighthouse, for which a representative view from the upper stories will be included, as part of the VIA;
- Including the Great Lakes Seaway Trail in the viewshed analysis, and indicate the trail's location in maps in the Certificate Application, Exhibit 24 (Visual Impacts);
- Generating visual simulations from the Lake Ontario shoreline and lakeshore residential areas, including street ends overlooking the Lake, Olcott Harbor and shoreline from Route 19 and the eastern sides of the harbor, Krull Park, and Eighteen Mile Creek Gorge, and including those in the viewshed analysis;
- Consulting with stakeholders including the Towns of Yates and Somerset, SHPO, DPS and DEC staff regarding representative viewpoints and simulation or actions the state Office of Parks, Recreation and Historic Preservation,
- Employing the DEC Visual Policy (2000) as a guidance resource in performing visual impact assessments;
- Performing additional visual analysis for project alternatives;
- Reviewing the National Scenic Byway Program guidance;
- Including recreational and historic areas as receptors in the shadow flicker study.

In the Certificate Application, Lighthouse Wind will:

- Provide updated lists of visual/aesthetic resources, cultural resources, historic sites, and other locations which were not specifically identified in the PSS, but which were included in comments and discussions with stakeholders, such as the Great Lakes Seaway Trail, the Niagara Historic Trail, Thirty Mile Point Lighthouse, and Golden Hill State Park.

- Include an updated list of Study Area sites on the state and federal historic registers;
- Identify and discuss potential impacts to scenic byways, recreational trails, and Scenic Areas of Statewide Significance;
- Identify and assess potential impacts to Krull Park and other local parks, designated trails, public-access fishing and recreation areas, and community/municipal facilities within the Study Area, and include those sites in mapping.

9. Niagara Falls Air Reserve Station (NFARS), Radar and Communications

Commenters were concerned about the potential impacts of the project on the Niagara Falls Air Reserve Station (NFARS), radar systems such as Doppler and air traffic control, radio, television and telecommunications. Some commenters claimed that the approval of the Lighthouse Wind Project would result in the closure of NFARS, and urged that the project should be rejected on that basis.

Summary of Responses:

Lighthouse Wind recognizes the importance of the NFARS to the regional community and economy, and will evaluate other similar operating wind projects within military installations as part of the Socioeconomic Assessment to be included in Exhibit 27 of the Certificate Application. Further, Lighthouse Wind is required, and fully intends, to consult with the Department of Defense (DOD) and Federal Aviation Administration (FAA) regarding any potential interference between wind components and the base, radar or airspace generally, and to investigate any potential impacts to transportation and communications (Exhibits 25 & 26). The FAA will review the proposed Project's potential to impact air transportation and related services, in accordance with 14 CFR Part 77 (Notification of Proposed Construction or Alteration of Structures/Obstructions to Navigation). An assessment of potential impacts to the NFARS station and military flight operations will be included based on consultation with appropriate agencies, and a review of other wind farms in the vicinity of military flight operations.

The DOD has an established process for reviewing projects such as Lighthouse Wind's proposal. The project must be submitted to the DOD Siting Clearinghouse, which triggers a systematic review of the project and its potential impacts on military radar and operations, in accordance with the process set forth in Part 211 of Title 32 of the Code of Federal Regulations. Lighthouse Wind has already initiated contacts with the DOD and fully intends to comply with the military's review requirements. Further, Lighthouse Wind has been in touch with Niagara Military Affairs Council (NIMAC) and verified that they will need to review the details of the Project, but notes that the Council is waiting for final project designs and plans, as well as the results of the DOD Siting Clearinghouse review, to make any determination on potential interference rather than speculation. The Certificate Application will include a statement that the Project has received both

an informal and formal review (by DOD) of the proposed construction of the Project in accordance with 32 Code of Federal Regulations, Sections 211.6 and 211.7.

If the DOD has concerns with the final layout, and requires changes or mitigation in the project, Lighthouse Wind will implement them in accordance with the DOD's established coordination process. However, it is important to note that, throughout the country, it has been proven that wind projects can and do coexist in proximity to many other uses, including military bases and airports. In New York State, and elsewhere, multiple wind projects are already sited proximate to other military bases where radar and flight training is used, such as Fort Drum in Jefferson County. The DOD has publicly committed itself to working with wind energy developers in particular to develop potential mitigation techniques to alleviate impacts to military radar systems and operations, so that such projects can still be constructed.¹⁶ Only in situations where mitigation is impossible does the DOD require a reevaluation or a significant modification of a potential project.¹⁷

In fact, the DOD has publicly voiced support for locally-sourced renewable power generation as a matter of base energy security and protection of military installations from vulnerabilities associated with catastrophic grid failure. A 2006 DOD report entitled "The Effect of Windmill Farms on Military Readiness," stated that the DOD "strongly supports the development of renewable energy sources and is a recognized leader in the use of wind energy. As the largest consumer of energy in the United States, the Department is keenly aware of the budgetary pressures that the cost of energy creates for all Americans and continues to invest in the development of alternative energy sources. However, the Department is also mindful of its responsibility to maintain its capabilities to defend the nation."¹⁸ According to this report, a key DOD concern with regard to wind farms is whether a wind farm is located "within radar line of sight of an air defense radar," which can be mitigated through siting efforts or by employing strategies such as terrain masking or relief.¹⁹ As part of the 32 CFR Part 211 process, Lighthouse Wind is providing detailed turbine data to North American Aerospace Defense Command

¹⁶ According to the Director of the DOD's Siting Clearinghouse, Bill Van Houten, "while [the DOD] will occasionally object to a project, we try very hard to work on mitigation solutions, either by moving turbines or other physical methods." Mr. Van Houten made these remarks as part of a Department of Energy presentation on this issue in April 2015 (transcript: http://apps2.eere.energy.gov/wind/windexchange/pdfs/workshops/2015/webinar_overcoming_wind_siting_challenges_radar.pdf).

¹⁷ The federal DOE has stated that "most projects do not present unacceptable impacts, but when conflicts are identified, the Department of Defense works with the developer to find reasonable and affordable mitigation solutions." <https://nccleantech.ncsu.edu/wp-content/uploads/Grid-and-Military-Impacts-Factsheet-2.pdf>

¹⁸ http://apps2.eere.energy.gov/wind/windexchange/pdfs/dod_windfarms.pdf.

¹⁹ Available mapping indicates that the majority of land in New York State is located within 90 miles of a military radar site—the trigger distance used by the DOD to determine what projects must be evaluated through the Siting Clearinghouse. In fact, it would be impossible to construct a wind project almost anywhere in New York without being within 90 miles of a radar site—which would make wind development all but impossible if the nearby presence of a military radar site foreclosed wind development entirely.

(NORAD) to facilitate computer modeling of possible wind turbine interference on the ASR-9 air surveillance radar at Buffalo—part of NORAD’s homeland defense network.

There has not yet been a written determination as to whether this Project would directly impact the Niagara Air Reserve Station's operations, or that mitigation to address potential impacts couldn't be implemented to address any potential impacts. Nevertheless, some commenters inferred that the Project could make the base vulnerable to closure. As noted above, this is inconsistent with the review process being undertaken with DOD. In fact, the DoD Siting Clearinghouse informed Lighthouse Wind via telephone on February 23, 2016 that the Project presents no impact whatsoever to flight operations at NFARS or training within Military Operations Areas or Military Training Routes associated with the 914th Airlift Wing. Having ruled out potential impacts on the flying missions at NFARS, the Clearinghouse is focused solely on the aforementioned simulation and modeling of the Buffalo ASR-9 radar to assess potential impacts. Once this review is completed, the Clearinghouse will issue its written results. Nevertheless, since Lighthouse Wind has already begun working with DOD to design the Project in a manner consistent with all DOD requirements, from flying training to air defense, and, if not possible, reconsider the Project, there is no basis to speculate that the presence of a wind farm would result in closure of the base.

This issue will be comprehensively addressed in the Application and in accordance with established military review and consultation procedures.

With regard to other potential air traffic and radar impacts, a preliminary list of area airfields is included in PSS Section 2.10.1. A Project layout will be provided to the FAA for comprehensive study of potential impacts to such facilities, in accordance with federal requirements (14 CFR Part 77). The results of the FAA analysis will be included in Exhibit 25 (Effect on Transportation) of the Certificate Application.

An analysis and evaluation of the impacts of the facility on airports and airstrips (including the Tiger Paw Aerodrome) will be included within the Article 10 Application, Exhibit 25. Lighthouse Wind will consult with FAA and DOD, and an assessment of potential impacts to flight operations from civilian and military flights will be included in the Certificate Application. Lighthouse Wind will also consult with the operators of such airports and heliports that are non-military facilities, including Mercy Flight (discussed further above in Section 7(b) on Emergency Response), and will provide a detailed map and description of such construction or alteration to such operators, and request review of and comment on such construction or alteration by such operators.

Finally, because of comments submitted on the PSS, Lighthouse Wind will be performing additional study to determine impacts, if any, to local Doppler radar systems. The results of the

study and any anticipated impacts will be discussed in the Certificate Application and consult with affected weather agencies, if appropriate.

10. Wildlife

Comments in this area primarily focused on potential impacts to protected wildlife species, in particular birds and bats, with emphasis on nocturnal migration. An additional question was raised regarding impacts to pollinating species, as discussed above in the sections on agriculture, and threatened and endangered flora and fauna.

Summary of Responses:

Lighthouse Wind has been and will continue to actively work with NYSDEC and USFWS to obtain their expert input and technical recommendations to develop a robust strategy for studying the local wildlife that may be affected by the Project, particularly birds and bats. The goal of the studies is to assess potential impacts of the Project on these populations, and to inform development of appropriate and effective avoidance, minimization and mitigation strategies, to ensure no significant adverse impacts would result from construction or operation of the Project. The collaborative approach to evaluating these issues with the agencies is in accordance with state and federal guidelines.

Bird and bat study plans, including decisions regarding the timing of migration studies, were developed in coordination with NYSDEC and USFWS using generally accepted practices for evaluating species composition, relative abundance and assessing potential risk at the proposed Project. Studies began in December 2014, which provided more than a year's-worth of information-gathering across different seasons. As these studies continue through a second year, they will provide a robust dataset for use in assessing seasonal and annual variation in bird and bat use of the site. Results will be used by USFWS, NYSDEC and the Applicant to evaluate potential effects of the Project and make informed decisions to avoid, minimize or mitigate anticipated impacts to wildlife.

In Section 2.7.3.2 and Exhibit B of the PSS, Lighthouse Wind committed to performing the following studies of wildlife in the Project Area:

- Migratory Raptor Surveys;
- Breeding Bird Surveys;
- General Bat Activity and Species Composition Assessment (NYSDEC protocols), including Acoustic Monitoring;
- Threatened/Endangered Species Habitat Survey (USFWS protocol);
- Wintering Grassland Raptor Surveys;

- General Avian/Raptor Use Surveys;
- Indiana and Northern Long-eared Bat Summer Presence/Absence Surveys.

These studies will provide substantial data on the studied species, which will aid the Applicant, state and federal agencies, and the public, in gaining increased knowledge about these species and their habitats and the potential effects of the Project. This will also provide important information to develop effective avoidance, minimization and mitigation strategies to address potential impacts. Lighthouse Wind fully intends to site and operate Project components to avoid or minimize significant adverse impact at the local or regional avian population scale. The Applicant also commits to implementing appropriate monitoring protocols to evaluate the effectiveness of these measures, and respond via adaptive management if necessary to ensure no significant adverse impacts to birds or bats will result from operations.

Lighthouse Wind is committed to developing the Project in accordance with governing regulations, guidance, and industry-wide best practices. In developing this Project, Lighthouse Wind will adhere closely to the USFWS Land-based Wind Energy Guidelines and Eagle Conservation Plan Guidance and NYSDEC Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects. Studies developed in coordination with the USFWS and NYSDEC will aid in assessing baseline conditions, inform risk and monitoring and adaptive management strategies. Potential risk of impact to federal- and state-listed species will be carefully evaluated for the Project, and measures to prevent, mitigate, or, in limited cases, permit any predicted take would be implemented to ensure no significant adverse impact. It is Lighthouse Wind's intent that, where take of threatened or endangered species, or eagles, is anticipated, it will be authorized and mitigated in accordance with the provisions of the Endangered Species Act or the Bald and Golden Eagle Protection Act, as well as applicable state regulations. Further, a monitoring plan will be used to evaluate and measure the effectiveness of these avoidance, minimization and mitigation measures, as well as the potential adaptive management responses to be implemented should impacts exceed anticipated levels or be determined to warrant management action. All of this information will be addressed in Exhibit 22 of the Certificate Application.

As currently proposed, no new major transmission lines (as regulated by Article VII) are likely necessary for the Project, because it is intended to interconnect to an existing transmission located onsite, at the existing Kintigh Substation. Because the Project is sited in a primarily agricultural landscape, with roads intersecting the area, only short sections of new roads in primarily fragmented and disturbed cropland will be required to access turbines and operate and maintain the project. Lighthouse Wind acknowledges that siting turbines in such common and disturbed habitats is generally considered a Best Management Practice by the industry and regulating agencies (e.g., USFWS, NY Ag & Mkts, and state wildlife agencies).

Based on studies already completed to date, as well as knowledge of the region, it is clear that the total number of birds that move through this area varies substantially by season at this location. The Project Area is generally characterized by year-round resident, breeding, migrating and wintering birds. It is probable that the greatest numbers of birds at any given point in time in or near the Project would be during spring migration; however, a large portion of these birds would be nocturnally migrating species passing briefly over the Project, many at altitudes above the rotor swept heights. Some of these migrating species may land in or near the Project Area, using the site as a stopover site for rest, forage and energy recharge, before continuing their migration. Some of these species may be at risk of collision with turbines during “fallout” (as they ascend or descend to/from migratory flight) in certain weather conditions, and some species that remain or are present at other times of the year (breeding, wintering) may also be at risk. Others may be affected by the minor habitat change associated with installation of Project facilities. The planned studies and study results will carefully evaluate these factors and will be discussed in the Certificate Application.

The south shore of Lake Ontario is known to experience heavy avian migration activity during spring. USFWS collected nocturnal radar data in spring 2013 and, per Jeff Gosse (USFWS Region 3 Energy Coordinator), a whitepaper describing the methods and results is expected for release in late winter or early spring 2016. As noted above, radar studies to corroborate these findings and explore migration characteristics in more detail with more current data will be completed for the Project Area by Lighthouse Wind in Fall 2015 and Spring 2016.

Comments were made with respect to potential impacts on bat species as well. With regard to bats, Lighthouse Wind completed an evaluation of species composition and activity patterns in 2015. Two types of bat surveys were completed: one to assess general bat activity and species composition at ground level and elevated heights (NYSDEC protocols) and one to assess presence or probable absence of federally listed species (USFWS protocol). Results from these studies, and responses via siting and operational adjustments will be described in detail in the Certificate Application.

With regard to rare, threatened and protected species, Lighthouse Wind has coordinated with the New York Natural Heritage Program (NYNHP) to obtain a preliminary assessment of the potential occurrence of rare or state-listed animals and plants, and significant natural communities on or in the immediate vicinity of the Project site. Initial consultations with the NYSDEC have not indicated the presence of aquatic species that would require specific surveys. The species included in the Southwest Lake Ontario Basin section of the NYS Wildlife Action Plan will be reviewed and assessed with regard to their potential occurrence within the Study Area. This

information will be included in the Certificate Application, to the extent permitted by law.²⁰ Lighthouse Wind will continue to consult with the NYNHP and NYSDEC regarding rare and state-protected species throughout development and operation of the Project.

Lastly, one commenter suggested requiring a pollinator study associated with potential bee inputs. A pollinator management plan is not required as part of the Article 10 regulations and no related studies have been recommended or completed. However, Lighthouse Wind has agreed to consult with both Ag. & Mkts and the local office of the Cornell Cooperative Extension on this issue and will request their input on possible mitigation measures if such an impact is apparent or necessary.

As a result of consultations with federal and state agencies, and in response to comments on the originally proposed bird and bat studies, Lighthouse Wind agreed to perform additional work in this area, some of which has already been completed. To date, one year of bird and bat studies is complete. Additional studies are ongoing or upcoming. This additional work is based on consultations with USFWS and NYSDEC, and includes:

- A second year of General Avian/Eagle Use Studies;
- A second year of Winter Grassland Raptor Studies;
- Avian and Bat Migration Radar Studies (Fall 2015 and Spring 2016).

Further, in response to comments on this topic, in addition to commitments made in the PSS and those discussed above, Lighthouse Wind has agreed to, or will stipulate to:

- Consulting with the NYSDEC and US Fish and Wildlife Service to update the PSS Table 4 to include additional species not previously identified;
- Developing an invasive species prevention and management plan which addresses the species identified in 6 NYCRR Part 675;
- Consulting with the NYSNHP and NYSDEC regarding the potential for long-eared sunfish (*Lepomis megalotis*) and pearly mussel (various) species.

²⁰ Provisions of state and federal law prohibit the disclosure of certain identifying information about threatened and endangered species and their habitats, since the release of that information might result in the destruction of habitat or impair a species ability to survive. Where state or federal law requires that data gathered for this Project not be released to the public, Lighthouse Wind will submit this information to the Secretary along with a request for an appropriate exemption from disclosure and/or a protective order. See, e.g., Public Officer's Law § 87(2)(a); NY ECL § 3-0301(2)(r) (certain records not disclosed to protect endangered species); NY ECL § 11-0535(1) (rare, threatened and endangered species subject to nondisclosure); NY ECL § 9-1503 (other rare species subject to nondisclosure).

11. Transportation

Comments on transportation included concerns that the Project would create traffic problems during construction, as well as post-construction problems for automotive and non-automotive construction; that construction vehicles and delivery routes might result in harm to local roadways, that these routes must be clearly identified, and impacts to those roadways should be analyzed; and requests that roadway mitigation plans be developed to ensure repairs are made to roadways impacted by construction traffic.

Summary of Responses:

The construction of the Project could result in minor delays for motor vehicles, bicyclists, pedestrians, and horse-drawn carriages along delivery routes. Any delays experienced would occur only when roads are being used by oversized/overweight (OS/OW) vehicles. The transportation routing plan will be designed to avoid or minimize safety issues associated with the use of approved haul routes and will confine OS/OW travel to select roads. This will likely include the use of escort vehicles, flagmen, and/or temporary signals to assure safe passage of vehicles, bicycles, pedestrians and horse-drawn carriages on public roads.

Potential traffic impacts, as well as mitigation measures for construction impacts to traffic (vehicular and non-vehicular) will be addressed in the Article 10 Application at Exhibits 12 (Construction) and 25 (Effect on Transportation). It is anticipated that Lighthouse Wind will offer the host municipalities a road use agreement to ensure road conditions are returned to the condition following pre-construction improvements. The road agreements will have procedures for accessing existing road conditions following construction and plans to repair potential damages to roadways caused by vehicles during construction.

Anticipated modifications to roadways and or bridges will be documented and any required approvals to make modifications will be outlined in the Application and would be acquired prior to construction activities. Design plans will be completed for any necessary public road improvements and/or modifications and will be provided to the affected jurisdiction for review prior to the initiation of construction activities. Determinations as to temporary or permanent nature of such modifications will be made by affected jurisdictions at that time.

The Certificate Application will include a Route Evaluation and Transportation Study which will identify optimal proposed routes (in consultation with NYSDOT, Highway Departments in the Towns of Somerset and Yates, the Niagara County Department of Public Works, and the Orleans County Highway Department, as well as local school districts for bus routes). This study will evaluate conditions of roadway pavements and any published structural

road rating designations will be identified. Structural inspections will be determined and conducted on an as needed basis.

The Application will further address Maintenance and Protection of Traffic (MPT), as requested by DPS. MPT plans will likely be required under future separate Highway Work Permit submittals to the NYSDOT, Niagara County Department of Public Works, Orleans County Highway/Buildings and Grounds Department, and the Towns. Once plans and permits have been approved further information will be provided.

Based on comments received, Lighthouse Wind has also agreed to include school bus routes in its transportation routing plan.

12. Socioeconomic Effects

Commenters raised some concerns about the effect of the Project on tourism and jobs, but the primary focus of comments on this topic dealt with potential impact to property values.

Summary of Responses:

Property values will be evaluated by conducting a thorough literature search and presented in Exhibit 27 of the Certificate Application. The consensus of studies which have assessed property value impact have concluded that there is no statistically significant difference in property values prior to and following construction of a Wind Project. Further, there is no evidence that the presence of a wind farm leads people to decide not to move to a community, or to avoid purchasing properties in the vicinity of wind development. In fact, in most cases, the positive impacts of wind development host community agreements and PILOT payments result in tax benefits which could enhance the desirability of these communities. Benefits provided by wind projects have allowed communities to enhance their civic institutions, schools, churches, and community organizations. Support and incentives for local school districts also help reduce the economic burdens associated with strained school budgets. All of these benefits help to sustain and grow local communities, and encourage economic development thinking, at a minimum sustaining property values.

Further, Lighthouse Wind does not make, nor are they required to make under Article 10 regulations, any guarantee to property values.

As stated in Section 2.12.1.1 of the PSS, Lighthouse Wind recognizes that tourism is an important industry for this region. The Socioeconomic Assessment will evaluate the potential effects of the proposed Project on tourism and will be presented in Exhibit 27 of the Certificate Application.

The assessment to address potential impacts to community character is scoped and described in Section 2.1 of the PSS and will be further addressed in Exhibit 4 of the Certificate Application.

13. Geology, Seismology, and Soils

Comments in this area focused on issues such as blasting and pile driving; impacts to private wells and septic systems, public roads, and infrastructure from vibration during construction and operation of the facility; and requests for additional information on geotechnical surveys to be included in the Application for purposes of evaluating subsurface conditions in the Project Area.

Summary of Responses:

Lighthouse Wind will prepare a geotechnical investigation protocol to be presented in the Certificate Application. Site-specific methods and protocols will be developed based on Project layout design and will be sufficient to evaluate existing geology and soil conditions. Results of preliminary geotechnical investigations, including boring logs and analysis conducted will be presented in the Application at Exhibit 21. The Application will also include a description of excavation techniques and designation for storage areas.

An assessment of soil characteristics and suitability for construction will also be included in the Certificate Application, as well as an evaluation of suitable foundations based on site-specific information obtained from a preliminary geotechnical investigation.

The Certificate Application will include an evaluation of seismic vulnerability based on turbine specifications, regional and landscape-scale information available from public sources, and site-specific geology and soil information obtained from a preliminary geotechnical investigation. Consideration of base isolators and seismic loading testing are outside of Article 10 regulations and will therefore not be included in the Certificate Application.

As indicated in the PSS, the Certificate Application will include a preliminary blasting plan, if blasting is required, which will include an assessment of the potential impacts to nearby structures, buried infrastructure, and other improvements that may be present in the affected area.

Information regarding topsoil de-compaction procedures and mitigation measures will be included in the Certificate Application.

14. Water Resources

Commenters raised concerns about potential impacts to groundwater, surface water, and drinking water wells from excavation activities, blasting and vibration; potential degradation of water resources from the use of concrete foundations; potential stormwater impacts and impacts to drainage tiles; and other effects to water-related resources, such as recreational opportunities and tourism.

Summary of Responses:

Lighthouse Wind is committed to ensuring the protection of public drinking water supplies,²¹ groundwater,²² and the Project areas water resources. Impacts to waterways, groundwater, fish, recreational opportunities, and socioeconomics will be assessed as described in the PSS and any adverse impacts will be presented in the Certificate Application.

The Certificate Application will include an account of specific water resources, if any, that may be impacted, directly or indirectly, by the Project, including a discussion of the type and extent of such impacts. This will include a discussion of anticipated impacts, if any, to aquatic species during all life cycle stages. The Certificate Application will also include a discussion of specific measures to avoid or minimize impacts to surface waters and wetlands, which are expected to also limit potentially significant impacts to aquatic species. If further consultation with agencies and other stakeholders indicates a need for additional mitigation, any necessary mitigation measures will be thoroughly described in the Certificate Application.

In response to comments and stakeholder engagement, Lighthouse Wind has agreed to engage county Soil and Water Conservation District and Natural Resource Conservation Service personnel to ensure that impacts to water resources are minimized or avoided to the maximum extent practicable prior to submission of the Certificate Application.

It is expected the Project will avoid the four drain tiles mentioned as part of the storm sewer system in the Village of Barker. Lighthouse Wind will obtain information on these tile locations to ensure that adverse impacts can be avoided. Agricultural drainage will be protected as described in PSS Sections 2.1.4 and 2.1.5, and in accordance with the NYS Guidelines for Agricultural Mitigation for Wind Power Projects (2013). Specific protection measures and any necessary mitigation will be included in the Certificate Application along with the Preliminary Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan. Detailed engineering necessary for the Final SWPPP and the SPDES General Permit will not be possible until after Project certification. Preparation of the Final SWPPP will be consistent with the New

²¹ Information regarding impacts to public drinking water supplies will be provided in Exhibit 23 of the Certificate Application.

²² Information regarding impacts to groundwater will be provided in Exhibit 23(a) of the Certificate Application.

York State Stormwater Management Design Manual and the New York State Standards and Specifications for Erosion and Sediment Control.

Lighthouse Wind will consult with the NYS Department of Health, Niagara County Water District, and the Orleans County Department of Public Health regarding the presence of drinking water wells within the Project Area; this information will be included in the Certificate Application. Public and private water wells, including but not limited to agricultural-use wells, will be identified within the facility area and within a one-mile radius of the Project Site, as required by 16 NYCRR § 1001.23. Wells will be identified by analyzing public and private water well databases (to the extent available) and in coordination with local and/or state agencies, as well as affected landowners. These resources will be documented within the Article 10 Application, Exhibit 23, in conjunction with mitigation or avoidance measures to avoid impacts to these resources.

It is not anticipated that any of the very localized changes in groundwater associated with turbine foundations would affect any groundwater receptors such as private and public water wells, as setback requirements for turbines would help to protect these resources from any potential change in groundwater flow. Further information regarding the Project's potential impacts on groundwater will be provided within the Article 10 Application. Groundwater elevation data will be collected and analyzed in conjunction with geotechnical borings to be conducted for the Project. More information on potential impacts to surface water and groundwater will be provided within the Article 10 Application, Exhibit 23. Decomposition activities, which help to reduce the impacts on groundwater recharge and surface water infiltration, will also be discussed in the Application, Exhibit 21.

Construction of the Project will disturb more than one acre of land and, as a result, will require a State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. The SPDES general permit will require a final Stormwater Pollution Prevention Plan (SWPPP) and a sediment and erosion control plan consistent with the New York State Stormwater Management Design Manual and the New York State Standards and Specifications for Erosion and Sediment Control. A Preliminary SWPPP will be included in the Certificate Application and a Final SWPPP will be prepared during final engineering prior to Project construction. The Final SWPPP will include post construction measures for stormwater control and monitoring.

Typical stormwater control measures will be provided in the Preliminary SWPPP with the Certificate Application. Specific stormwater control measures and Best Management Practices will be provided in the Final SWPPP. Final engineering of the Project will not occur until after certification. At this point hydrologic models will be used to calculate pre- and post-construction

runoff rates in order to compare existing and proposed conditions. These results will be used to prepare the Final SWPPP in accordance with the SPDES General Permit.

A map of surface waters will be provided in the Certificate Application, as required by 16 NYCRR § 1001.23(b). The hydrological connection of surface waters, wetlands, and groundwater regarding impacts will be identified in the Certificate Application.

Site-specific soil and ground water information will be obtained from the geotechnical investigation described in the PSS. A geotechnical investigation protocol will be prepared by a qualified engineer and presented in the Certificate Application.

Blasting will be further discussed within the Article 10 Application, Exhibit 21. Included with the discussion will be an assessment of potential impacts of blasting to environmental features. Wetland and stream crossings in addition to any applicable buffer zones on wetlands and or streams would be discussed at more length and detail within Exhibits 22 and 23 of the Article 10 Application.

As stated in the PSS, wetland and stream field delineations will be conducted within 100 feet of planned access road centerlines/buried interconnects and within a 200 foot radius of planned turbine locations. Lighthouse Wind would be willing to commit to extending this commitment to include delineations for all surface water bodies (including streams) be conducted within 100 feet of all proposed construction work areas and 200 feet from planned turbine locations. Lighthouse Wind plans to raise this matter during the stipulations process.

After stream delineations and finalization of a layout, if any NYSDEC regulated streams will be crossed or disturbed or if the Project requires any fill to be placed within NYS protected waters, sufficient information will be included in the Certificate Application to assess conformance with New York Environmental Conservation Law Article 15 (Protection of Waters). It is expected the procedural requirements of an Article 15 permit will be supplanted by the Article 10.

Lastly, a few commenters expressed concerns regarding potential impacts to water resources resulting from the concrete bases of the turbines. Concrete is used in construction of drinking water facilities, dams, bridges, and fish holding tanks without adverse environmental effects. Concrete has been used for centuries to build structures over aquifers without contaminating water tables or groundwater resources. In areas of high soils acidity, concrete mixes are generally designed to withstand sulphate attack. The soils within the Project Area would be analyzed for geotechnical and chemical characteristics prior to construction and any required modifications (to adjust for localized soil conditions) to the concrete mixes would be made prior to construction therefore limiting or even eliminating the likelihood of alkaline leaching. It is not

expected that effects of leaching would have any significant effect on the local soil or groundwater conditions. This issue will be addressed in the Application, at Exhibit 23.

In response to comments on this topic area, Lighthouse Wind will provide or stipulate to:

- Consult with landowners, county Soil and Water Conservation Districts and Natural Resource Conservation Service, and the state Department of Agriculture and Markets to identify and assess subsurface drainage systems and drinking water wells;
- Perform a survey of drinking water wells in the vicinity of potential blasting sites;
- Incorporate the NYSDEC Best Management Practices for Stream Crossings;
- Correct the PSS statement to indicate that the Golden Hill Creek classification is C(T).

Conclusion and Next Steps

As noted in the Introduction above, following the filing of this PSS Comment Response, Lighthouse Wind intends to commence the stipulations process with stakeholders who wish to participate therein. Items which are identified in the above sections as items Lighthouse Wind will provide during the PSS Comment Response, commit to during study periods, and/or specifically provide in the Certificate Application would be appropriate matters for which stipulations could be discussed. Lighthouse Wind expects it to commence stipulations discussions in March 2016.