NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

CASE 16-F-0559 - Application of Bluestone Wind, LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the Bluestone Wind Farm Project Located in the Towns of Windsor and Sanford, Broome County.

NOTICE OF SCHEDULE FOR FILING EXCEPTIONS

(Issued October 1, 2019)

Attached is the Recommended Decision of Presiding Examiner Sean Mullany, Administrative Law Judge of the Department of Public Service, and Associate Examiner Daniel P. O'Connell, Administrative Law Judge of the Department of Environmental Conservation, which is hereby issued for exceptions pursuant to 16 NYCRR §4.10. Briefs on exceptions are due electronically to the Secretary and to all parties on October 21, 2019.

Briefs opposing exceptions are due on November 5, 2019. The parties' briefs should adhere to the guidelines for filing documents with the Secretary (on the left of the home page, www.dps.ny.gov, click on "Filing Guidelines") and to the requirements of Rule 4.10.

(SIGNED) KATHLEEN H. BURGESS
Secretary

NEW YORK STATE BOARD ON ELECTRIC
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RECOMMENDED DECISION

BY

PRESIDING EXAMINER SEAN MULLANY,
ADMINISTRATIVE LAW JUDGE, DEPARTMENT OF PUBLIC SERVICE

AND

ASSOCIATE EXAMINER DANIEL P. O'CONNELL,
ADMINISTRATIVE LAW JUDGE, DEPARTMENT OF ENVIRONMENTAL CONSERVATION

October 1, 2019:

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I. INTRODUCTION

This Recommended Decision (RD) concerns the application of Bluestone Wind, LLC (Bluestone or the Applicant) to construct and operate a proposed wind farm electric generating facility in the Towns of Sanford and Windsor, Broome County, New York (the Project). After considering the record compiled over a three-day evidentiary hearing in July 2019, briefs of the parties, public comments, Article 10 of the New York Public Service Law (PSL), and all other applicable laws and regulations, the Presiding Examiner, Sean Mullany of the Department of Public Service (DPS), and Associate Examiner, Daniel P. O'Connell of the Department of Environmental Conservation (DEC), recommend that the New York State Board on Electric Generation Siting and the Environment (the Board) issue a conditional Certificate of Environmental Compatibility and Public Need (Certificate) to the Applicant to proceed with its

proposal. This RD provides our reasoning and recommended Certificate Conditions, which are set forth in Attachment A.

II. BACKGROUND

A. Description of the Project

The Applicant proposes to construct a commercial-scale wind power project consisting of up to 27 wind turbines[1] with a total capacity of up to 124 megawatts (MW) (the Project or the Facility).[2] Turbines would be located in the Towns of Sanford (23 turbines) and Windsor (4 turbines), Broome County. The turbines would be located on privately leased property that would continue to be used for farming, forestry and other compatible purposes after the Facility is constructed.[3] Bluestone states that it has not yet selected a specific turbine model for the Facility due to market factors such as availability and cost. According to Exhibit 6 of the Application, Bluestone has determined that the following turbine models would be suitable for the Facility: GE 3.8-13.7; Nordex N149/4.0-4.5; Senvion M148-4.2; Siemens Gamesa SG4.2-145; and Vestas V150. These turbine models have a rated power level ranging between 3.8 MW and 4.5 MW, a hub height ranging from 125 meters (410 feet) to 131 meters (430 feet), a rotor blade diameter of between 137 meters (449 feet) and 150 meters (492 feet), and a total height (measured from the base of the tower

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1 In an application update filed on April 19, 2019 (Hearing [Hrg.] Exhibit [Exh.] 7, Application [App.] Update Overview [Update], p. 2), Bluestone reduced the number of proposed turbines from 33 to 27.

2 Hrg. Exh. 2, App. Exh. 2, p. 1.

3 Hrg. Exh. 2, Fig. 2-2 (Map of Facility Site).

to the tip of the blade oriented in its highest position) ranging between 200 meters (655 feet) and 205 meters (673 feet).[4]

The Facility access roads will be approximately 16 miles long. Temporary access roads will be gravel surfaced. After construction of the Facility is completed, the roads would be used as permanent access roads that will be gravel-surfaced and typically 20 feet wide.[5] The Facility would include about 40 miles of underground collection lines that would transfer power from the turbines to the collection substation.[6] The collection substation would be located at the terminus of the Facility's 34.5 kilovolt (kV) electrical collection system and would include a 10 MW battery storage system. The point of interconnection (POI) substation would be located adjacent to an existing New York State Electric and Gas (NYSEG) transmission line. The substations would be connected by a 200-foot long span of overhead 115 kV transmission line.[7]

Two meteorological towers are proposed. One in the Town of Windsor, and the other in the Town of Stanford. Each tower would be about 130-meters (426-feet) tall and would collect wind data and support performance testing of the Facility.[8] The operation and maintenance (O&M) building would be about 5,000 square feet and would be constructed in the Town of Sanford next to a planned laydown yard. The O&M building would

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4 Hrg. Exh. 7, App. Update, p. 7 and Table 6-1.

5 Hrg. Exh. 2, App. Exh. 2, p. 1; Hrg. Exh. 7, App. Update, pp. 1-3 and Figure 3-1.

6 Hrg. Exh. 2, App. Exh. 2, p. 1; Hrg. Exh. 7, App. Update, Figure 3-1.

7 Hrg. Exh. 7, App. Update, p. 1.

8 Hrg. Exh. 7, App. Update, p. 1.

house permanent staff offices, and store maintenance equipment and supplies.[9]

Two temporary construction laydown yards would be established to accommodate construction trailers, supplies, large project components, and parking for construction workers. The first laydown yard would be located adjacent to the proposed O&M building in the Town of Sanford. It would include space for a temporary concrete batch plant, if needed. The second laydown yard would be located on the south side of William Law Road across from the original laydown yard.[10]

B. Procedural History

On October 4, 2016, Bluestone, a wholly-owned subsidiary of Calpine Corporation, filed a letter to the Secretary of the Board, indicating its intent to apply for an Article 10 Certificate for an approximately 125 MW wind energy project located in the Towns of Windsor and Sanford, Broome County, New York. The October 4, 2016, letter also served as a formal submittal, pursuant to §1000.4 of Part 16 of the Official Compilation Codes, Rules and Regulations of the State of New York (NYCRR), of the Applicant's proposed Public Involvement

[9] Hrg. Exh. 7, App. Update, p. 1.

[10] Hrg. Exh. 7, App. Update, pp. 2-3.

Program (PIP) Plan.[11] After amendment and revision pursuant to DPS review,[12] the Applicant filed its final PIP Plan on December 2, 2016.[13]

On August 18, 2017, Bluestone filed its Preliminary Scoping Statement (PSS).[14] The PSS indicated that Bluestone's proposed wind facility, which would generate up to 124 MW, would be located within leased private lands in the Towns of Sanford and Windsor and would consist of up to 40 wind turbines with associated collection lines, access roads, and other temporary

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[11] 16 NYCRR §1000.4, entitled "Public Involvement," requires Article 10 applicants to submit a proposed PIP plan to DPS for review as to its adequacy at least 150 days prior to the submittal of a preliminary scoping statement. As stated in 16 NYCRR §1000.4(a), the public involvement process is intended "to ensure throughout the Article 10 process that the Board is fully aware of the concerns of stakeholders and that the Board's consideration of the application is not delayed." Accordingly, 16 NYCRR §1000.4(a) requires "applicants to actively seek public participation throughout the planning, pre-application, certification, compliance, and implementation process" and "to encourage stakeholders to participate at the earliest opportunity in the review of the applicant's proposal so that their input can be considered."

[12] Under 16 NYCRR §4.3(d), DPS Staff counsel must submit a list of trial staff to the hearing officers. Pursuant to 16 NYCRR §1.2, persons so designated serve as an independent arm of DPS to prosecute a matter before the Siting Board. Generally, in the pre-application stage of an Article 10 matter, no trial staff is designated. Thus, during that stage, any actions taken by DPS may properly be considered actions of the entire Department. However, the trial staff team that is designated after an application is filed acts as any other party to the proceeding. In this RD, "DPS Staff" refers to positions taken by trial staff, as opposed to DPS in general. We use the same convention for other State agencies to note the same distinction.

[13] DMM Item No. 6, Bluestone Wind Public Involvement Program Plan (filed December 2, 2016).

[14] DMM Item No. 12, Preliminary Scoping Statement (August 2017) (PSS).

and permanent supporting infrastructure. Bluestone also proposed to construct a new POI substation that would connect to an existing 115 kilovolt (kV) transmission line between Afton and Stilesville in the Town of Sanford, which is owned and operated by the NYSEG.[15]

The PSS is part of the pre-application procedures prescribed by the Board in 16 NYCRR §1000.5. During the pre-application scoping phase, the project applicant, DPS, other statutory parties, and interested participants determine the nature and scope of the studies that the applicant must conduct to support its Article 10 application. The scope of the studies, documented in written stipulations, determine what information the project applicant must include in its formal application. In general, the applicant's studies should evaluate the potential impacts of the project on the environment, public health, and other public interest factors. When the application is submitted, stipulations, if any, are used in conjunction with 16 NYCRR Part 1001, which specifies the required contents of an Article 10 application, to determine whether the application complies with PSL §164.

When Bluestone filed its PSS, it established an intervenor fund of $43,750 at the pre-application stage of the review process. Stakeholders provided comments on Bluestone's PSS on September 8, 2017. Bluestone responded to comments about the PSS on September 29, 2017.

The Secretary issued a notice September 1, 2017, announcing a procedural conference to be held on October 16, 2017, in the Village of Windsor to consider requests for pre-application intervenor funding and to initiate the stipulation process. Prior to the procedural conference, the Towns of

[15] DMM Item No. 12, PSS, p. 170; see also Hrg. Exh. 2, App. Appendix D, p. 2, CONFIDENTIAL.

Sanford and Windsor timely filed a joint request for intervenor funding and requested the entire amount of the pre-application intervenor funds. The Delaware-Otsego Audubon Society (DOAS) also timely filed a request for $10,548.

The pre-application conference convened as scheduled, and representatives from the Applicant, DPS, the Towns of Windsor and Sanford, and DOAS attended. After a discussion, the Presiding Examiner issued the Towns an intervenor award of $33,200, and DOAS an award of $10,550. Subsequently, the Examiners issued a ruling on November 21, 2017, confirming these awards.[16]

Following the October 16, 2017 pre-application conference, the Applicant, DPS, the New York State Department of Environmental Conservation (DEC), the New York State Department of Health (DOH), the New York State Department of Agriculture and Markets (DAM), DOAS and the Towns began negotiating Stipulations regarding the scope and methodology of studies to be included in the Application. On September 6, 2018, the Applicant filed stipulations executed by the Applicant, DPS, DEC, DOH, DAM, DOAS and the Towns.[17]

On September 18, 2018, Bluestone filed its Application pursuant with the Secretary of the Board on Electric Generation Siting and the Environment (Siting Board).[18] The Application was reviewed by the Chair of the Siting Board and additional information was requested from the Applicant related to the Application and the Facility. On December 10, 2018, the Applicant submitted a supplement to the Application.[19] On

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16 DMM Item No. 48, Ruling on Intervenor Funding, issued November 21, 2017.

17 Hrg. Exh. 1.

18 Hrg. Exh. 2 and 3.

19 Hrg. Exh. 4 and 5.

December 27, 2018, the Siting Board determined that the Application complied with PSL §164.[20] On December 31, 2018, Bluestone filed a notice of impending settlement negotiations pursuant to 16 NYCRR §3.9.

On January 11, 2019, the Secretary issued a notice announcing information forums and public statement hearings to be held on January 29, 2019. However, due to hazardous weather conditions, the Secretary issued a notice on January 28, 2019, re-scheduling the information forums and public statement hearings to February 19, 2019.

As part of its Application, Bluestone submitted the required intervenor fee of $124,000. On January 14, 2019, the Secretary issued a notice of the availability of intervenor funds for the application phase of the proceeding and invited requests for funding on or before February 13, 2019. Two timely requests for intervenor funding were filed, by the Towns and DOAS. No objections were raised with respect to the timely funding requests submitted by the Towns and DOAS.

On February 1, 2019, the Secretary issued a notice announcing a procedural conference to be held in the Village of Windsor on February 20, 2019, the day after the public statement hearings. At the February 20, 2019, procedural conference, the Examiners orally awarded intervenor funding jointly to the Towns of Sanford and Windsor in the amount of $84,750, and to the DOAS, in the amount of $18,000. That ruling was memorialized in a written ruling subsequently issued on March 7, 2019.[21]

A total of $21,250 remained available to eligible local parties, and a second notice of the availability of intervenor funding was issued on March 6, 2019. Requests for

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[20] Hrg. Exh. 6.

[21] DMM Item No. 157, Ruling on Intervenor Funding, issued March 7, 2019.

funding were due March 27, 2019. In response to this second notice, DOAS timely submitted a second request for funding and a newly-formed local citizens group, Broome County Concerned Residents (BCCR), also timely requested funding. On April 5, 2019, the Examiners issued a second ruling on intervenor funding, which awarded an additional $10,625 to DOAS and $10,625 to BCCR.[22]

As noted above, Bluestone filed a revised and updated description of the Facility design and layout, and an updated Facility map on April 19, 2019. Bluestone summarized the changes to the Facility design as follows: (1) eliminate six of the proposed turbines (T-11, T-16, T-19, T-22, T-30 and T-32) and the related access roads and collection; (2) shift one turbine (T-1) to comply with local setback provisions; (3) shift one turbine (T-25) to avoid impacts to a microwave path; (4) proposed an additional laydown yard; and (5) proposed modifications to the collection line crossing methodology at Oquaga Creek, from horizontal directional drilling to a hybrid crossing method, among other changes.[23]

The revised proposal did not involve any change with respect to notifications to host or adjacent municipalities or additional municipal stakeholders as a result of these modifications. Bluestone stated that, overall, potential environmental impacts would be reduced through the updated layout and the elimination of impacts associated with the 6 turbines that had been removed from the Facility design. Bluestone stated that the modified proposal for the collection line crossing methodology was in response to issues raised by parties to the proceeding.

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[22] DMM Item No. 187, Second Ruling on Application Stage Intervenor Funding, issued April 5, 2019.

[23] Hrg. Exhs. 7 and 8.

Under the original schedule, established by ruling issued March 7, 2019, the parties' direct testimony and exhibits were due May 24, 2019. The Examiners granted DEC Staff's request for a two-week extension to promote settlement discussions, and, in a ruling issued May 22, 2019, modified the schedule.

Pursuant to the May 22, 2019 ruling, the following parties filed direct testimony and exhibits on June 7, 2019: (1) DPS Staff; (2) DEC Staff; (3) DOAS; (4) BCCR; and (5) Heather D. DeHaan (Intervenor DeHaan). On June 21, 2019, the following parties filed rebuttal testimony and exhibits: (1) the Applicant; (2) DPS Staff; (3) DEC Staff; (4) DOAS; (5) BCCR; and (6) Intervenor DeHaan.

The evidentiary hearings took place over three days, on July 9 through July 11, 2019. A bench ruling on July 11, 2019,[24] granted BCCR's request for a one-week extension of the deadline for filing initial post-hearing briefs and granted a corresponding extension of the deadline for the filing of reply briefs.

Before and after the evidentiary hearing, the parties engaged in extensive motion practice, which included a motion by DEC Staff for a delay in the schedule to allow further settlement discussions; a motion by Bluestone to exclude portions of the direct testimony and exhibits filed by parties DeHaan and BCCR; a motion by BCCR to postpone the evidentiary hearing; a motion by Intervenor DeHaan to restore stricken portions of her testimony; a motion by Intervenor DeHaan to offer new evidence relating to one of her arguments; a motion by BCCR for additional time to file post-hearing briefs; motions by BCCR and Intervenor DeHaan for additional time to provide errata

[24] Tr. 1093-1097.

on the evidentiary hearing transcript; a motion by BCCR by for a three-month stay of the proceedings; a motion by Bluestone to exclude portions of the reply briefs filed by parties Intervenor DeHaan, BCCR, and DPS Staff; and a motion by Intervenor DeHaan to strike a portion of Bluestone's reply brief.[25]

The evidentiary record includes 2,226 pages of hearing transcripts and 147 exhibits.[26] Initial post-hearing briefs were filed August 12, 2019, and reply briefs were filed August 23, 2019.[27]

C. Public Involvement and Comment

PSL §163(3) requires that the Department of Public Service and any person proposing to submit an application pursuant to Article 10 provide opportunities for citizen involvement in order to facilitate the pre-application and application processes and enable citizens to participate in decisions that affect their health and safety. The primary goals of the citizen participation process are to facilitate communication between the applicant and interested or affected persons and to foster the active involvement of the interested or affected persons.

There is no statutory requirement that, prior to issuing a Certificate, the Board make express findings with respect to public involvement in the Article 10 review process. The implementing regulations require that Application Exhibit 2 briefly describe the applicant's public involvement program

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[25] Where necessary, these various motions will be addressed in the body of this RD.

[26] DMM Item No. 299, Ruling Denying Motion to Admit, issued August 16, 2019.

[27] BCCR and DOAS late-filed their reply briefs on August 26, 2019. No party objected, and the late filings were allowed by the Examiners.

before the application was submitted, identify significant issues raised by the public and affected agencies, describe the applicant's response and summarize any changes made as a result of the public involvement program.[28] The regulations also require Exhibit 2 to briefly describe the public involvement program that will be conducted after an application is submitted.[29]

Pre-Application Phase

This Article 10 proceeding commenced on October 4, 2016, with the filing of the Applicant's Public Involvement Program (PIP) plan. After review and comment from DPS, a Final PIP was filed on December 2, 2016. Bluestone then consulted with stakeholders regarding the Article 10 process, identification of resources and scope of study, and early-stage development of the Facility.[30] On August 18, 2017, after the statutory notice and publication, the Applicant filed a Preliminary Scoping Statement (PSS).[31] In conjunction with the PIP, Bluestone developed a master stakeholder list that included affected federal, State and local agencies, municipalities and school districts, public interest groups, utility companies, and tribal representatives, as well as adjacent landowners

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28 16 NYCRR §1001.2(c).

29 16 NYCRR §1001.2(d).

30 Hrg. Exh. 2, App. Exh. 2(c).

31 Tr. 2125-2126; Hrg. Exh. 133 (Bluestone Public Involvement Program). The PIP has been available on the Siting Board's Document and Matter Management (DMM) system and on the Facility-specific website maintained by the Applicant, and paper copies were provided to two local repositories, the Windsor Library and the Deposit Free Library. The Applicant completed the consultations identified in the PIP and has held additional stakeholder meetings, discussions and outreach. These efforts are summarized in the PIP Tracking Logs filed by the Applicant on the DMM system.

identified based on the location of components within the Facility Site. The Master Stakeholder list expanded as the layout of the Project was determined and participating and adjacent landowners were identified.[32] After the PIP was finalized, the Applicant consulted with stakeholders regarding the Article 10 process, the identification of resources and scope of pre-application study, and early-stage development of the Facility.[33]

Throughout the pre-application, scoping and application phases, Bluestone implemented its public involvement program.[34] The Applicant established a Project website, document repositories, and a toll-free telephone number for public access to Project Information.[35] Throughout the process, the Applicant has completed a log recording its consultation and outreach activities, and the logs are included in the case file on the Department's website.[36] Bluestone encouraged participation from municipal officials and affected local, State and federal agencies, and as evidenced in the meeting tracking logs, sought input from these stakeholders. In addition, the Applicant attended local town board meetings, communicated with utility

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[32] Hrg. Exh. 2 and 3, Appendix B (Master List of Stakeholders); Tr. 2124-2125.

[33] Hrg. Exh. 2, App. Exh. 2(c). With its application, Bluestone filed an updated Master Stakeholder list which, based on DPS Staff's recommendations, included additional landowners that were identified through a survey regarding private wells and through the outreach to visual stakeholders. Tr. 1475. Although DPS Staff testified that there were certain elements of the PIP that could have been implemented more successfully by Bluestone, Tr. 532-540, 1471-1473, neither Staff nor any other party has identified any legal deficiencies with Bluestone's public outreach efforts.

[34] Tr. 1470.

[35] Tr. 1469.

[36] Tr. 1469-1470.

representatives, school districts, emergency response organizations, and other stakeholders by telephone, letter and email, and hosted two open houses for the public between January 2017 and November 2017.[37] The Applicant also participated in public hearings with the Towns of Sanford and Windsor about height variance and meteorological tower issues.[38]

On August 18, 2017, Bluestone filed its PSS. Notice of the filing of the PSS was published by Bluestone in local newspapers. A notice of the filing of the PSS and of the opportunity for public comment was also issued by the Secretary. Comments on the PSS were received, and on September 29, 2017, Bluestone's Response to Comments was filed and served in the same manner as the PSS. Thereafter, a pre-application procedural conference was held on October 16, 2017, in the Village of Windsor. That conference was held on notice and was open to the public. Attendees included the Applicant, DPS Staff, representatives of the Towns, and members of the DOAS. Immediately following the pre-application procedural conference, the Applicant, DPS, DEC, DOH, DAM, DOAS, and the Towns began negotiating pre-application stipulations as to the scope and methodology of studies to be conducted prior to the filing of the application.

Application Phase

In accordance with the Article 10 regulations, notice of Bluestone's intention to file the formal Article 10 application was published in local newspapers.[39] The Application was filed on September 18, 2018. A copy of the Application was served on each municipality in which any portion of the Facility

[37] Tr. 1470-1471.

[38] Tr. 1471.

[39] 16 NYCRR §1000.7.

is located, as well as the persons and agencies specified in the regulations.[40] The Application was supplemented by filings made on December 10, 2018 and December 21, 2018.

After the Application was deemed to be in compliance as of December 27, 2018, the adjudicatory phase of the Article 10 review process began. After issuance of a public notice, two information forums, followed by on-the-record public statement hearings were held in the Village of Windsor on February 19, 2019. Notice of the forums and public statement hearings was published in several local newspapers and a copy of the notice was served on all stakeholders, including host and adjoining landowners. Also, a link to the notice was published on Bluestone's Project website. An on-the-record a procedural conference was held the next day, again in the Village of Windsor. That conference was open to the public and was separately noticed. At that conference, the Examiners identified the parties to the proceeding, discussed issues for adjudication, and discussed the litigation schedule with the party representatives.

Public Involvement Activities of the Department of Public Service

DPS Staff's Consumer Services Panel testified about the efforts of the Siting Board itself, through the offices of the Department of Public Service, to provide notice and opportunity for public involvement at multiple points throughout this proceeding. As part of the Document and Matter Management (DMM) system on the Department's website, the Department maintains a list of parties to the case, as well as individuals and organizations that request to be informed of Project

[40] 16 NYCRR §1000.6.

filings.[41] Entities and individuals on the party and service lists for this case were advised, by mail or email, of filings, rulings and notices of Project milestones, such as the availability of intervenor funding. The lists were also used to inform parties of Project activities, such as comment periods, procedural conferences, technical conferences and public statement hearings.[42] After the Chair of the Siting Board issued a letter to the Applicant indicating that the Application was in compliance, a date was fixed for the public statement hearings. A notice and a press release were issued by the Siting Board in advance of the informational sessions and public statement hearings. In addition, a letter and fact sheet describing the Project was mailed to approximately 135 municipal and elected officials, agencies, and community-based organizations in the Project area.[43] The Presiding Examiner issued a letter-ruling on January 11, 2019, directing the Applicant to publish a copy of the Notice of Informational Forums and Public Statement Hearings in three local newspapers and to serve a copy of the notice on all stakeholders, including host and adjacent landowners to ensure that potentially affected persons were provided enough notice. In addition, the Applicant was directed to file with the Secretary affidavits of publication and service and arrange for a link to the notice to be published on its website.[44]

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41 Tr. 1477.

42 Tr. 1477.

43 Tr. 1478.

44 Tr. 1478-1479. As noted above, the initially-scheduled information sessions and public statement hearings were re-scheduled due to potentially hazardous weather conditions. A new notice and press release were issued in advance of the re-scheduled information sessions and PSHs. Bluestone published notice of the re-scheduled events in local newspapers.

The Staff Consumer Services Panel testified that the Application includes public involvement procedures regarding notification of the public of project milestones and site activities, as well as development and implementation of a complaint resolution plan.[45] Staff also noted in testimony that the Staff Policy Panel's Proposed Certificate Conditions include conditions regarding public notifications and complaint resolution procedures that will ensure that complaints regarding the Facility are handled consistently and ensure that the public continues to receive information about the Project.[46]

Over 280 public comments were submitted throughout the process to date, starting in September 2017, and continuing through September 2019. Public comments have been received by mail, by electronic mail, and in person at the on-the-record public statement hearings held by the Siting Board on February 19, 2019, at the Windsor Community House Meeting Room in Windsor, New York.[47] Copies of these comments have been maintained for public review on the Department's DMM system, also under the Bluestone Wind case file.[48]

Approximately twice as many commenters oppose the Project as support the Project.[49] The majority of comments opposing the Project expressed concerns about adverse

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45 Tr. 1482.

46 Tr. 1482.

47 Tr. 1483. At a public statement hearing held in a separate but related case on September 12, 2019, the overwhelming majority of commenters (29 out of 33) opposed Bluestone's petition for a CECPN in this case. See Case 19-E-0102, Petition of Bluestone Wind, LLC for an Original Certificate of Public Convenience and Necessity and for an Order Granting Lightened Regulation.

48 Tr. 1483.

49 Tr. 1484.

environmental impacts, harmful impacts to public health, objections to the Project's impacts on the local communities, and objections about the lack of transparency on the part of the Applicant. Opposing commenters strongly believe that the long-term negative impacts of the Project will far outweigh any short-term financial benefits. Opponents cited long-term negative impacts on human health, local wildlife, the eradication of the unspoiled natural beauty of the area, the potential for elimination of local tourism, and the negative impacts on local property values.[50]

Many members of the public oppose the Project for reasons related to potential adverse health impacts due to noise, vibration, and shadow flicker. Opponents cited health concerns ranging from sleep disturbances, psychological impairment, dizziness, headaches, tinnitus, panic episodes, ear pressure, visual blurring, irritability, and cardiac problems.[51] Opposing commenters also cited adverse impacts on local drinking water wells and groundwater. They cite the construction-related blasting and the large amounts of cement that will be used for the turbine foundations. Opponents also noted that setbacks must be large enough to ensure the health, safety and welfare of the local residents.[52] Opponents raised concerns about the use of chemicals to de-ice the turbine blades, and the risk this poses to drinking water wells, groundwater, surface waters, humans, animals and flora.[53] Other comments in opposition observed that, even without being built, the Project has disrupted the community by pitting landowners who will benefit

[50] Tr. 1485-1486.

[51] Tr. 1487.

[52] Tr. 1487-1488.

[53] Tr. 1488.

monetarily against those that choose not to participate but will suffer the negative impacts of the Project nonetheless. Some commenters argued that any properties harmed by the Project, including non-participating landowners, should be financially compensated by the Applicant.

Many supporting commenters referred to the Project's economic benefits to the local area, the support it will provide for New York State's transition to additional renewable energy sources and the potential tax relief associated with the Project.[54] Supporters noted that the area surrounding the Project is economically depressed and that the Project will foster much needed economic development through increased tax revenues, the creation of jobs, and an increased demand for local goods and services.[55] Supporters also noted that the Project will support education and provide financial support for county and local services. They noted the royalty payments or rental fees that participating landowners would receive, based on agreements reached with the Project developers. Supporters also noted that these new electric generating facilities would provide a replacement to older generation technologies in the State.[56]

Other supporting commenters cited a need to move towards clean energy and away from fossil fuels.[57] They noted that wind energy does not produce emissions and does not pollute the air like power plants that rely on the combustion of fossil fuels, such as coal or natural gas. Supporters noted that fossil fuel-based generation emits pollutants, in the form of

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[54] Tr. 1484.

[55] Tr. 1484.

[56] Tr. 1484-1485.

[57] Tr. 1485.

particulate matter, nitrogen oxides, and sulfur dioxide, that harm human health and cause environmental and economic damage. In contrast, supporting commenters observed, wind turbines do not produce atmospheric emissions that cause acid rain, smog, or greenhouse gases.[58]

There will be additional opportunities for public involvement during the certification and compliance stages of the Project. For example, Bluestone will be required to provide notice of Project milestones and other site-related activities.[59]

III. FINDING AND DETERMINATIONS

A. Article 10 Standards

On August 4, 2011, Governor Andrew Cuomo signed into law the Power NY Act of 2011 creating a new PSL Article 10.[60] The updated Article 10 recreates the Board and charges it with establishing rules and regulations relating to the procedures for certifying major electric generating facilities. Recognizing the multi-disciplinary breadth of such a charge, the Board is comprised of five permanent members: the Chair of the

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[58] Tr. 1485.

[59] Hrg. Exh. 10. See, for example, Proposed Certificate Conditions 20-26.

[60] L. 2011, c. 388 (effective August 4, 2011). NY Senate Bill No. S5844 and NY Assembly Bill No. A08510 of the 2011-12 Legislative Session. The Bill states that its purpose was, *inter alia*, to "reauthorize and modernize Article X of the Public Service Law, regarding siting of major electric generating facilities in a manner that enhances public participation and augments environmental justice." Between 1992 and 2003, PSL Article X set forth the process applicable to siting major electric generating facilities in New York. After Article X expired on January 1, 2003, the State Environmental Quality Review Act (Environmental Conservation Law [ECL] Article 8 [SEQRA]) and applicable permitting provisions of the ECL governed the decision-making and permitting for proposed siting projects.

DPS, who also serves as Chair of the Board; the Commissioner of Environmental Conservation; the Commissioner of Health; the Chair of the New York State Energy Research and Development Authority; and the Commissioner of Economic Development. To include local input into the Board's decisions, Article 10 also establishes two *ad hoc* board positions that are reserved for residents of the municipality in which a facility is proposed to be located, one appointed by the president *pro tem* of the Senate and the other by the speaker of the Assembly.[61]

Article 10 addresses the Legislature's desire to expand public participation in the process by providing intervenor funding earlier in the process and expanding its scope to include coverage of legal fees. Additionally, the new Article 10 includes a lower production threshold, one that applies at 25 MW instead of 80 MW.

Article 10 charges the Board to make specific findings before issuing a Certificate. Specifically, PSL §168(2)(a)-(d) requires that the Board make explicit factual findings as to the nature of the probable environmental impacts of the construction and operation of the facility, including the cumulative

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[61] PSL §160(4). Pursuant to PSL §161(2), shortly before receiving Bluestone's final PIP, the Secretary sent requests, dated November 30, 2016, to the municipal chief executive officers in the Project area seeking their nominations for *ad hoc* Board members. After the filing of the Applicant's PSS, the Chair of the Siting Board, via letters dated August 21, 2017, contacted the municipal chief executive officers in the Project area seeking their nominations for *ad hoc* Board members and also contacted the president *pro tem* of the Senate and the speaker of the Assembly to request that they each appoint an *ad hoc* Board member from the lists of nominees that were to be submitted to them by the municipal chief executive officers. By letter dated September 11, 2017, which was docketed on September 14, 2017, the president *pro tem* of the Senate appointed John Mauro of Deposit, New York, as an *ad hoc* Siting Board member. No other ad hoc appointments were made.

environmental impacts of the construction and operation of related facilities, and including impacts on (a) ecology, air, ground and surface water, wildlife, and habitat; (b) public health and safety; (c) cultural, historic, and recreational resources, including aesthetics and scenic values; and (d) transportation, communication, utilities and other infrastructure. The Board's findings must include the cumulative impact of emissions on the local community including whether the construction and operation of the facility results in a significant and adverse disproportionate environmental impact, in accordance with regulations regarding environmental justice issues promulgated by the Department of Environmental Conservation.[62]

Section 168(3) prohibits the Board from issuing a Certificate "unless the Board determines" that: the facility is a beneficial addition to, or substitution for, the electric generation capacity of the State; the adverse environmental impacts of the project's construction and operation have been adequately minimized or avoided to the maximum extent practicable; and, the construction and operation of the facility will serve the public interest. The Board also must determine that the facility is designed to operate in compliance with applicable State and local laws and regulations concerning, among other matters, the environment, public health and safety. To assist the Board in its local law determination, PSL §168(3) requires that the Board provide the affected municipalities an opportunity to present evidence on their own ordinances, laws,

[62] PSL §168(2)(d); see 6 NYCRR Part 487.

resolutions, regulations or other relevant local actions.[63] PSL §168(3) states that the Siting Board may not issue a Certificate unless it determines either that the facility does not result in or contribute to a significant and adverse disproportionate environmental impact in the community in which it would be located, or, if it does create such an impact, that the applicant will avoid, offset or minimize such to the maximum extent practicable for the duration of the Certificate.

Pursuant to PSL §168(4), the Board's conclusions under PSL §168(3) are to be supported by consideration of the state of available technology, the nature and economics of reasonable alternatives, the Board's PSL §168(2) findings on the project's environmental impacts, the impact of construction and operation of any related project facilities, the consistency of the construction and operation of the facility with the most recent State energy plan, and the impact on community character and whether the facility would affect communities that are disproportionately impacted by cumulative levels of pollutants. Finally, the Board may consider any other social, economic, visual or other considerations that it deems pertinent. We have examined the record evidence regarding these factors, where relevant, in our discussion of the PSL §168(3) determinations.

Burden of Proof

The applicant has the burden of proof to demonstrate that all findings and determinations required by Section 168 of the PSL can be made by the Board, and after the Board's jurisdiction has ceased, that all determinations required by the Commission

[63] Under PSL §166(1)(j), any municipality entitled to be a party to the proceeding that seeks to enforce any local ordinance or regulation "shall present evidence in support thereof or shall be barred from the enforcement thereof[.]"

may be made.[64] Whenever factual matters are involved, the party bearing the burden of proof must sustain that burden by a preponderance of the evidence unless a higher standard has been established by statute or regulation.[65] All evidence admitted into the record must be relevant and material; in this context, evidence is material only if it has the reasonable potential to affect the outcome of the Siting Board's findings or determinations under PSL §168.[66] The Siting Board may not rely on evidence introduced for the first time in a brief, briefs are not part of the evidentiary record.[67]

Balancing Required under PSL §168

If the Siting Board decides to grant a Certificate, it may impose such terms, conditions, limitations or modifications as the Siting Board, in its discretion, deem appropriate. The facility shall not thereafter be built, maintained or operated except in conformity with the terms, limitation, or conditions contained in the Certificate.[68] The Department of Public Service, or the Siting Board must monitor, enforce and administer compliance with any terms and conditions set forth in the Siting Board's order.[69]

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64 16 NYCRR §1000.12(b)(1).

65 16 NYCRR §1000.12(c).

66 16 NYCRR §1000.12((a)(2).

67 Under 16 NYCRR §1000.12(9), "briefs and other documents that attempt to persuade through argument are not evidence and may not be entered into the evidentiary record[.]" Therefore, issues raised only in brief and not supported by record evidence will not be used to inform the Board's decision.

68 PSL §162(1); see 16 NYCRR §1000.17(a) (A Certificate may only be transferred to a person who agrees to comply with the terms, limitations, or conditions contained therein).

69 PSL §168(5).

B. Proposed Certificate Conditions and SEEP Specifications

On June 6, 2019, the Applicant filed the Proposed Certificate Conditions ("Stipulated Certificate Conditions"),[70] including Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" ("Stipulated Site Engineering and Environmental Plan (SEEP) Specifications").[71] The Stipulated Certificate Conditions, including the Stipulated SEEP Specifications, reflect resolution of numerous issues through settlement discussions among the parties.[72] Specific exceptions to the proposed Certificate Conditions are noted by DPS Staff in Hearing Exhibit 13, and by DEC Staff in Hearing Exhibit 14.

According to the direct testimony of the DPS Staff Policy Panel, the Stipulated SEEP Specifications "reflect a version of Staff's SEEP Specifications previously proposed by Staff in several Article 10 proceedings that has been customized…for this case."[73] DPS Staff previously developed the SEEP Specifications to establish a set of guidelines for development of the SEEP, which would provide a single package, or set of packages if the Certificate Holder implements a phased approach for construction, of final maps, plans, diagrams, drawings, studies, reports and other documents demonstrating how the Certificate Holder would comply with the requirements of the Certificate or Order and how the Facility would be constructed. The purpose of the SEEP Specifications is to establish minimum requirements for the development of the SEEP, which would be required to be submitted as a Compliance Filing for review and

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70 Hrg. Exh. 10.

71 Hrg. Exh. 11.

72 DPS Staff Initial Brief, p. 8.

73 Tr. 1578-1579.

approval by the Siting Board pursuant to 16 NYCRR §1002.3. DPS Staff Policy Panel noted that while the SEEP Specifications previously proposed by DPS Staff in several other PSL Article 10 proceedings were "refined to address concerns and recommendations of several parties during settlement negotiations in this case, the substantive provisions of the document remain generally consistent with Staff's version."[74]

In response to the direct testimonies of DPS Staff Witness Davis and the DPS Staff Policy Panel, the Applicant included a revised redline version of the Stipulated SEEP Specifications as Exhibit WW-R1 to the rebuttal testimony of William Whitlock.[75] Witness Whitlock testified that the revised Stipulated SEEP Specifications address the issues identified by Witness Davis and the changes would allow DPS Staff to agree to SEEP Specifications in its entirety.[76]

DPS Staff reviewed the redline changes proposed in the revised Stipulated SEEP Specifications and concur that the modifications adequately address the concerns identified by Witness Davis. In its initial brief, DPS Staff agreed to the revised Stipulated SEEP Specifications, as proposed in Hearing Exhibit 129.[77] Intervenor DeHaan and DOAS do not discuss the SEEP in their respective initial briefs. BCCR noted that the SEEP is another example of the many "generalized" documents that are part of the application materials.[78]

In its reply brief, the Applicant argued that the Examiners should accept the revised version of the SEEP

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74 Tr. 1579.

75 Hrg. Exh. 129.

76 Tr. 2176-2177.

77 DPS Staff Initial Brief, p. 10; see also DEC Staff Initial Brief, pp. 2, 4.

78 BCCR Initial Brief, p. 68.

identified as Hearing Exhibit 129. The Applicant noted that DPS Staff accepted the revisions in its initial brief.[79] DPS Staff acknowledged their acceptance in the reply brief.[80] As discussed further below, DEC Staff recommended a modification to Section B-18(a)(iii) of the SEEP Specifications.[81] Intervenor DeHaan and DOAS did not comment about the SEEP in their respective reply briefs.

In its reply brief, BCCR characterized the SEEP as a guidance document and argued that a guidance document is not a plan.[82] BCCR argued further that the proposed SEEP (either Hearing Exhibit 11 or 129) does not comply with 16 NYCRR §1002.2(i), which outlines the standard of review for compliance filings. According to BCCR, nothing in the Applicant's Appendix A SEEP makes it reasonable or "reasonably assures compliance with the certificate." BCCR argued further that a plan, such as the proposed SEEP, to meet the guidelines does not assure compliance. Rather, the SEEP must give reasonable assurance that despite the challenges posed by terrain, economic constraints, technology, and the need to minimize impacts, the proposed plan offers no assurance of any sort.[83]

The Examiners recommend that the Siting Board accept the SEEP as proposed in Hearing Exhibit 129 provided the recommendation proposed by DEC Staff discussed below is also incorporated into Section B-18(a)(iii).

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79 Bluestone Reply Brief, p. 3.

80 DPS Staff Reply Brief, p. 3.

81 DEC Staff Initial Brief, p. 12.

82 BCCR Reply Brief, p. 3.

83 BCCR Reply Brief, p. 18.

C. Electric Generation Capacity – PSL §168(3)(a)

The Siting Board must make an explicit finding that the facility is a beneficial addition to or substitution for the electric generation capacity of the State.[84] Among the factors the Siting Board must consider is the consistency of the construction and operation of the facility with the energy policies and long-range energy planning objectives and strategies contained in the most recent state energy plan.[85]

Bluestone states that that the Facility will operate as a merchant generation project that will voluntarily enter the wholesale energy markets and compete against other generators for energy, capacity, and green attribute revenues. Bluestone further argues that the Facility will help the State meet its clean energy goals,[86] and in particular the Clean Energy Standard adopted by the Public Service Commission in Case 15-E-0302, which requires that 50% of energy consumed in New York State come from renewable resources by 2030.[87] Bluestone states that renewable energy from the Facility will be sold into the New York market.[88]

DPS Staff agrees and testified that the renewable attributes of the Facility will likely be sold to New York load serving entities, and energy from the Facility will be delivered

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84 PSL §168(3)(a).

85 PSL §168(4)(e).

88 Hrg. Exh. 2, App. Exh. 10.

87 Case 15-E-0302, et al., Large-Scale Renewable Program and Clean Energy Standard – Policy, Order Adopting a Clean Energy Standard (issued August 1, 2016). As part of the Green New Deal, Governor Cuomo is proposing to increase the Clean Energy Standard Mandate from 50 percent to 70 percent renewable electricity by 2030 and 100 percent renewable electricity by 2040. Tr. 1550.

88 Hrg. Exh. 2, App. Exh. 10, p. 14.

for consumption by New York customers.[89] DPS Staff agrees that the Facility is consistent with the renewable energy goals of the most recent state energy plan and that the Facility will help the State contribute to the regional marketplace for greenhouse gas emissions, the Regional Greenhouse Gas Initiative.[90] DPS Staff states that the Facility, in addition to increasing the State's supply of renewable energy, will provide additional benefits to the State's energy policies by supporting fuel diversity, regional requirements for energy capacity, reliability, resiliency, market animation, competition, and innovation.[91] The DPS Staff Policy Panel found "that the Project will result in a modest beneficial addition of electric generation capacity in the State that will not displace other existing efficient generation."[92] In addition, DPS Staff's review of Bluestone's Electric System Production Modeling for the Project demonstrated that the Project will lead to a modest reduction in wholesale prices.[93]

Recommendation

We agree with Bluestone and DPS Staff that the Facility, as a commercial-scale renewable electric power generation project, would promote the State's energy policy goals. The Facility would help improve fuel diversity and grid reliability, decrease the production of greenhouse gases, and support the modernization of grid infrastructure. The Facility would operate as a merchant generation project that would enter the wholesale energy market and compete against other generators

89 Tr. 1554.

90 Tr. 1572-1575.

91 Tr. 1549-1551.

92 Tr. 1566.

93 Tr. 1545-1551; Hrg. Exh. 2, App. Exh. 8.

for energy, capacity and green attribute revenue. Bluestone would sell clean energy attributes and renewable energy from the Facility into the New York market. The Facility would provide air emissions reduction benefits, including benefits of carbon dioxide emissions reductions through the Regional Greenhouse Gas Initiative. Accordingly, we recommend that the Siting Board find, pursuant to PSL §168(3)(a), that construction and operation of the Facility is consistent with the State's energy plan and policies, and that it will be a beneficial addition to the generation capacity of the State.

D. Nature of Probable Environmental Impacts and Mitigation or Avoidance Thereof – PSL §168(2) & §168(3)(c) and (e)

PSL §168(2) requires the Siting Board to make explicit findings regarding the probable environmental impacts from the construction and operation of a proposed facility. Among the environmental impacts the Siting Board is specifically directed to examine are impacts related to: (a) ecology, air, ground and surface water, wildlife, and habitat; (b) public health and safety; (c) cultural, historic, and recreational resources, including aesthetics and scenic values; and (d) transportation, communication, utilities and other infrastructure.
PSL §168(3)(c) further requires the Siting Board to determine that any adverse environmental effects of the construction and operation of the facility will be minimized or avoided to the maximum extent practicable before it issues an Article 10 Certificate. In addition, PSL §168(3)(e) requires the Siting Board to determine that the facility is designed to operate in compliance with applicable State environmental, and public

health and safety laws.[94] In making its determinations, the Siting Board may impose, and monitor compliance with, any terms and conditions it deems necessary.[95]

The following sections examine each of the environmental topics for which factual findings are required by PSL §168(2).[96] Then, we discuss the proposed minimization and avoidance measures and make our recommendations to the Siting Board as to whether those measures minimize or avoid adverse environmental impacts to the maximum extent practicable. In addition, in those areas where specific State environmental, and public health and safety laws and regulations apply, we discuss whether the Facility is designed to operate in compliance with those State laws and make our recommendations to the Board as to whether the determination required by PSL §168(3)(e) can be

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[94] PSL §168(3)(e) also requires the Board to determine whether the facility is designed to operate in compliance with applicable local laws and regulations. Compliance with local law is examined in Section III.I., below.

[95] PSL §§162 and 168(5).

[96] To assist applicants in providing information sufficient for the Siting Board to make its environmental impact findings, the Siting Board's regulations outlined at 16 NYCRR §§1001.1 through 1001.41 contain detailed requirements for each area of environmental concern set forth in PSL §168(2). The regulations detail specific information to be included in an application for each topic area listed in PSL §168(2). The application exhibit headings of 16 NYCRR Part 1001, however, do not repeat the PSL §168(2) categories. Rather, they provide a refined list of topic areas that, in some categories, break the PSL §168 categories into their component parts, or combine topics where information is shared across more than one PSL §168(2) category. Notwithstanding the structure of 16 NYCRR Part 1001, given the findings required by PSL §168(2) and based upon a table of contents developed by some of the parties, this Recommended Decision generally follows the list of categories as set forth in the statute rather than as set forth in the regulations.

made. Finally, we include our recommendations for accepting or modifying the proposed Certificate Conditions.

1. Ecology

Part 1001 requires an applicant to provide information about the terrestrial (16 NYCRR §1001.22) and aquatic ecology (16 NYCRR §1001.23) in the project area, analyze the potential impacts of the construction and operation of the facility on the local ecology, and identify and evaluate measures to avoid or mitigate those impacts. In this case, information regarding the probable impacts of construction and operation of the Facility on the area's ecology is found in Application Exhibit 22 (Terrestrial Ecology and Wetlands) and Exhibit 23 (Water Resources and Aquatic Ecology).[97]

Mixed deciduous/coniferous forestland constitutes the largest ecological community within the Facility site, which includes the beech-maple mesic forest and the hemlock-northern hardwood forest communities. Tree species vary based on topography and hydrology. Other land cover classes include successional old field, agricultural land, and disturbed/developed community types. A successional old field is a meadow dominated by forbs and grasses which occurs on sites that have been cleared and plowed, and then abandoned. Within the Facility site, this community is located primarily along roadsides or adjacent to active agricultural fields. Agricultural land use in the Facility site is anticipated to be row crops that are planted on tilled soil, cover crops, and pasture land for livestock grazing and silage production. Disturbed/developed lands occur throughout the Facility site and are characterized by the presence of buildings, parking lots, paved and unpaved roads, and lawns, among other things.

[97] Hrg. Exh. 2.

Generally, vegetation in these areas is either lacking or highly managed, such as mowed lawns or maintained right-of-ways.[98]

Impacts to plant communities from construction and operation of the Facility include vegetation clearing disturbance from construction and permanent loss of vegetated habitats by conversion to built facilities.[99] Based on the April 2019 Application Update, a total of up to 390.5 acres of vegetation would be disturbed by construction activities (6.9% of the Facility site). Of this area, 335 acres of vegetation (86%) would be temporarily disturbed, including areas where collection lines are buried underground, construction staging areas and the margins of access roads, as well as turbine construction workspaces. About 54.6 acres of vegetation will be permanently converted to built facilities. This area is 1% of the Facility site.[100]

The temporary and permanent impacts to vegetation communities associated with the construction and operation of the Facility would not result in extirpation or the significant reduction in any ecological community type.[101] In addition, no State-listed plant species or significant ecological communities were identified as being located within the Facility site.[102]

Recommendation

Based on the foregoing, the Siting Board can reasonably conclude that adverse environmental effects of the construction and operation of the Facility generally related to

98 Hrg. Exh. 2, App. Exh. 22, pp. 4-6.

99 Hrg. Exh. 2, App. Exh. 22, p. 7.

100 Hrg. Exh. 7, App. Update, p. 11.

101 Hrg. Exh. 2, App. 22, p. 9.

102 Hrg. Exh. 2, App. 22, p. 12.

ecology would be avoided or minimized the maximum extent practicable in accordance with PSL §168(2)(a) and (3)(c).

a. Invasive Species

The ECL directs the DEC, in cooperation with the DAM, to restrict, among other things, the propagation, introduction, importation, or disposal of invasive species. The ECL defines an invasive species as one non-native to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm, or harm to human health. Section 9-1709(2)(iv) of the ECL requires, wherever practical, the prohibition and active elimination of invasive species at project sites regulated by the State.

The Applicant conducted a survey of invasive plant species in June and July 2018, the results of which are presented in the included as Appendix MM (Baseline Report). A map depicting the distribution and density of invasive species documented within the Facility site is included in the Baseline Report and Attachment Q to the Application Supplement. The baseline report identified seven different invasive plant species prohibited or regulated by DEC. As proposed in the Invasive Species Control Plan (ISCP), a second survey would be conducted before construction. Data collected during these surveys will serve as a baseline against which post-construction conditions would be compared.[103]

According to the Baseline Report, about 12% of the anticipated areas of disturbance for the Facility contain existing populations of DEC regulated plant species. Invasive species were primarily found in previously disturbed areas such as roadsides, quarries, logging roads, and utility rights-of

[103] Hrg. Exh. 2, App. Exh. 22, pp. 9-11; Hrg. Exh. 4, Supplement to the Application, Attachment Q.

way, and were absent from interior forests. The most common species are Morrow's honeysuckle, multiflora rose, and Japanese knotweed. The location and density of these species are depicted in the Applicant's Baseline Report. Invasive species occur throughout the survey area in varying densities. No invasive species of insects were recorded during on-site surveys. However, the emerald ash borer and hemlock wooly adelgid are known to occur in Broome County.[104]

The Applicant has stipulated to various Certificate Conditions to address invasive plant species concerns. For example, the Applicant would finalize and implement the ISCP for the Facility,[105] and fund an independent third-party Environmental Monitor (EM) to oversee compliance with environmental commitments, including those related to invasive species control during construction.[106] As required by Certificate Condition 73, a post-construction monitoring program would be conducted in year 1, year 3, and year 5 following completion of construction to collect information about the effectiveness of the ISCP. At the conclusion of the monitoring program, the Application would submit a report assessing whether no net increase of invasive species was achieved. If the report concludes that the goals of the ISCP were not being met, the Certificate Holder, DPS, DEC and DAM would confer to review treatment measures to achieve the goal of no net increase of invasive species, and to develop a plan for implementing remedial actions that treat and control invasive species, if appropriate.[107]

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[104] Hrg. Exh. 2, App. Exh. 22, p. 10 and Appendix MM.

[105] Hrg. Exh. 10, Certificate Condition 73.

[106] Hrg. Exh. 10, Certificate Conditions 85-87.

[107] Hrg. Exh. 10, Certificate Condition 73.

Recommendation

The Examiners recommend that the Siting Board determine that the impacts related to invasive species have been avoided or mitigated to the maximum extent practicable. The Siting Board can also conclude that the Applicant, to the extent practicable, will prohibit and actively eliminate invasive species at the Facility, in compliance with State environmental law. The Examiners recommend that the Board impose the agreed-upon Certificate Conditions related to invasive species.[108]

b. Forests and Tree Cutting

Forest fragmentation occurs when large blocks of contiguous forest are divided or broken into smaller patches as a result of clearing or canopy removal. Fragmentation may affect the movement, breeding, roosting, or nesting behavior of birds and bats, and degrade overall habitat suitability. The Application includes a detailed analysis of the impact of the facility on forest fragmentation, including the potential impacts associated with changes to forested habitat.[109]

The Applicant argued that, when designing the Facility, it avoided forested areas to the maximum extent practicable by burying underground collection lines in areas of existing disturbance (e.g., existing forest logging roads), collocating access roads with existing roads and farm lanes, and confining disturbance to the smallest area possible.[110]

DPS Staff testified, however, that the Applicant's proposed "SEEP Specifications Tree Clearing Plan" warranted additional information. DPS Staff recommended the following.

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[108] Hrg. Exh. 10.

[109] Hrg. Exh. 2, App. Exh. 22, pp. 28-30; Appendix RR (Habitat Fragmentation Analysis).

[110] Bluestone Initial Brief, pp. 28-28; see also Hrg. Exh. 2, App. Exh. 22, pp. 11-12.

First, the compliance filing concerning the "Tree Clearing Plan" should demonstrate that the Applicant has acquired access and property rights for those parcels that would need to be cleared, as recommended in Certificate Condition 28.[111] Second, the clearing plan should confirm the appointment of an EM to oversee the construction of the Facility, and to ensure that all agreed-upon measures related to protecting the forest are implemented as outlined in Certificate Conditions 85-87.[112] Third, prior to the full start of construction, the Applicant should provide notice to municipal officials and property owners that tree clearing activities are about to start. Fourth, the clearing plan should state that the protection measures for cultural resources[113] apply to clearing activities, and that the associated clearing plan figures or drawings identify the locations of all known archeological and historic resources (including Stone Landscape Features) as environmentally sensitive areas. In addition, as specified in Certificate Condition 90, clauses (a), (b), (e), and (f), cultural resources should be staked and flagged before the start of tree clearing. Finally, the clearing plan should acknowledge the following relevant Certificate Conditions: 97, 98, 102, and 103, among others.[114]

According to DPS Staff, the Applicant agreed to adopt these recommendations, and revised the Final Appendix A Bluestone SEEP accordingly.[115] If the Applicant adheres to the referenced Certificate Conditions and SEEP Specifications, DPS

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[111] Hrg. Exh. 73.

[112] Hrg. Exh. 10.

[113] Hrg. Exh. 10, Certificate Condition 66.

[114] Tr. 1374-1376.

[115] Hrg. Exhs. 11 and 129.

Staff said that the Siting Board could find and determine that the Applicant has satisfied its burden pursuant to PSL §168(2) with respect to tree clearing activities.[116]

Recommendation

The Examiners recommend that the Siting Board adopt the referenced Certificate Conditions and SEEP Specifications. If such conditions are adopted, we recommend the Siting Board determine that the impacts to forest land have been minimized to the maximum extent practicable.

c. Agricultural Land

Application Exhibits 4 and 22 address the Facility's potential impacts on agricultural land. Approximately 250 acres (4.4%) of the Facility site are active agricultural land.[117] Of this amount, about 34.4 acres would be temporarily disturbed, and 8.0 acres would be permanently disturbed with built facilities.[118]

DAM Staff did not identify any areas of concern for this Facility. With a cover letter dated March 29, 2019, DAM Staff filed a PSL Article 10 issues statement, and said that DAM has no issues that would be subject to litigation.[119]

To minimize and mitigate potential impacts to active agricultural land and farming operations, the Applicant has agreed to comply with the most recent version of New York State Department of Agriculture and Markets Guidelines for Agricultural Mitigation for Wind Power Projects ("DAM Wind

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116 DPS Staff Initial Brief, pp. 22-23.

117 Hrg. Exh. 2, App. Exh. 22, p. 6; see also Hrg. Exh. 2, App. Exh. 4, pp. 2-3.

118 Hrg. Exh. 2, App. Exh. 22, p. 9.

119 DMM No. 177.

Guidelines").[120] During the construction and operation of the facility, the Applicant will also consult with landowners and DAM.[121]

To ensure the protection of agricultural lands, the Applicant has stipulated to various Certificate Conditions. Certificate Condition 47 requires the Certificate Holder to submit an Environmental Compliance and Monitoring Plan. Condition 63 requires the Applicant to develop an agricultural area plan, that would describe the programs, policies, and procedures to mitigate agricultural impacts. Conditions 85-87 require the appointment of a third-party EM and a third-party agricultural monitor, unless DAM determines that the EM is qualified to address agricultural issues.[122]

Recommendation

With the adoption of the above-described conditions, the Examiners recommend that the Siting Board determine that the impacts to agricultural land have been minimized to the maximum extent practicable.

d. Wildlife Other Than Eagles and Bats and Wildlife Habitat

The Application includes an inventory of wildlife species within the Facility site. Based on the New York State Amphibian and Reptile Atlas Project, the timber rattlesnake (Crotalus horridus) is the only State-endangered or threatened species of wildlife, excluding birds and bats, to occur within the Facility site. However, the timber rattlesnake was not observed during on-site surveys. In addition, two threatened species of mussels are found in the area; however, only limited

[120] Hrg. Exh. 2, App. Exh. 4, pp. 20-21.

[121] Hrg. Exh. 2, App. Exh. 4, p. 22.

[122] Hrg. Exh. 10.

suitable habitat is present within the Facility site for this species. Non-bird and non-bat species of special concern identified, or likely to occur, within the Facility site, include the wood turtle (*Glyptemys insculpta*), eastern box turtle (*Terrapene carolina*), longtail salamander (*Eurycea longicauda*), Jefferson salamander (*Ambystorma jeffersonianum*), and hellbender (*Crytobranchus alleganiensis*).[123]

Construction and operation of the Facility could have minor adverse impacts on wildlife habitat. These potential impacts would be attributable to temporary disturbance during construction, and the permanent conversion of a small percentage of the site to built facilities. However, none of the potential impacts described in the Application would significantly affect wildlife populations.[124]

The Applicant would minimize impacts related to permanent habitat loss by locating facility access roads and collection lines along existing logging roads, the edges of agricultural fields, as well as pipeline rights-of-way. To the maximum extent practicable, the Applicant would also allow cleared forest land along access roads and at the periphery of turbine sites to regenerate.[125]

Recommendation

The Examiners recommend that the Siting Board conclude that impacts to wildlife other than eagles and bats, and to wildlife habitat have been avoided or minimized to the maximum extent practicable. In addition, Certificate Conditions are proposed establishing procedures in the event threatened or

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[123] Hrg. Exh. 2, App. Exh. 22, pp. 22-25; Appendix LL (Plant and Wildlife Species List) and Appendix QQ (Threatened and Endangered Species Database Information).

[124] Hrg. Exh. 2, App. Exh. 22, pp. 26-29.

[125] Hrg. Exh. 2, App. Exh. 22, p. 50.

endangered species are encountered during Facility construction or operation. Accordingly, the Examiners recommend that the Siting Board concluded that with respect threatened or endangered species other than eagles or bats, the State endangered species laws and regulations will be complied with during Facility construction and operation.

2. Air

During construction, the Facility may result in minor, temporary adverse air impacts associated with vehicle emissions, dust from earthmoving activities and travel on unpaved roads, and emissions from the concrete batch plant and fossil fuel-fired generators. After construction, the wind turbines would generate electricity without combusting fuel or releasing pollutants into the atmosphere.[126] According to the Applicant, the Facility would have an overall positive impact on air quality and would contribute to meeting New York's climate change and renewable energy goals.[127]

The Facility would not require any federal, State, or local air emissions permits. No party raised concerns related to potential impacts to air quality. Based upon the record, the Siting Board should determine that the Facility's potential impacts to air quality have been minimized or avoided to the maximum extent practicable, and that the Facility will be constructed and operated in compliance with all applicable State air pollution control laws and regulations.

3. Groundwater, Including Water Supply Wells

PSL §168(2) requires the Siting Board to make explicit findings regarding the probable environmental impacts from the construction and operation of a proposed facility on groundwater

[126] Hrg. Exh. 2, App. Exh. 17.

[127] Bluestone Initial Brief, p. 170.

and surface water resources. Before granting an Article 10 Certificate, the Siting Board must further determine that any adverse environmental effects of the construction and operation of the facility on water resources will be minimized or avoided to the maximum extent practicable, and that the facility is designed to operate in compliance with applicable State water pollution control, stream protection, and freshwater wetland protection laws and regulations.[128]

The application materials provide details about the potential impacts from the construction and operation of the Facility on groundwater resources including drinking water provided by wells. To avoid and mitigate potential adverse impacts to groundwater the application materials also include various plans.[129]

To evaluate potential impacts to groundwater that would be associated with the construction and operation of the Facility, the Applicant conducted extensive investigations to identify groundwater and drinking water resources, including, but not limited to:

1) reviewed public soil survey and other public information, and assessed geological conditions;[130]
2) collected information about groundwater wells within one mile of the preliminary Facility area from the Broome County Health Department and DEC;
3) surveyed residences and businesses located within a 2,000-foot radius of the proposed Facility area to obtain information about existing wells; and

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[128] PSL §§168(3)(c) and (e).

[129] Hrg. Exh. 2, App. Exh. 23, pp. 1-3 and Appendix HH (Preliminary Blasting Plan), Appendix II (Inadvertent Return Plan), Appendix KK (Preliminary Stormwater Pollution Prevention Plan [SWPPP]), and Appendix YY (Spill Prevention, Control and Countermeasures [SPCC] Plan).

[130] Hrg. Exh. 2, App. Exh. 21, and App. Exh. 23, pp. 1-3 and Appendix JJ (Report of Expected Geotechnical Conditions).

4) collected information about nearby public water wells from DOH.[131]

The Facility site does not contain any primary aquifers.[132] The U.S. Geological Survey (USGS) and DEC consider these resources to be highly productive sources of potable water for major municipal water supply systems. Approximately 291 acres located in the far western portion of the Facility site would be located over the Clinton Street-Ballpark Valley sole source aquifer.[133] Also, the Facility site overlays a part of an unconsolidated aquifer mapped by DEC.[134]

For the following reasons, the Facility is not expected to adversely impact groundwater quality or quantity, drinking water supplies, aquifer protection zones, or groundwater aquifers in the Facility area. First, the majority of the proposed turbines would be located on hilltops, generally above and outside of the aquifer footprints. Second, excavations for foundations, roadways, and underground collection lines would be relatively shallow and, therefore, would not intercept groundwater.[135]

To avoid potential adverse impacts to groundwater, the Applicant has agreed to Certificate Condition 45 (Water Supply Protection), which would require the Applicant to file a notice confirming that no wind turbines would be located within 100 feet of an existing water supply well or water supply intake.

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131 Hrg. Exh. 2, App. Exh. 23, pp. 2-4 and Appendix XX (Water Well Data and Private Well Data).

132 See NYS DEC Division of Water Technical and Operational Guidance Series (TOGS) 2.1.3, Oct. 23, 1990, at 2.

133 Under provision of the federal Safe Drinking Water Act, sole source aquifers are designated by the U.S. Environmental Protection Agency (USEPA) as the sole or main source of drinking water for a community. 42 USC §300h-3(e).

134 Hrg. Exh. 2, App. Exh. 23, pp. 2-3.

135 Hrg. Exh. 2, App. Exh. 23, pp. 5-7.

The Certificate Condition would also prohibit blasting within 500 feet of any known existing, active water supply well or water supply intake on a non-participating parcel. Pre- and post-construction well monitoring would be conducted on non-participating parcels within 1,000 feet of any blasting for which access is granted, or if engineering constraints require collection lines or access roads within 100 feet of a known existing, active water supply well on a non-participating parcel. If the testing indicates that the well has been impacted by the Facility, the Certificate Holder would drill a new well.[136]

DPS Witness Jeremy Flaum, testified about the potential impacts on drinking water resources associated with the construction and operation of the Facility. He noted that several public and private water supply wells were located in the Project area, including several locations in close proximity to the proposed facilities. However, Witness Flaum noted further that the appropriate setbacks and other measures for protecting water quality had been included in Certificate Condition 45. Moreover, he stated that this Certificate Condition "establishes turbine setbacks that are consistent with the requirements of the New York State Department of Health … for minimum separation distances to protect water wells from contamination included in Table 1 of 10 NYCRR Part 5, Subpart 5-1 Standards for Water Wells – Appendix 5B."[137]

To further protect drinking water resources, Witness Flaum also recommended that the Certificate Holder contact well owners within the Facility site in order to survey the exact

[136] Hrg. Exh. 10, Certificate Condition 45.

[137] Tr. 1404.

location of their wells and incorporate the information on maps included in the Stipulated SEEP Specifications.[138]

The Applicant agreed to implement this recommendation. The Applicant's Geology Panel noted that DOH, DEC, and Broome County provided information concerning water supply and private wells. The Applicant also sent a well survey to all residences and businesses located within a 2,000-foot radius of the proposed Facility site. Prior to the commencement of construction, and in relation to the final design of the facility, the Applicant would coordinate with water well owners as described in Certificate Condition 45.[139]

No outstanding disputes exist between the Applicant and DPS Staff concerning drinking water issues. However, members of BCCR expressed concerns about the potential impacts of the Facility on groundwater and drinking water resources. As noted above, DOH has established distance standards to protect drinking water wells that range from 100 to 300 feet depending on the nature of the potential contaminant source. Karl Katen's parcel is 5,195 feet from the nearest turbine.[140] Therefore, any well on his property is outside the safe distance standards established by DOH and the 500-foot blasting limit agreed to by the Applicant. Given these circumstances, the construction and operation of the Facility would not impact Mr. Katen's well. Angela Olson's parcel is over 1,500 feet from the nearest turbine,[141] which is also outside of the limits outlined in DOH regulations and the proposed Certificate Conditions.

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[138] Tr. 1405.

[139] Tr. 1996.

[140] Tr. 2141.

[141] Tr. 2144.

Recommendation

Based upon the information provided in the record, and the proposed Certificate Conditions, the Examiners recommend that the Siting Board determine that the potential adverse environmental effects to groundwater quality or quantity, or drinking water supplies from the Facility's construction and operation have been minimized or avoided to the maximum extent practicable. In addition, the Siting Board can determine that the Project will be constructed and operated in compliance with State water pollution control laws.

4. Surface Water, Streams, and Wetlands

As part of its review of the application filed pursuant to PSL Article 10, the Siting Board must apply Article 15 of the ECL (Water Resources) and the implementing regulations found at 6 NYCRR Part 608, as well as Article 24 of the ECL (Freshwater Wetlands), and the implementing regulations outlined at 6 NYCRR Parts 663 and 664. With respect to surface waters, which include regulated streams and freshwater wetlands, any potential adverse environmental impact to these protected State resources from the construction and operation of the facility must also be minimized or avoided to the maximum extent practicable.[142] Finally, to comply with State water pollution control laws, the Applicant will have to obtain coverage under DEC's State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) before construction activities begin.

a. Streams

A modification or disturbance of the banks of "protected streams," as defined in 6 NYCRR §608.1(aa), are regulated under ECL Article 15, and is prohibited without a

[142] See PSL §168(2)(a) and PSL §168(3)(c).

permit issued pursuant to 6 NYCRR §608.2(a). In addition, the excavation or placement of fill in the navigable waters of the State[143] is prohibited without a permit issued pursuant to 6 NYCRR §608.5. The Siting Board must determine whether the Facility's construction and operation would otherwise conform with the requirements of ECL Article 15 and Part 608 by complying with the permit issuance standards set forth at 6 NYCRR §608.8

As updated, the application includes details about potential impacts to streams and other surface water bodies from the construction and operation of the Facility.[144] Protected streams within the Facility site are classified as Class A, Class B(T) and Class C(T) and include Fly Creek, Marsh Creek and tributaries, Oquaga Creek Upper tributaries, and Big Hollow Brook.[145]

According to the application materials, as updated, construction of the Facility would result in an estimated total of 1,418 linear feet of permanent stream impacts and 1,653 linear feet of temporary stream impacts.[146] Direct stream

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[143] Navigable waters of the State means all lakes, rivers, streams and other bodies of water in the State that are navigable in fact or upon which vessels with a capacity of one or more persons can be operated notwithstanding interruptions to navigation by artificial structures, shallows, rapids or other obstructions, or by seasonal variations in capacity to support navigation. It does not include waters that are surrounded by land held in single private ownership at every point in their total area (see 6 NYCRR §608.1[u]).

[144] Hrg. Exh. 2, App. Exh. 23, pp. 10-17, Appendix K (Preliminary Design Drawings, which include stream and wetlands resources), Appendix VV (Wetland Delineation Report), and Appendix WW (Wetland and Stream Impact Drawings); Hrg. Exh. 7, App. Update Overview, p. 12-13).

[145] Hrg. Exh. 2, App. Exh. 23, p. 11.

[146] Tr. 1328.

impacts include the following: 1) the direct placement of fill in surface waters to accommodate road crossings, causing suspension of sediments and turbidity; 2) disturbance of stream banks or substrates resulting from buried cable installation; 3) an increase in water temperature and conversion of vegetative cover types due to clearing of vegetation; and 4) siltation and sedimentation due to earthwork, such as excavating and grading activities.[147] These impacts directly and adversely affect the best usages of a stream pursuant to 6 NYCRR §701.8, including use of the streams for fish propagation and survival.[148]

With respect to navigable waters of the State, the Facility includes a wetland area associated with Oquaga Creek.[149] Concerning this disturbance, the Applicant and Staffs from DEC and DPS have agreed to Certificate Conditions and SEEP Specifications. The parties developed Section B.17(c) of the SEEP Specifications to specifically address the final logistics of this crossing, and would require the preparation of a *Stream Crossing Plan*, which would include an analysis of the proposed collection line crossing of Oquaga Creek.[150]

To further ensure that the Applicant meets its commitment to avoid and minimize impacts to streams to the maximum extent practicable, the Applicant has stipulated to several Certificate Conditions,[151] as set forth below:

1) Appointment of an EM to oversee construction of the facility and to ensure that all agreed-upon measures to protect wetlands are implemented;[152]

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147 Tr. 1328.

148 Tr. 1329.

149 Tr. 1327.

150 Hrg. Exhs. 10 and 11, Final Appendix A Bluestone SEEP.

151 Hrg. Exh. 10.

152 Certificate Conditions 85-87.

2) Undertake pre-construction flagging of sensitive areas, including streams, and adherence to construction limits;[153]
3) Implement avoidance measures to preclude the contamination of streams by deleterious materials or construction activities,[154] and to comply with spill reporting requirements;[155]
4) Limit the time period for stream work;[156]
5) As noted above, follow the measures outlined in Section B.17 of the SEEP Guidance Document in locations where electric collection lines will be installed by open trenching, particularly along or across areas of steep slopes; and
6) Complete work in streams and install underground collection lines and access roads using specific methods.[157]

DEC Staff took exception to proposed Certificate Conditions 113 and 129, and a section in the SEEP Specifications. In Hearing Exhibit 10, Certificate Condition 113 states in full that:

> [i]f a bridge is not practicable for temporary or permanent stream crossings, a culvert crossing will be utilized for stream crossings and shall meet the NYSDEC and/or US Army Corps of Engineers requirements as outlined in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project."

However, DEC Staff proposed to include the following requirement: "Bridges shall be installed wherever a new permanent crossing is required."[158] The foregoing text would

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153 Certificate Conditions 90 and 91.

154 Certificate Conditions 93-95, 107, 114-116, 118, and 124.

155 Certificate Conditions 108 and 117.

156 Certificate Condition 109.

157 See Hrg. Exh. 10, Certificate Conditions 110-113, 123 and 125-129.

158 Tr. 1331.

then follow, which would only authorize a culvert crossing after a demonstration that a bridge would not be practicable.

In Hearing Exhibit 10, Certificate Condition 129 states in full that:

> [a]ny in-stream structures placed in a stream must not create a drop height greater than 6 inches.

With respect to proposed Certificate Condition 129, DEC Staff recommended that the word "habitat" be inserted between the words "in-stream" and "structures."[159]

DEC Staff also proposed a change to §B-18(a)(iii) of the SEEP Specifications.[160] In the current version, SEEP Specifications §B-18(a)(iii) would require a post-construction monitoring program in year 1 and year 3 following the completion of construction and restoration. However, DEC Staff also recommended post-construction monitoring after year 5.[161]

With these proposed modifications to proposed Certificate Conditions 113 and 129, as well as SEEP Specifications §B-18(a)(iii), DEC Staff argued that the Facility would comply all applicable statutory and regulatory standards outlined in ECL Article 15 and implementing regulations at 6 NYCRR Part 608.[162]

Recommendation

Provided that the Siting Board incorporates the foregoing modifications recommended by DEC Staff into proposed Certificate Conditions 113 and 129 and SEEP Specifications §B-18(a)(iii), the Examiners recommend that the Siting Board

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[159] Tr. 1331.

[160] Hrg. Exh. 11.

[161] Tr. 1331-1332.

[162] DEC Staff Initial Brief, p. 12.

conclude that the Applicant has demonstrated that the Facility would comply with the applicable statutory and regulatory standards described above under ECL Article 15 and 6 NYCRR Part 608.

b. Freshwater Wetlands

It is also the public policy of the State of New York to preserve, protect, and conserve freshwater wetlands and the benefits they provide, to prevent the despoliation and destruction of freshwater wetlands, and to regulate use and development of such wetlands to secure the natural benefits of freshwater wetlands, consistent with the general welfare and beneficial economic, social, and agricultural development of the State.[163] State approval must be obtained for any proposed project that may impact regulated freshwater wetlands, or the associated regulated adjacent area, which generally extends 100 feet from the boundary of a State regulated wetland.[164] The standards for issuance of a freshwater wetlands permit are outlined at 6 NYCRR §663.5. The Siting Board must determine whether the Facility's construction and operation would otherwise conform with the requirements of ECL Article 24 and Part 663 by complying with the permit issuance standards set forth at 6 NYCRR §663.5.

Recommendation

No wetlands regulated pursuant to ECL Article 24, or their associated 100-foot adjacent area, are located within the Facility's boundary.[165] As a result, the Facility, as currently proposed, would not involve activities regulated by Article

[163] Tr. 1322.

[164] See 6 NYCRR §663.2(b).

[165] Tr. 1326.

24.[166] Accordingly, the we recommend that the Siting Board conclude that the construction and operation of the proposed Facility would be in compliance with ECL Article 24 and its associated regulations in 6 NYCRR Parts 663 and 664.

c. General State Pollutant Discharge Elimination System (SPDES) Permit

Potential adverse impacts to water resources from soil erosion and sedimentation can result from construction activities. Before commencing any activity, the owner or operator of a construction project that would involve disturbance of one or more acres must obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) (General Permit).[167] Coverage under the General Permit is also required for disturbances of less than one acre "that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility."[168]

To obtain coverage, the owner or operator must prepare a Stormwater Pollution Prevention Plan (SWPPP), detailing the

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166 Tr. 1327.

167 Effective date January 29, 2015 and as corrected July 14, 2015; see 6 NYCRR §750-1.21(b)(2). The General Permit is issued pursuant to DEC's authority under Article 17, Titles 7 and 8 and Article 70 of the ECL. The General Permit was updated on November 23, 2016 to require the use of the New York State Standards and Specifications for Erosion and Sediment Control (November 2016). The General Permit was issued pursuant to the federal Clean Water Act, and DEC remains the permit-issuing authority for the General Permit for Article 10 projects. See PSL §172(1).

168 General Permit, Part I(a)(1) (Permit Coverage and Limitations).

erosion and sediment management practices that will be used to reduce pollutants in stormwater discharges after construction is complete. The final SWPPP is filed with DEC, together with a Notice of Intent (NOI) to seek coverage under the General Permit for DEC's review. The Applicant submitted a preliminary SWPPP with its Application, indicating that Bluestone will finalize the SWPPP and submit it with an NOI to DEC for review.[169]

d. Section 401 Water Quality Certification

The Facility will require a water quality certification (WQC) pursuant to Section 401 of the federal Clean Water Act. Section 1000.8 of 16 NYCRR governs the issuance of water quality certifications for Article 10 projects. To obtain a WQC, an applicant must demonstrate compliance with New York State effluent limits and standards, State water quality standards and thermal discharge criteria, State prohibited discharges, and other New York State regulations and criteria, as applicable.

Bluestone has agreed to Certificate Condition 7, which requires it to file an application for a Section 401 Water Quality Certification with the Siting Board prior to construction of the Facility, concurrent with the permit application filed with the U.S. Army Corps of Engineers for wetlands impacts.[170]

5. Bats

Section 1001.22(h) of 16 NYCRR requires the Applicant to identify and evaluate the Facility's expected impacts on bat species and bat habitat. The application must include a plan to avoid such impacts, or if impacts are unavoidable, to minimize

[169] Hrg. Exh. 2, App. Exh. 23, p. 20, and Appendix KK.

[170] Hrg. Exh. 10.

and mitigate impacts during construction and operation of the facility, based upon existing information.

In New York, there are nine species of bats widely accepted as being present for at least some portion of the year.[171] These are: 1) the hoary bat (*Lasiurus cinereus*); 2) silver-haired bat (*Lasionycteris noctivagans*); 3) eastern red bat (*Lasiurus borealis*); 4) little brown bat (*Myotis lucifugus*); 5) big brown bat (*Eptesicus fuscus*); 6) tri-colored bat (*Perimyotis subflavus*); 7) Northern Long-Eared Bat (NLEB) (*Myotis septentrionalis*); 8) Indiana bat (*Myotis sodalis*); and 9) eastern small-footed bat (*Myotis leibii*).[172] All New York resident bat species, except for the big brown bat, have been designated as species of concern and, of these, the Indiana bat and NLEB have also been granted protection under State threatened and endangered species statutes.[173]

Bat mortality has been identified as a potentially significant environmental impact of the Facility in this case.[174] Wind turbines are the single greatest known source of mortality for several bat species in North America.[175] Section 182.11 of 6 NYCRR requires that any activity that is "likely to result in

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171 Tr. 1432.

172 Tr. 1432; see also Hrg. Ex. 2 and 3, App. Exh. 22, Appendix QQ (Threatened and Endangered Species Database Information), Appendix RR (Habitat Fragmentation Analysis), Appendix TT (Net Conservation Benefit Plan), and Appendix UU (Cumulative Impact Assessment).

173 6 NYCRR §182.2(y)(2); Tr. 1432.

174 However, the parties generally did not contest whether the facility would comply with ECL Article 11 and 6 NYCRR Part 182 with respect to the take of NLEB.

175 Tr. 1434.

the take or a taking[176] of any species listed as endangered or threatened in this Part" must obtain an incidental take permit from DEC. Where a taking is unavoidable, an applicant must prepare a plan with mitigation measures that will result in a net conservation benefit (NCB) to the species.[177]

In the case of an Article 10 project such as this one, an incidental take permit in the form of Certificate Conditions would be required before the Siting Board can conclude that the Project will be constructed and operated in compliance with all applicable State environmental laws.[178] Although DEC would not issue a permit, the same requirements regarding avoiding, minimizing, and mitigating impacts to NLEB, including the requirement to achieve a net conservation benefit for the listed species in the event full avoidance is demonstrated to be impracticable, apply to the Facility.[179]

DEC Staff considers a proposal that curtails all turbines until local wind speed, as measured at hub height, is equal to or greater than 6.9 meters per second (m/s) to be complete avoidance of the take of NLEB, provided the turbine curtailment protocol is in place at all turbines from one-half hour before sunset to one-half hour after sunrise from July 1

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176 *Take* or *taking* means the killing or capturing of any species listed as endangered or threatened pursuant to Part 182, "and all lesser acts such as disturbing, harrying or worrying." 6 NYCRR §182.2(x).

177 6 NYCRR §182.11(d). The plan must include, among other things, the measures the applicant for an incidental take permit will undertake to minimize and fully mitigate impacts to any listed endangered or threatened species, and requires further that "[a]ll proposed measures shall be capable of successful implementation, and shall be legally, technologically, economically and biologically practicable" (6 NYCRR 182.11[d][1]).

178 See PSL §168(3)(e).

179 Tr. 1442.

through October 1.[180] With respect to the captioned matter, Certificate Condition 67 would require a curtailment regime at these same times and dates when wind speeds are equal to or greater than 5.5 m/s, and would periodically require review of curtailment operations, as they relate to bat fatality rates, every 5 years.[181] According to DEC Staff, a cut-in speed of 5.5 m/s constitutes the highest practicable cut-in speed for purposes of minimization of impacts to NLEBs at the Facility.[182]

Based on the terms of proposed Certificate Condition 67, DEC Staff estimated that this level of curtailment would result in the take of 15.1 NLEB over the life of the Facility.[183] This take estimate is reflected in Certificate Condition 69, which would require the development of a net conservation benefit plan (NCBP) to compensate for the loss of 17 NLEB.[184] The final NCBP for the NLEB must be prepared in consultation with DEC and DPS Staffs and accepted by the Department of Environmental Conservation prior to its implementation and the operation of the Facility.[185] Based on the proposed Certificate Conditions, DEC and DPS Staffs are satisfied that the mitigation that the Applicant would develop would achieve a net conservation benefit to the species.[186]

With respect to non-listed bat species, in particular the migratory tree bats, DPS Staff noted that although the agreed upon 5.5 m/s curtailment regime is not full avoidance, the regime provides an incremental benefit to more bat species

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180 Tr. 1448-1449, 1864-1865.

181 Hrg. Exh. 10.

182 Tr. 1452.

183 Tr. 1442.

184 Hrg. Exh. 10, Certificate Condition 69(a).

185 Hrg. Exh. 10, Condition 69.

186 Tr. 1457, 1869.

than the one adopted by the Siting Board in Cassadaga Wind[187] or the cut in speed originally proposed in this case.[188] DPS Staff also references proposed Certification Condition 67(b), which provides for detailed review of curtailment operations and bat fatality rates and species composition every five years, and the possible modification of the curtailment regime based upon impacts to bats, including NLEB and migratory tree bats.

Recommendation

The Examiners recommend that the Siting Board adopt the proposed Certificate Conditions with respect to bats. Provided that the Siting Board adopts the proposed Certificate Conditions, the Examiners advise that the Siting Board can conclude that the Facility would comply with ECL Article 11 and 6 NYCRR Part 182 with respect to NLEB.[189] In addition, the Siting Board may conclude that adverse impacts to all bat species will be avoided or minimized to the maximum extent practicable.

6. Bald Eagles and Golden Eagles

The application included information concerning the potential impacts on bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) from the construction and

[187] Case 14-F-0490, Cassadaga Wind LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need (issued January 17, 2018) (Cassadaga Wind Order), pp. 54-55.

[188] DPS Staff Initial Brief, p. 32; Tr. 1867.

[189] Tr. 1458.

operation of the Facility.[190] In 1971, New York State listed the bald eagle as endangered.[191] In 1976, the State's restoration efforts began, and due to the success, the bald eagle was listed as threatened in 1999. At the close of the 2018 breeding season, New York had about 549 bald eagle breading territories.[192] Given the potentially suitable nesting habitat in the State, the population of bald eagles is small compared to the populations of other raptor species, according to DEC Staff. The bald eagle remains listed as a threatened species, subject to the protections and requirements of ECL Article 11 and 6 NYCRR part 182.[193]

Since 1981, the golden eagle has been listed as an endangered species in New York State.[194] It is expected that golden eagles do not breed in New York State, according to DEC Staff. When individuals are observed in the State, golden eagles are predominantly migrating to wintering areas south of New York in the fall, and to breeding areas in eastern Canada in the spring.[195]

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190 Hrg. Exh. 2 and Hrg. Exh. 3, App. Exh. 22 and Appendix OO (Site Specific Surveys), Appendix PP (DOAS Spring and Fall Raptor Surveys), Appendix QQ (Threatened and Endangered Species Database Information), Appendix RR (Habitat Fragmentation Analysis), Appendix SS (Avian Risk Assessment), Appendix TT (Net Conservation Benefit Plan) and Appendix UU (Cumulative Impact Assessment); Hrg. Exh. 9, App. Update Eagles Use Survey Data.

191 In 1967, the bald eagle was placed on the federal endangered and threatened species list as endangered in the lower 48 states.

192 Tr. 1105.

193 Tr. 1106.

194 Tr. 1106-1107.

195 Tr. 1106-1107.

Both eagle species have been documented in the area of the proposed Facility on numerous occasions. In addition to the surveys conducted by the Applicant between 2016 and 2019, as noted above, DOAS conducted a Fall 2017 Raptor Survey, a Spring 2018 Raptor survey, and a Spring 2019 Raptor Survey.[196] DOAS also provided data from Conservation Science Global that included a series of maps illustrating the spring, fall, and winter movement of telemetered golden eagles within 20 kilometers (km) of the Facility site collected by DOAS Witness Miller.[197] The Franklin Mountain Hawk Watch, located in Oneonta, New York, has observed both species moving through the area every year since 1991. In the vicinity of the Facility site, the forest cover and topography is typical of golden eagle wintering and migratory locations in the eastern United States. In addition, these conditions are suitable habitat for resident and wintering bald eagles, including nests located about 5 km from the Facility site.[198]

No known eagle nests are currently located within the Facility site.[199] However, eagles may collide with wind turbines during migration, or if they hunt or roost near turbines. Between 2013 and 2018, one bald eagle turbine fatality occurred in New York.[200] No golden eagle turbine fatalities have been reported in New York. The frequency of mortalities is expected to be low for the following two reasons. First, the golden eagle population in the eastern United States is less than 10% of the population in the western United States. Second, golden

196 Hrg. Exhs. 34, 35 and 36.

197 Hrg. Exh. 29.

198 Tr. 1108-1109.

199 Tr. 1110.

200 Tr. 1109.

eagles do not breed in New York.[201] Due to the documented use of the area by bald eagles and golden eagles, DEC Staff, nevertheless, determined that the proposed Facility would pose a threat and result in the potential take of bald and golden eagles. As a result, DEC Staff concluded that the requirements outlined in ECL Article 11 and 6 NYCRR Part 182 apply to the captioned matter.[202]

Except with a permit pursuant to Part 182, ECL 11-0535(2) and 6 NYCRR 182.8 prohibit the taking of any bald eagle and golden eagle.[203] Because the Facility has the potential to take bald and golden eagles, pursuant to 6 NYCRR 182.11, the Applicant must avoid all impacts to those species. If the Applicant demonstrates, however, that full avoidance is impracticable, the Applicant must minimize impacts to the maximum extent practicable. Finally, for any remaining impacts to listed species after all minimization measures are accounted for, the Applicant must provide appropriate and effective mitigation resulting in a net conservation benefit for both bald eagles and golden eagles. Prior to approving any mitigation plan, it must be determined that the proposed plan would result in a net conservation benefit to the species.[204]

The parties dispute the estimate of the take of bald eagles and golden eagles. The Applicant estimated the take would be six bald eagles and three golden eagles over the 30-

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[201] Tr. 1110.

[202] Tr. 1114.

[203] With respect to bald and golden eagles, the Siting Board must determine that the construction and operation of the Facility would otherwise comply with the requirements of ECL Article 11 and Part 182. (See PSL §168[3][c] and [e].)

[204] See 6 NYCRR §182.11(a); Tr. 1114-1115.

year life of the Facility. DEC Staff considered the estimates reasonable for the following reasons.[205]

First, one operating wind farm facility in New York State has reported the taking of one bald eagle within the first five years of its operation.[206] DEC Staff acknowledged that this report is one data point. However, DEC Staff noted that other wind farm facilities are operating in the State, and that none have had a known, documented mortality. Given this context, DEC Staff concluded that a take rate of one bald eagle per five years of operation would be considered a worst-case scenario in the State.[207] Over the 30-year life of the proposed Facility, DEC Staff extrapolated a take of 6 bald eagles.[208]

Second, no golden eagle mortalities have been reported from any wind farm facilities sited in New York State.[209] In addition, Witness Miller, who testified on behalf of DOAS, was not aware of any reported golden eagle fatalities at wind farm facilities located in the Appalachian region of Pennsylvania where golden eagle are known to migrate and winter.[210]

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205 Tr. 1117.

206 Tr. 1117.

207 Tr. 160.

208 Tr. 1117.

209 Tr. 1110. However, according to DeHaan, the USFWS has never issued a federal take permit for golden eagles at a wind farm facility east of the Mississippi. Consequently, no wind farm facilities have been built in known golden eagle habitat. These circumstances explain why golden eagle fatalities have not been reported. (Tr. 1647-1648.)

210 Tr. 563, 599, 606-607. In the reply brief, DeHaan said that information about avian fatalities at wind farm facilities is generally confidential, and that researchers, such as Dr. Miller, would not have access to the data. Without access to this data, DeHaan argued that eagle fatality estimates may be baseless because the data cannot be independently reviewed and verified. (DeHaan Reply Brief, p. 26.)

Despite the lack of any documented golden eagle mortalities at wind farm facilities in this region of the northeastern United States, the Applicant does not dismiss the possibility of any take of golden eagles by the proposed Facility, according to DEC Staff. Golden eagle fatalities have been reported at wind farm facilities in the western US, but the frequency of any golden eagle fatalities in the east would be expected to be lower due to a smaller population size, in general, and the fact that golden eagles are not on the landscape in New York during the breeding season.[211] Given these circumstances, no data from other similar wind farm facilities in the State exist to reasonably conclude that the proposed Facility would take more than three golden eagle.[212] In addition, no operating wind farm facilities have resulted in take levels for bald eagles and golden eagles that are greater than those proposed by the Applicant.[213]

Third, the only other take estimates presented at the hearing rely on the Bayesian Risk Model used by the U.S. Fish and Wildlife Service (USFWS). However, based on their experiences with wind farm facilities in New York, DEC Staff does not use the Bayesian Risk Model to calculate takings. DEC Staff expressed concerns about the accuracy of the Bayesian Risk Model.[214] DEC Staff noted that the Bayesian Risk Model is based on data from facilities located outside of the Atlantic Flyway, and cited a preference for relying on data from wind farm facilities that are located in and adjacent to New York State.[215]

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[211] Tr. 1110.

[212] Tr. 1613.

[213] Tr. 44.

[214] Tr. 43, 94.

[215] Tr. 638.

Finally, DEC Staff noted that Certificate Conditions have been proposed to address circumstances when the take of either bald eagles or golden eagles becomes greater during operation of the Facility than initially estimated. For example, proposed Certificate Condition 68 would require the Applicant to develop an adaptive management plan.[216] Upon review and approval by DEC Staff, the plan may require a curtailment of operations as well as additional mitigation.[217]

DOAS objected to the Applicant's estimated take of six bald eagles and three golden eagles over the 30-year life of the Facility, and DEC Staff's support of this estimate.[218] Thomas Salo is a member of DOAS. He has been counting migrating raptors at the Franklin Mountain Hawk Watch since 1989. Since 2000, he has been managing the day-to-day operations at the survey site.[219]

DOAS Witness Salo observed that the estimated take accepted by DEC Staff is "radically different" from the estimate based on the Bayesian Risk Model.[220] Given the disparity, Witness Salo concluded that "both sets of numbers cannot be correct."[221] Witness Salo noted further that DOAS observation rates showed that an eagle was in "close proximity" to 1 of 4 proposed turbine locations every five hours. Based on these observations, Witness Salo said that DOAS could not accept the

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216 Tr. 169-170.

217 Tr. 172.

218 DOAS Initial Brief, p. 10.

219 Tr. 1676.

220 In the Net Conservation Benefit Plan, the Applicant provided an estimated take of bald eagles and golden eagles based on the Bayesian Risk Model. The estimate is confidential. (DOAS Initial Brief, p. 10; see also Hrg. Exh. 3, Appendix TT [CONFIDENTIAL].)

221 Tr. 1721.

Applicant's estimated take of six bald eagles and three golden eagles over the 30-year life of the Facility[222] because the data DEC Staff relied upon are not appropriate for extrapolating the estimated take.[223]

Although preferring the estimate based on the Bayesian Risk Model, Witness Salo acknowledged that the purpose of the surveys conducted by the Applicant's consultants (Western Ecosystems Technology, Inc. [WEST]) was to collect data as inputs for the risk model. The WEST surveys sampled the Project area. In contrast, DOAS conducted its surveys for long periods in limited areas to determine eagle usage at a limited number of proposed turbine sites. Given the different survey methods, Witness Salo concluded that the risk assessment at individual proposed turbine sites is incomplete.[224]

Intervenor DeHaan, Ph.D., is an Associate Professor of History at Binghamton University. Intervenor DeHaan is a resident of Delaware and Broom Counties. As an historian, Intervenor DeHaan expressed concern about the application materials associated with the potential adverse impacts to bald and golden eagles from the construction and operation of the proposed Facility.[225]

Intervenor DeHaan critiqued the results of the Applicant's analysis using the Bayesian Risk Model. Intervenor DeHaan argued that the Applicant should be required to undertake a new analysis for two reasons. The first is that new data, referred to as "priors," was released in 2018 that were not previously available when the Applicant reported the results of

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[222] Tr. 1721.

[223] Tr. 2219.

[224] Tr. 2214-2215.

[225] Tr. 1623.

its analysis in 2017. Second, the analysis should rely on data that more accurately represents the survey coverage of the Facility site. According to Intervenor DeHaan, the data set initially used by the Applicant had a "Western bias." In other words, the data came from wind farm facilities located west of the Mississippi River.[226]

Intervenor DeHaan observed that the surveys undertaken by WEST, on behalf of the Applicant, and DOAS show "uneven eagle usage of the site." Based on this observation, Intervenor DeHaan concluded the results from the Bayesian Risk Model would underestimate take estimates. According to Intervenor DeHaan, the Bayesian Risk Model analysis begins with observing the number of eagles in a particular volume of space. Intervenor DeHaan noted that the results of the analysis would be adversely impacted by limitations associated with the surveyors' visibility of the area. These limitations are related to the topography of the area as well as the vegetative cover present at the time the surveys were undertaken. Intervenor DeHaan questioned what adjustments were made if the volume observed was less than that required by the Bayesian Risk Model.[227]

Intervenor DeHaan shares DOAS's concern about the disparity in the estimated take of six bald eagles and three golden eagles over the 30-year life of the Facility that DEC Staff has accepted, and the results from the Bayesian Risk Model analysis. According to Intervenor DeHaan, the basis for the former estimate lacks credibility. Intervenor DeHaan said there appears to be "no specific reason to cast aside the Bayesian numbers, apart from the fact that they are inconvenient." Intervenor DeHaan contended that reliance on the Bayesian Risk

[226] Tr. 1633, 1635.

[227] Tr. 1633.

Model would be better than the analysis relied upon by DEC Staff, as outlined above, because the Bayesian Risk Model is "well-tested" and "well-regarded."[228] Intervenor DeHaan argued that the DEC needs to make an independent evaluation that takes into consideration its conservation goals for bald eagles and golden eagles, and the pride these bird species foster in the community, among other things.[229]

To fulfill federal requirements, the USFWS relies on the Bayesian Risk Model. It was designed to overestimate the take of eagles in order to provide conservative estimates.[230] DEC Staff does not rely on the Bayesian Risk Model due to accuracy concerns, and did not ask the Applicant to use the Bayesian Risk Model to estimate the take of bald eagles and golden eagles at the Facility site for purposes of compliance with the requirements outlined in ECL Article 11 and 6 NYCRR Part 182.[231] As the basis for DEC Staff's accuracy concerns, the results from the Bayesian Risk Model analyses rely on collision probability data collected from pre-existing wind farm facilities located in California. Therefore, reliance on the results from a Bayesian Risk Model analysis renders such analyses less suitable for comparison to relatively newer projects located in the Northeast, which are using more modern wind turbines.[232]

The Applicant will apply for a federal take permit from the USFWS for this Facility. The permitting requirements for the federal and State permits are two separate processes

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[228] Tr. 2201, 2203.

[229] Tr. 1657.

[230] Tr. 1965.

[231] Tr. 42.

[232] Tr. 373.

with separate requirements.[233] According to the Applicant, the federal take estimate must be conservatively large because the federal process allows for a wider range of mitigation options across the United States including a *Bald Eagle and Golden Eagle In-lieu Fee Program*. The federal process also allows for staggered mitigation based on actual realized take. As a result, mitigation is reviewed on a five-year basis. By comparison, the State permitting process requires the identification of mitigation up front to offset the estimated take and meet the requirements of 6 NYCRR 182.12(a)(2), among others.[234]

The Applicant would be required to obtain all necessary approvals for the proposed Facility.[235] However, the Applicant's compliance with the federal Endangered Species Act and the requirements associated with obtaining a federal take permit are beyond the scope of this proceeding. Therefore, the results of any analysis related to the Bayesian Risk Model, as well as any concerns about the data or procedures used to conduct the required Bayesian Risk Model analysis for the federal permit are immaterial to this matter. The concerns raised by the intervening parties are not relevant to any of the Board's determinations required by PSL §168(2)(a) and §168(3)(c) and (e).

In addition, no intervening party proffered a witness qualified to testify about how to conduct Bayesian Risk Model analyses, or how to interpret the results obtained from such analyses. Witness Miller, who is a research wildlife biologist

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[233] Compare federal Endangered Species Act (16 USC §§1531 to 1544) and 50 CFR Part 17 with ELC §11-0535(2) and 6 NYCRR §182.12.

[234] Bluestone Initial Brief, p. 65.

[235] Hrg. Exh. 10, Certificate Condition 3.

with extensive work experiences related to avian studies, in general, and golden eagles, in particular, testified on behalf of DOAS.[236] Witness Miller stated, however, that she did not have in-depth knowledge of the Bayesian Risk Model.[237] Witness Salo, also a witness for DOAS, has extensive experience in observing the behavior of raptors, in general, as well as observing the behavior of bald and golden eagles, in particular. However, he did not offer any educational training or work experiences that would qualify him as an expert with respect to the use and application of the Bayesian Risk Model.[238] Intervenor DeHaan is a social scientist.[239] She did not offer any educational training or work experiences that would qualify her as an expert with respect to the use and application of the Bayesian Risk Model.[240]

Based on the foregoing discussion, no intervening party has offered evidence from a qualified expert to refute either the Applicant's estimated take of six bald eagles and three golden eagles over the 30-year life of the Facility, or the rationale offered by DEC Staff for accepting the Applicant's estimate. Therefore, as part of the Siting Board's consideration of whether to authorize the take of bald eagles and golden eagles, the Examiners recommend that the Siting Board accept the Applicant's estimated take of six bald eagles and three golden eagles over the 30-year life of the Facility.

There is no dispute that all of the proffered survey data shows the potential for a take of bald eagles and golden

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[236] Hrg. Exh. 28; Tr. 1334-1335.

[237] Tr. 637.

[238] Tr. 1675-1676.

[239] Hrg. Exh. 143.

[240] Tr. 1623-1624.

eagles from the construction and operation of the proposed Facility. In addition, the potential take is greater than one individual of each species each decade over the 30-year life of the Facility. As a result, the threshold criteria have been met, and DEC Staff has determined that the Applicant must comply with requirements outlined in ECL Article 11-0535(2) and 6 NYCRR Part 182. Consequently, the Siting Board must consider whether to condition the requested Certificate that would authorize the incidental take of bald eagles and golden eagles during the construction and operation of the proposed Facility. The Examiners recommend further that the Siting Board consider the survey data offered at hearing by DOAS,[241] in addition to the information presented in the application materials,[242] as part of the analysis required by 6 NYCRR §182.11(c)(3).

The discussion now turns to mitigation. If an applicant can demonstrate that full avoidance of indirect or direct impacts to the affected species is impracticable, appropriate minimization measures and mitigation are required by 6 NYCRR §182.11(d)(1) to achieve a net conservation benefit to the affected species. According to DEC Staff, uncertainty about the success of proposed mitigation approaches is unavoidable. As a result, DEC Staff emphasized that the Applicant should make every effort to minimize any direct or indirect impacts to bald eagles and golden eagles in the first instance. Because the data show that bald eagles and golden eagles use the Facility site and surrounding areas, DEC Staff recommended that avoidance be achieved by removing the turbines that would likely result in the take of eagles. Based on the application materials and

[241] See Hrg. Exh. 27, 29, 34 through 39, inclusive.

[242] See Hrg. Exh. 2, 3, 4, and 9 with associated appendices.

Witness Miller's risk assessment,[243] DEC Staff identified the following turbines: T13, T22, T23, T25, T26, T27, T29, T31, T32 and T40. According to DEC Staff, the Applicant has removed T22 and T32,[244] based on the latest revision of the proposal.[245]

DEC Staff said that potential adverse impacts to eagles would be minimized by either micro-siting some of the turbines that are most likely to result in collisions,[246] or removing some of these turbines from the Facility site.[247] DEC Staff also said that minimization would be accomplished by implementing daytime curtailment during the times of year when eagle activity is highest (i.e., during the late fall and spring), either through a daily curtailment regime based on sunrise and sunset times, or through active implementation when eagles are identified in the Facility site by an observation system. For example, human observers stationed at locations where they have clear sight lines of at least 1,000 meters in all directions from the high-risk turbines could be used to observe eagles entering the Facility site. In the alternative, DEC Staff explained that an automated system, such as IdentiFlight or a similar technology, provided its effectiveness has been adequately demonstrated, could be used to observe incoming eagles. According to DEC Staff, implementing such a curtailment strategy, particularly with respect to the high-risk

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243 Hrg. Exh. 24, Table 2.

244 DOAS is under the impression that these two turbines were removed for reason unrelated to eagle risks (Tr. 2220).

245 Tr. 1115-1116.

246 Micro-siting means changing the location of a turbine by moving less than 500 feet.

247 See Hrg. Exh. 24, pp. 4, 7-14.

turbines, would minimization potential adverse impacts in a meaningful manner.[248]

The Applicant agreed to curtail certain turbines based on an observation system. The curtailment would be in the form of either a human observer (i.e., bio-monitor) or an automated system that would be implemented for the highest risk turbines (T25, T26, and T29) during periods of peak eagle activity, which would be from October 15 to November 30, and from February 15 to April 30.[249] DEC Staff proposed modifications to proposed Certificate Condition 68(a),[250] and the Applicant accepted the proposed modifications.[251]

To further minimize potential adverse impacts, the Applicant has agreed to additional minimization measures in the form of ongoing adaptive mitigation. The adaptive mitigation process would require consultation with DEC and DPS Staff to develop additional measures in the event of any fatality at any time of year of either bald eagles or golden eagles within the Facility site.[252] In addition to the previously described

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[248] Tr. 1116.

[249] Hrg. Exh. 10, Certificate Condition 68(a).

[250] Tr. 1122-1123. DEC Staff proposed to add the following language to Certificate Condition 68(a): "Curtailment will be implemented at turbines T25, T26, and T29 upon detection of eagles based on a plan prepared in consultation with and accepted by DEC and DPS prior to Project operation. Regardless of the type of monitoring system deployed, the date and time of all eagle detections within 500m of turbines T25, T26, and T29 will be recorded, along with date, time and duration of any curtailment initiated in response to those detections. A summary of the monitoring data shall be shared with DEC on an annual basis."

[251] Tr. 209-211, 1989.

[252] Hrg. Exh. 10, Conditions 68(b) and (c).

monitoring for turbines T25, T26, and T29, adaptive mitigation measures may also be implemented for additional turbines.[253]

When full avoidance is found to be impracticable, 6 NYCRR §182.11(a) and §182.12(a)(3) require the Applicant to develop a net conservation benefit plan, as noted above. With respect to bald eagles and golden eagles, potential mitigation options that would result in a net conservation benefit include, among other things: (1) protection of known nesting habitat through permanent conservation easements to prevent future disturbance; (2) successful rehabilitation of injured eagles such that they are returned to the breeding population; (3) implementation of effective deterrents at sites where mortality has been reported; and (4) retrofitting electric poles at sites where eagle electrocution has occurred. In addition to these options, other valid mitigation proposals would either reduce mortality or increase productivity.[254]

During the hearing, the intervenor parties contested the issue of whether the Applicant's proposed mitigation would result in a net conservation benefit to bald eagles and golden eagles. DOAS argued that the Applicant's proposed minimization and mitigation are insufficient and unacceptable.[255]

On behalf of DOAS, Witness Salo offered testimony about the proposed bio-monitoring plan and the related curtailment.[256] According to DOAS, a single bio-monitor would not be effective given the number of non-migrating eagles in the vicinity of the Facility site. DOAS contended, therefore, that the proposed seasonal curtailment would not provide sufficient

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253 Tr. 1119.

254 Tr. 1118.

255 DOAS Initial Brief, p. 11.

256 Tr. 2221-2225.

protection. Due to the distance between the three proposed turbines, DOAS contended further that several monitors would be necessary to minimize the risks associated with these turbines. Also, the forested conditions of the area present a technical challenge to being able to visually identify low flying birds. With respect to the proposed use of an automated system, DOAS argued that its effectiveness in the eastern U.S. remains unproven.[257]

According to DOAS, the Applicant's proposal to fund wildlife rehabilitators to treat injured bald eagles and golden eagles would not be an effective mitigation option. Because eagles currently receive the best care available,[258] DOAS witnesses said that no net benefit would result from providing more funding to rehabilitators given the priority treatment that bald eagles and golden eagles currently receive.[259] DOAS also noted that little documentation exists about the survival rates of eagles returned to the wild after rehabilitation.[260]

Witness Miller reviewed potential mitigation options for golden eagles in the eastern U.S.[261] According to Witness Miller, the most important causes of injury and mortality are shooting, trapping, trauma, and lead poisoning. Based on these causes, Witness Miller considered the following four mitigation options: (1) education outreach to deter shooting and to decrease incidental trapping; (2) power pole retrofitting to reduce electrocution; (3) road-kill removal programs to reduce

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257 DOAS Initial Brief, pp. 11-12; see also DeHaan Initial Brief, pp. 8-10.

258 Tr. 822.

259 Tr. 1349 (Miller); 2225 (Salo).

260 DOAS Initial Brief, p. 13.

261 Tr. 1346-1350; Hrg. Exh. 25.

vehicle collisions; and (4) lead abatement programs to reduce lead poisoning.[262]

Witness Miller said that educational outreach programs to deter shooting and decrease incidental trapping have not been sufficiently studied to determine whether these outreach programs would be possible mitigation options. Witness Miller contended that incidental trapping is likely one of the highest sources of mortality and injury, particularly during periods of migration and wintering. However, Witness Miller is not aware of any models that could be implemented.[263]

According to Witness Miller electrocution is not a significant source of mortality for golden eagles in the eastern US. As a result, Witness Miller did not recommend power pole retrofits as a mitigation option.[264]

Witness Miller said that collision risk with motor vehicles is related to the size of the road-killed carcasses and their availability. Factors that contribute to availability include, among other things, how long a carcass persists (natural decay and removal by road crews), eagle density, traffic volume, and collision risk. With respect to the eastern U.S., Witness Miller noted that this potential mitigation option would not be practical because vehicle collision rates are low due to low eagle densities. Witness Miller noted further that most eastern states already have existing carcass removal programs, and concluded that any additional benefit would be marginal.[265]

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[262] Tr. 1346; Hrg. Exh. 25, p. 6.

[263] Tr. 1346; Hrg. Exh. 25, p. 7.

[264] Hrg. Exh. 25, p. 7.

[265] Hrg. Exh. 25, p. 7.

Witness Miller said that lead poisoning is one of the most important causes of death of eagles in the eastern U.S., and noted that the American Wind Wildlife Institute has developed a lead abatement program. To predict the number of eagle deaths, the model relies on four variables. They are eagle density, game harvest, percent of gut piles removed, and percent of non-lead ammunition used. The program allows for compensatory mitigation by removing gut piles, or switching from lead to non-lead ammunition, or both. Witness Miller noted that the model was studied in Wyoming, and opined that the model could be applied to the eastern U.S.[266]

According to DEC Staff only 25 of 52 injured eagles were released back into the wild. DEC Staff argued there is room for improving rehabilitation outcomes with a return rate of less than 50%. DEC Staff concluded that supporting rehabilitation outcomes would be an acceptable form of mitigation.[267] DEC Staff stated that its Staff would assess support for rehabilitation when reviewing the net conservation benefit program.[268] In addition, DEC Staff asserted that the effectiveness of a lead abatement program is not clear. DEC Staff expressed concerns about what the scale and geographic scope of such a program would have to be in order to demonstrate a benefit to golden eagles in the State.[269]

The Applicant offered the expert testimony of Dennis Murphy, who has a Ph.D. in Biology, to explain the concept of adoptive management, and its application to the captioned

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[266] Tr. 1347; Hrg. Exh. 25, p. 8.

[267] Tr. 2190; Hrg. Exh. 139.

[268] DEC Staff Initial Brief, p. 25.

[269] Tr. 2186; see also DEC Staff Initial Brief, p. 25.

matter.[270] Though provided, no party exercised its opportunity to cross-examine Witness Murphy. In addition, no party offered any evidence to refute Witness Murphy's testimony. The two exhibits offered through his testimony were received into evidence.[271]

According to Witness Murphy, successful adaptive management is characterized as a stepwise, structured approach to conservation planning and implementation, which incorporates site-specific scientific information on species of concern, on the use of the landscape by those species, and the measured effects of project actions on both.[272]

Witness Murphy explained further that adaptive management includes two phased activities. The first is referred to as the development phase. In the development phase, the relevant best available scientific information and identification of potential impacts on natural resources, including species of concern, is relied upon to develop the adaptive management strategy. The second phase is the implementation phase. During the implementation phase, the adaptive management strategy is executed with project operations, which is accompanied by monitoring and assessment in an agreed-upon schedule.[273]

Witness Murphy opined that the lower take estimates proposed by the Applicant are more protective of threatened and

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[270] Tr. 2079; Hrg. Exh. 121.

[271] Hrg. Exh. 121 is a copy of Dr. Murphy's résumé. Hearing Exh. 122 is an article titled, *Science and structed decision making: fulfilling the promise of adaptive management for imperiled species*, (Dennis D. Murphy and Paul S. Weiland. [February 2014] Journal of Environmental Studies and Sciences).

[272] Tr. 2081.

[273] Tr. 2082.

endangered species because management actions would be triggered sooner than with higher take estimates. With the proposed adaptive management plan, Witness Murphy observed that adjustments to operations would be made before a taking occurs based on monitoring data for bald eagles and golden eagles. The combination of low take estimates and adaptive management should limit potential adverse impacts.[274]

Witness Murphy concluded that adaptive management contributes to avoiding and minimizing potential impacts. The process would allow the Applicant with DEC and DPS Staffs to address impacts to bald eagles and golden eagles at the Facility site with new information to evaluate impacts and, as necessary, revise mitigation options.[275] Adaptive management should not be mistaken as a "trial-and-error" management approach. Rather, it is a process informed by science.[276]

In the reply brief, Intervenor DeHaan was critical of the Applicant's reliance on Witness Murphy's testimony. According to Intervenor DeHaan, the Applicant's support for the adaptive management process is a way to solve the problems associated with gaps in data as well as the uncertainty associated with these data gaps. Intervenor DeHaan argued that the Applicant is relying on adaptive management as a way to conceal defects in the application materials associated with the potential adverse impacts to bald eagles and golden eagles. Intervenor DeHaan characterized Witness Murphy's view of adaptive management as a theoretical potential. With reference to the journal article, Intervenor DeHaan noted that adaptive

[274] Tr. 2087.

[275] Tr. 2087.

[276] Tr. 2088.

management has a "lackluster track record,"[277] or "a mixed track record at best."[278] Intervenor DeHaan concluded that adaptive management would not work effectively if it is confused with ad-hoc decision making. Intervenor DeHaan noted that the Applicant has yet to develop a management plan, and recommended that the Siting Board require the Applicant to develop an adaptive management plan as a compliance filing that would provide the public with an opportunity to review and comment about it before it would be implemented.[279]

With respect to adaptive management, Witness Murphy acknowledged that its track record is mixed, and proposed that two conclusions can be drawn. The first is that the concept is flawed and should be abandoned. The second is that the concept is sound, but there is typically a failure to implementing it properly. It is Witness Murphy's belief, however, that the second conclusion is true. He stated, in pertinent part, that:

> [t]he remedy, that is, the requisite approach to adaptive management, demands developing generally agreed-upon conceptual models, confronting candidate management actions with best available data to establish reliable conservation options, and then choosing management actions for implementation from among well-informed scenarios using contemporary modeling techniques.[280]

Witness Murphy stated further that:

> [a]daptive management requires a demanding upfront approach that emphasizes the production, critical assessment, and appropriate interpretation of scientific information throughout the adaptive management process.[281]

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[277] Hrg. Exh. 122, p. 1.

[278] Hrg. Exh. 122, p. 6.

[279] DeHaan Reply Brief, pp. 30-33.

[280] Hrg. Exh. 122, p. 7.

[281] Hrg. Exh. 122, p. 7.

Recommendation

Based on the foregoing, the development of the proposed adaptive management plan to minimize and mitigate potential adverse impacts to threatened and endangered species from the construction and operation of the proposed Facility will be challenging. However, in his unrefuted testimony, Witness Murphy said that the fundamental elements for the adaptive management of potential adverse impacts to bat species, as well as bald and golden eagles are evident in the application materials and other documents offered at the hearing.[282] Accordingly, the Examiners recommend that the Siting Board assign significant weight to Witness Murphy's testimony.

As noted, PSL §168(3)(e) states that the Siting Board may not issue a Certificate unless the Siting Board determines that the Facility would operate in compliance with applicable State environmental laws, in this case ECL Article 11 and Part 182 of 6 NYCRR. The Applicant has the burden of proof to demonstrate that the Project would satisfy this standard, and in this case, the Examiners advise that the Applicant has met its burden.[283]

The record in this proceeding indicates that bald eagles and golden eagles are present in the vicinity of the Facility, and based upon the testimony of DEC Staff, among others, the risk to these eagle species is significant, including the potential "take" of these listed species. Both construction and operation of the Facility may result in adverse impacts. In light of the evolving data regarding eagle use in the area, a more conservative approach is warranted. The Siting

[282] Tr. 2083.

[283] 16 NYCRR §1000.12(b)(1).

Board should adopt the proposed Certificate Conditions 68, 69 and 70.

E. Public Health and Safety

The Siting Board must make explicit findings regarding the nature of the probable environmental impacts of the construction and operation of the Facility on public health and safety.[284] The Siting Board cannot grant a Certificate without first making certain findings, including a finding that the construction and operation of the Facility will serve the public interest, and that the adverse environmental effects of the construction and operation of the facility will be minimized or avoided to the maximum extent practicable.[285]

Wind-generated electricity is in many ways safer and healthier than other forms of electricity generation. Among other things, wind energy produces electricity without burning fossil fuels and therefore the operation of such facilities does not cause any air pollution emissions. The potential health and safety risks associated with the operation of the wind facilities are generally limited to effects associated with the movement of the blades and the operation of the mechanical and electrical components of the turbines themselves. These include ice shedding, tower collapse, and blade failure.[286] In this proceeding, no issues were raised during the testimony with

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[284] PSL §168(2)(b).

[285] PSL §168(3)(b) and (c). If the Siting Board makes a finding that the facility results in or contributes to a significant and adverse disproportionate environmental impact in the community in which the facility would be located, the Siting Board must also make a finding that the applicant will avoid, offset or minimize the impacts caused by the facility upon the local community for the duration that the Certificate is issued to the maximum extent practicable using verifiable measures. PSL §168(3)(d).

[286] Hrg. Exh. 2, App. Exh. 15.

respect to ice shedding, tower collapse or blade failure. Accordingly, this discussion will be limited to potential health and safety impacts related to shadow flicker and noise.

1. Shadow Flicker

The regulations, 16 NYCRR §§1001.15(e) and 1001.24(a)(9), require an applicant to address impacts due to shadow flicker and to provide an analysis and description of related operational effects of the facility such as visible plumes, shading, glare and shadow flicker. Shadow flicker refers to intermittent changes in light intensity in a given location due to a wind turbine's interaction with the sun.[287] Shadow flicker typically occurs for a limited number of hours a year at a home due to the fact that the sun must be in a particular location in the sky, the sun and the turbine must be aligned relative to the home, there must be sufficient wind for the turbine blades to be spinning, and clouds must not obscure the sun at the relevant times.[288]

To determine operational effects of the Facility, Bluestone's consultant, Epsilon Associates, Inc., conducted a shadow flicker analysis.[289] That study and analysis examined shadow flicker on nearby potential receptors, identifying the number of potential receptors and predicted annual hours of shadow flicker at each receptor within the shadow flicker study

[287] Hrg. Exh. 2, App. Exh. 15, p. 8.

[288] Hrg. Ex. 2, App. Exh. 15, pp. 8-9.

[289] The Applicant's shadow flicker analysis used WindPRO 3.1.633 software and the associated shadow module, which is a widely accepted modeling software package developed specifically for the design and evaluation of wind power projects. Hrg. Exh. 2, App., Exh. 24, p. 18. Shadow flicker is also addressed in App. Exh. 15(e)(4) and the Bluestone Shadow Flicker Report is included as Appendix T.

area.[290] Potential receptors include any known residential structures (both participating and non-participating), schools, office buildings, storefronts, or known public recreation areas (e.g., campgrounds, trailheads within State Forest land) within a 10-rotor diameter area (1,500 meters) around the proposed turbines. The Applicant performed a study and analysis of shadow flicker to determine the location of shadow flicker and evaluate the duration of shadow flicker in the vicinity of the proposed Facility. Neither Federal law, nor the laws of New York State establish any limit on exposure to shadow flicker. Section 1001.24 of the Article 10 regulations requires that an analysis of shadow flicker be conducted. The regulation, however, does not impose quantitative shadow flicker limits applicable to this Facility. Because no federal or State legal or regulatory limit on exposure to shadow flicker exists, the Applicant employed the standard the Siting Board has established in previous decisions, namely a threshold of 30 hours annually at non-participating residential receptors.[291]

The Shadow Flicker Analysis evaluated the impacts from five turbine models under consideration for the Facility; however, the turbine with the largest rotor diameter (Vestas V150-4.2) was used to calculate the 10-rotor diameter study area

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[290] Hrg. Exh. 2, App. Exh. 24, p. 18.

[291] See Case 15-F-0122, Baron Winds LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need, With Conditions (issued September 12, 2019), p. 107; Case 16-F-0062, Eight Point Wind, LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need, With Conditions (issued August 20, 2019), Appendix A, Condition 57; Case 14-F-0490, Cassadaga Wind LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need, With Conditions (issued January 17, 2018), Appendix A, Condition 30.

that was used for all analyses. Input variables included: latitude and longitude of the 33 proposed wind turbine sites, and for the 392 potential receptors located in the 10-rotor diameter study area (i.e., 1,500 meters); USGS topographic mapping; rotor diameter and hub height for the turbine models under consideration; annual wind data to determine approximate directional frequency of rotor orientation; and monthly sunshine probabilities from publicly available datasets.[292]

The preliminary modeling results showed that 27 receptors would be expected to have over 30 hours of shadow flicker per year. Fourteen of those 27 receptors are on participating parcels, which the remaining 13 are on non-participating parcels. The maximum expected annual duration of shadow flicker at a receptor on a participating parcel is 62 hours 1 minute, while the maximum expected annual duration of shadow flicker at a receptor on a non-participating parcel is 56 hours 45 minutes.

Based on the results of the preliminary model, field visits were conducted to the 13 non-participating parcels that showed preliminary shadow flicker results of more than 30 hours to obtain information about obstacles and window orientation. Field review showed that two of the 13 receptors are located in heavily wooded areas that would significantly reduce shadow flicker impacts. Vegetation or structures in the vicinity of the other 11 non-participating receptors do not result in quantifiable reductions in expected annual shadow flicker. Therefore, after incorporating this additional information into the model, a total of 11 non-participating receptors are

[292] Hrg. Exh. 2, App. Exh. 24, p. 19.

predicted to experience shadow flicker for more than 30 hours per year.[293]

The Application describes shadow flicker impacts as generally an annoyance issue and not a health effects concern.[294] According to the Epilepsy Foundation, "Generally, flashing lights most likely to trigger seizures are between the frequency of 5 to 30 flashes per second (Hertz)" (Epilepsy Foundation, 2017). Of the proposed wind turbines under consideration, the maximum rotational speed of 13.6 revolutions per minute (rpm) corresponds to a frequency of 0.7 Hz, which is well below the frequency identified by the Epilepsy Foundation as a potential concern.[295]

Based on this information, including the fact that only 11 non-participating receptors were predicted to exceed the 30-hour threshold,[296] the Applicant concluded that significant adverse shadow flicker impacts are not anticipated.

DPS Staff testified that, because shadow flicker is expected to exceed 30 hours annually at 11 non-participating residences, the Facility will potentially have some limited effect on the use and enjoyment of residential property.[297] Because shadow flicker in excess of 30 minutes daily has been described as an annoyance, Staff testified that the mitigation measures proposed by the Applicant should be applied in response to complaints, if shadow flicker exceeds either 30 minutes daily or 30 hours annually.[298]

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293 Hrg. Exh. 2, App. Exh. 24, p. 20; Tr. 1365-1367.

294 Hrg. Exh. 2, App. Exh. 24, p. 20.

295 Hrg. Exh. 2, App. Exh. 24, p. 20.

296 Tr. 1365-1367; Hrg. Exh. 15; App. Exh. 15, p. 11.

297 Tr. 1365.

298 Tr. 1366-1367.

Stipulated Certificate Condition 64 will require Bluestone to provide shielding or blocking measures, such as landscape plantings and window treatments, for receptor locations that are the subject of complaints but are not otherwise subject to the 30-hour annual shadow flicker limit. In addition, the Stipulated SEEP Specifications for Facility construction require the SEEP to include details of screening or landscape plans, and require the Certificate Holder to prepare a Final Shadow Flicker Impacts Analysis, Control, Minimization and Mitigation Plan.[299] That plan must include: (i) an updated analysis of predicted flicker based on final proposed design; (ii) a protocol for monitoring operational conditions and potential flicker exposure at turbine locations identified in the analysis, based on meteorological conditions; (iii) details of the shadow prediction and prevention technology that will be adopted for real-time meteorological monitoring and operational control of turbines; (iv) temporary turbine shutdowns during periods that produce flicker over 30 hours/year; and (v) shielding or blocking measures for receptor locations not subject to the 30-hour annual limit, but that are the subject of submitted complaints.[300] Based on these requirements, DPS Staff recommends adoption of Certificate Condition 64, and concludes that its provisions will resolve DPS Staff's concerns about shadow flicker impacts.[301]

Several members of BCCR raised concerns about the impact of shadow flicker on their properties. Bluestone's Public Outreach Panel, however, testified that many of the residents expressing concern about shadow flicker are more than

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[299] Hrg. Exh. 11, Appendix A to Certificate Conditions, p. 14.

[300] Hrg. Exh. 11, SEEP Specifications, §14(b), pp. 17-18.

[301] Tr. 1365-1367.

a mile from the closest turbine and are not expected to experience any significant sound or shadow flicker impacts.[302] More specifically, Bluestone Witness Jarvis testified that 4 out of 6 of the individuals who raised concerns about shadow flicker are outside the shadow flicker study area or are anticipated to experience less than 10 hours of shadow flicker per year at their residences, well below the accepted 30-hour per year design goal.[303] The Applicant has committed to a shadow flicker limit of 30 hours per year to minimize impacts to non-participating properties and will not exceed that limit once the Facility is in operation. The Applicant has also agreed to implement a Complaint Resolution Plan to address any complaints during construction and operation of the Facility and to address shadow flicker impacts in accordance with the above-referenced Certificate Condition and SEEP provision.[304] The Applicant asserts that these measures should mitigate any shadow flicker impacts.[305] As discussed above, DPS Staff agrees with this conclusion.

In its initial post-hearing brief, BCCR objected to the fact that, in response to an interrogatory posed by BCCR, Bluestone did not disclose the names and addresses of the residences identified as shadow flicker receptors in the Shadow Flicker Report prepared by Epsilon Associates.[306] However, BCCR does not identify any legal basis for requiring Bluestone to disclose such information, and BCCR did not timely move to compel discovery of such information. In light of this, BCCR's

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302 Tr. 2140.

303 Tr. 2140-2143.

304 Tr. 2144.

305 Bluestone Initial Brief, p. 80.

306 BCCR Initial Brief, p. 12.

objection has no record basis and, therefore, no probative value. BCCR also argued that Bluestone's study and analysis of shadow flicker impacts is inadequate, for various asserted reasons that are neither supported by citations to any applicable law, nor supported by any citations to the evidence in the record.[307] Therefore, these assertions do not warrant any further consideration.[308]

Recommendation

Based on the above, we recommend that the Siting Board adopt Proposed Certificate Condition 64 and the relevant provisions of Appendix A to the proposed Certificate Conditions relating to shadow flicker, as discussed above.[309] Provided these conditions and requirements are adopted, we recommend that the Siting Board find that the adverse environmental effects of shadow flicker related to the construction and operation of the facility will be minimized or avoided to the maximum extent practicable, and that construction and operation of the facility will be in the public interest.

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[307] BCCR Initial Brief, pp. 46-47.

[308] To the extent BCCR cites to the Therrien testimony, Tr. 1262-1269, and related exhibits, Hrg. Exh. 82, it is of little or no probative value. Steve and LuAnn Therrien testified that they suffer from Wind Turbine Syndrome due to noise impacts from a wind facility developed by First Wind Energy, LLC, in a different location. Their testimony does not address shadow flicker. BCCR has not made any showing that the design and operation of the wind facilities in the case of the Therrien family is in any material respects similar to Bluestone's proposed facility. Therefore, the Therrien testimony does not inform the record in this case.

[309] See Hrg. Exh. 11 (Guidance For The Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project), §14, pp. 17-18.

2. Noise and Vibration

Application Exhibit 19[310] and Appendix X to the Application, the Pre-Construction Noise Impact Assessment (PNIA), set forth Bluestone's evaluation of potential noise and vibration impacts associated with the construction and operation of the Facility. The Applicant has also proposed Certificate Conditions and a post-construction compliance monitoring plan to verify that the Facility complies with the Applicant's proposed noise limits and to respond to any noise and vibration complaints.[311]

The pre-construction ambient noise analysis resulted in overall equivalent continuous average sound levels (Leq) ranging from 50 to 58 dBA during the day and 50 to 55 dBA during the night.[312]

a. Specific Noise Limits

In 1999, the World Health Organization (WHO) recommended a noise limit of 45 dBA-Leq-8-hour outside bedrooms during the nighttime period.[313] The 45 dBA-Leq-8-hour was adopted by the Siting Board for the Cassadaga Wind Project in Case 14-F-0490 for non-participating receptors for both the daytime and the nighttime periods.[314] Here, Bluestone proposed a nighttime-only short-term design goal and regulatory limit of 45 dBA-Leq-8-hour for all non-participating residences, and 55 dBA-

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310 Hrg. Exhs. 2 and 3.

311 Hrg. Exh. 10, Section V, proposed Certificate Conditions 75-82; Hrg. Exh. 2, App. Appendix Y, Post-Construction Noise Evaluation Protocol.

312 Hrg. Exh. 2, App. Appendix X, Tables 8-3 and 8-4.

313 Tr. 1760-1761. The 1999 WHO Guidelines also included various other recommended limits which varied depending on context (e.g. outside living area, school class rooms, hospitals, etc.).

314 Tr. 1820-1821.

Leq-8-hour for participating residences.[315] DPS Staff objected to Bluestone's proposal to apply these limits to nighttime periods only.[316]

The term Lnight is a long-term noise descriptor representing an average of all the noise levels during the nighttime period within a year.[317] In 2009, the WHO issued nighttime noise guidelines for Europe which included a recommended limit of 40 dBA-Lnight-outside at existing non-participating residences, and a limit of 50 dBA-Lnight-outside at existing participating residences.[318] In its decision in the Cassadaga Wind case, the Siting Board adopted both the 45-dBA-Leq-8-h and the 40-Lnight recommendations as short-term and long-term noise limits, respectively, to be demonstrated by postconstruction measurements.[319]

b. Design Goals and Regulatory Limits[320]

Applicant's Proposed Limits

The Applicant proposed specific noise limits that, in its view, will minimize annoyance and complaints and are attainable and protective of human health and the environment.[321] According to Bluestone, its noise related design goals were developed based on a literature review of health-based standards, guidelines on sound and annoyance, and previous

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315 Tr. 1759.

316 Tr. 1819.

317 Tr. 1779.

318 Tr. 1779.

319 Tr. 1783.

320 When designing a project, an applicant will create goals that it uses to inform its project design that are not enforceable regulatory limits. Some of those design goals may later be imposed by the Siting Board as regulatory limits.

321 Bluestone Initial Brief, pp. 80-81 (citing Hrg. Exhs. 2 and 3, i.e., App. Exh. 19 and App. Appendix X).

Siting Board proceedings.[322] Bluestone states that its goal was to balance reasonable development and minimize potential impacts from the Facility.[323] Bluestone proposed long-term design goals of 40 dBA (night-outside) for non-participating residences and 50 dBA (night-outside) for participating residences. Bluestone proposed a nighttime-only short-term regulatory limit of 45 dBA-Leq-8-hour for all non-participating residences, and 55 dBA-Leq-8-hour for participating residences.[324] The Applicant selected a 45-dBA-Leq-8-hour for non-participating residences based on the outdoor recommendation from the World Health Organization (WHO) 1999.[325] Further, Bluestone proposed design goals related to low-frequency and infrasound of 65 dB Leq-1-h at the full octave frequency bands of 16, 31.5 and 63 hertz (low-frequency and infrasound limits).

Applicant Witness McCunney, a medical doctor affiliated with Brigham and Women's Hospital, Harvard Medical School, testified in rebuttal to DPS Staff's testimony that the WHO-2018 study recommended a noise limit of less than 45-dBA Lden to avoid adverse health impacts.[326] Witness McCunney testified that the record evidence in the Cassadaga proceeding was more recent and robust than the evidence considered as part of the WHO-2018 study.[327] Witness McCunney also testified that, from a public health perspective, there is no reason for the

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322 Hrg. Exh. 2, App. Appendix X, p. 1-1.

323 Hrg. Exh. 2, App. Appendix X, p. 1-1.

324 Tr. 1759.

325 Tr. 1760-1761; Hrg. Exh. 2, App. Appendix X, p. 1-1. DPS Staff Witness Moreno-Caballero testified that the outdoor noise limit of 45 dBA-Leq-8-hour during the nighttime is not sufficiently protective, and that this recommendation was superseded by WHO in October 2018. Tr. 1760-1761.

326 Tr. 2050.

327 Tr. 2053.

Siting Board to reconsider the 45 dBA short-term noise standard ordered in the Cassadaga order.[328] Witness McCunney testified that a design goal of 45 dBA-Leq-8-hour-nighttime outside a non-participating residence is protective of human health.[329] Witness McCunney testified that, although noise can contribute to annoyance in the context of living near wind turbines, it is a minor factor relative to other annoyance factors, and annoyance associated with wind turbines tends to be subjective and appears primarily related to personal attitudes regarding visual impacts, other personal characteristics, and whether economic benefit is associated with living near wind farms.[330]

DPS Staff Proposed Limits

DPS Staff Witness Moreno-Caballero testified that, as originally proposed, the Project consisted of 33 turbines, but this number was reduced to 27 turbines in an application supplement dated April 19, 2019.[331] The six turbines that were eliminated are T11, T16, T19, T22, T30, T32. In addition, turbine T1 has been shifted 904 feet to comply with setback provisions and turbines T4, T10, T15, T21, T27, and T29 were shifted less than 500 feet to comply with setback provisions and reduce environmental impacts. The Applicant also shifted the location of T25 approximately 200 feet to avoid impacts to a microwave path that is part of the proposed Broome County 911 network update.[332] DPS Staff also testified that, as of the date that DPS Staff's initial testimony was filed, Bluestone had not submitted updated computer noise modeling results based on the

[328] Tr. 2053.

[329] Tr. 2050.

[330] Tr. 2051.

[331] Tr. 1755.

[332] Tr. 1755-1756.

revised proposed layout and newly proposed turbines.[333] As a result, Witness Moreno-Caballero's testimony was based on the noise studies originally submitted by Bluestone, and only addresses the originally proposed 31 turbines at the original locations, and four different wind turbine models.[334]

Based on that information, DPS Staff testified that the Project would not avoid or minimize adverse environmental noise impacts to the maximum extent practicable.[335] Witness Moreno-Caballero expressed concerns about some of the assumptions and input values employed for computer noise modeling, Bluestone's proposed sound limits and the proposed post-construction modeling.

Witness Moreno-Caballero also expressed concerns about some of the proposed Certificate Conditions. In particular, he challenged the proposed short-term design goals and regulatory limits for the Project, as well as the absence of design goals and regulatory limits at boundary lines. Witness Moreno-Caballero objected to the proposed protocol for post-construction evaluations of noise impacts, in particular the exclusion of post-construction sound evaluations of the long-term noise descriptor (Lnight).[336] Witness Moreno-Caballero testified that to ensure the feasibility of mitigating low frequency sound levels without having to reduce power generation, the Applicant should explore turbine elimination and relocation or selection of a turbine model with lower sound power levels.[337]

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[333] Tr. 1756.

[334] Tr. 1756-1757.

[335] Tr. 1757.

[336] Tr. 1757.

[337] Tr. 1758-1759.

DPS Staff recommended compliance with noise related design goals and regulatory limits that are different than what Bluestone proposed. Specifically, DPS Staff recommended application of: (i) short term design limits of 42 dBA-Leq-8-hour for non-participants and 52 dBA-Leq-8-hour for participants, both applicable to the day and nighttime periods;[338] (ii) a long-term design regulatory limit of 40 dBA L(night-outside) for non-participants; and (iii) a short-term regulatory limit of 52 dBA-Leq-8-hour for participants. DPS Staff agreed with Bluestone's proposal for regulatory limits of 65 dB Leq-1-h at the full octave frequency bands of 16, 31.5 and 63 hertz (low-frequency and infrasound limits).

DPS Staff Witness Moreno-Caballero testified that the 45 dBA-Leq-8-hour proposed by Bluestone is less protective than the 40 dBA Lnight recommendation from WHO-2009.[339] DPS Staff asserted that the Applicant's short-term limit was based on a WHO-1999 recommendation which was superseded by recommendations in WHO-2018.[340] DPS Staff also testified that the Applicant's proposed short-term limit should not apply to the nighttime exclusively, as Bluestone proposed, but should also apply to daytime sound levels.[341] On this last point, Witness Moreno-Caballero offered four reasons: (i) there is no precedent for a nighttime-only limit in New York; (ii) the lack of a daytime standard would preclude daytime enforcement of standards for tonal and amplitude modulation, which are factors that

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338 These metrics refer to the sound levels measured or modeled outside of a receptor residence.

339 Tr. 1783.

340 Tr. 1761, 1819. See Hrg. Exh. 45, World Health Organization Regional Office for Europe, Environmental Noise Guidelines for the European Region (2018) (WHO-2018).

341 Tr. 1819.

contribute to annoyance; (iii) the lack of any daytime noise limits could complicate administration of noise reduction operations (NROs); and (iv) the WHO-2018 recommendations use a noise descriptor that includes consideration of the entire day, not the nighttime only.[342] Finally, DPS Staff pointed to the Siting Board's decision in the Cassadaga case, which imposed a 45 dBA-Leq-8-hour limit regardless of time of day, which prohibits exceedances during any 8-hour period.[343]

DPS Staff testified, however, that the WHO-1999 recommendation of 30 dBA-Leq-8-hour indoors was still applicable, and that to comply with this indoor limit, the Siting Board should apply an outdoor design limit of 42 dBA-Leq-8-hour to the Facility. This is because, DPS Staff argues based on various literature,[344] it is reasonable to assume that a building envelope will attenuate outside noise by between 10 and 13 dBA. Therefore, Staff asserts, to comply with the WHO-1999 recommended limit of 30 dBA-Leq-8-hour indoor, the Project must meet a 42 dBA-Leq-8-hour outdoor noise limit. DPS Staff further argues that a 41 dBA-Leq-8-hour short-term limit would ensure compliance with a long-term limit of 40 dBA L(night-outside), which is a recommendation contained in the WHO-2019 guidelines.

DPS Staff further argues that the 40 dBA L(night-outside) recommendation from WHO-2019 should apply as a regulatory limit to the Facility because it is more protective than a 45 dBA-L-eq-8-hour limit, based on DPS Staff's calculations comparing the maximum sound power level and the sound power level that would generate the equivalent Lnight in a year.

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342 Tr. 1820.

343 Tr. 1820-1821.

344 See Hrg. Exh. 45, WHO-2018.

DPS Staff Witness Moreno-Caballero testified that the new WHO-2018 guideline is protective not only of the nighttime period but of the daytime and evening time periods as well, and WHO-2018 may require a lower short-term and long-term nighttime noise limit than was recommended in WHO-1999 and WHO-2009, which were the basis for the noise limits adopted by the Siting Board in the Cassadaga case.[345] DPS Staff testified that the WHO-2018 guideline found adverse health effects to be associated with a noise level equivalent to 45 dBA Lden.[346] The term "Lden" is a noise descriptor proposed under the WHO-2018 guidelines that considers daytime, evening time, and nighttime noise levels.[347] Based on the health concern expressed in WHO-2018, DPS Staff recommended limiting sound levels to less than 45-dBA Lden in a year.[348] DPS Staff explained that the noise descriptor "Lden" is equivalent to a yearly energy-based average with no penalties applied to the daytime period, a 5-dBA penalty applied to the evening period, and a 10-dBA penalty applied to the nighttime period.[349]

DPS Staff explained that, to account for the recommendations in WHO-2018, the Siting Board could either establish a 45 dBA Lden noise level, combined with the 40 dBA Lnight noise limit (as was done in the Cassadaga case), or establish a short-term noise limit to be used exclusively to satisfy the recommendations under WHO-2018. Staff recommended this second approach.[350]

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345 Tr. 1793-1794.

346 Tr. 1794.

347 Tr. 1794.

348 Tr. 1794.

349 Tr. 1794-1795.

350 Tr. 1796-1797.

Recommendation

The Siting Board should apply the same design and regulatory limits that were applied to the Baron Wind project. DPS Staff's arguments for stricter limits appear to be the same as those presented in that proceeding and nothing in this record dictates or suggests a different result. Moreover, to the extent that lower limits may be somewhat more protective,[351] the record indicates that lower limits are not practicable when weighed against the required reduction in the number of turbines, the resulting lower level of renewable energy production.[352] Similarly, excluding a short-term limit applicable to the day time period is not supported by the record.[353] Therefore, the short-term limit of 45-dBA-Leq-8-hour should apply to all hours of the day.

c. Modeling

Applicant's Description of Noise Modeling

Bluestone claims that its short-term noise modeling is conservative, because measured short-term results will be lower than levels predicted by its modeling. To support this claim, Bluestone asserts that the ISO 9613-2 propagation standard itself is conservative because it requires as input assumptions conditions that, in reality, will not occur simultaneously.[354] Bluestone also notes that, even though the ISO 9613-2

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[351] Bluestone Initial Brief, p. 95.

[352] Tr. 1767-1769; Bluestone Initial Brief, pp. 94-95.

[353] Bluestone noted that it would comply with the local 50 dBA limit in the Town of Sanford.

[354] For example, assuming atmospheric conditions favorable to maximum sound propagation and operational conditions favorable to maximum sound power (e.g., high wind speeds at hub height and low wind speeds at ground level), and assuming that all receptors are downwind or cross-wind from every wind turbine.

propagation standard requires an uncertainty factor of +/- 2 dBA for every wind turbine, to account for manufacturer variability in estimated sound levels, Bluestone also added +2 dBA to every wind turbine under its modeling. Bluestone asserts that it is extremely unlikely that every single Facility turbine will exceed the manufacturer's specification by 2 dBA. Bluestone also points out that its modeling conservatively assumed the highest sound power level for each octave band, even though this is a physical impossibility since the maximum sound power level for given octave bands occurs at different wind speeds. Other assumptions in its modeling protocol that Bluestone describes as conservative (and therefore likely to over predict actual noise impacts) include: a well-developed ground-based temperature inversion; a temperature of 10 degrees C and relative humidity of 70%, resulting in the lowest atmospheric attenuation for the octave bands to which the human ear is most sensitive;[355] and mixed ground conditions (G=0.5). Bluestone concludes that, with these conservative assumptions, its modelling protocol provided a sufficient margin in the noise forecasts to ensure that the Facility will not exceed Bluestone's recommended regulatory limits during Facility operation.

Bluestone further claims its long-term sound modeling incorporates the same assumptions as the short-term, in addition to assuming every receptor is downwind of every turbine or a permanent well-developed moderate ground-based temperature inversion. Bluestone notes that these assumptions are conservative because they represent worst case conditions for noise propagation occurring simultaneously and continuously when, in reality, they are never do.[356] Bluestone also argues

[355] Tr. 2107. The 500 Hz and 1000 Hz octave bands.

[356] Bluestone Reply Brief, pp. 83-82.

that, when a receptor is upwind from a turbine, sound levels at the receptor could be 3-5 dBA lower than the model predicts.

DPS Staff's Critique of Noise Modeling

DPS Staff raised concerns regarding the Applicant's modeling of sound levels, including the Applicant's microphone height of 1.5 meters above grade exclusively as opposed to 4 meters above grade for sensitive receptors. DPS Staff Witness Moreno-Caballero testified that the height of the receptor in computer noise modeling can increase or decrease the sound pressure level at a receptor and therefore affect the accuracy of modelling predictions. He noted that both the WHO-2009 and the European Directive of 1982 require an evaluation at 4-meters above grade, but allow 1.5 meters for single-story houses exclusively.[357] DPS Staff argues that, at least for residences with second story windows, a microphone height of 4 meters will more accurately represent noise impacts to occupants of the second floor and that modeling a 1.5 meter height is likely to under estimate those impacts.[358] DPS Staff acknowledges that it stipulated to using the modeling recommendations contained in "Best Practices Guidelines for Assessing Sound Emissions from Proposed Wind Farms and Measuring the Performance of Completed Projects" (NARUC Guidelines)[359] which includes a 1.5 meter receptor height. However, DPS Staff argues that that particular

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357 Tr. 1770.

358 Tr. 1771. Witness Moreno-Caballero testified that, for evaluating indoor noise levels in an upper floor room, the relevant factors are the outdoor noise levels at the upper level (and not at 1.5 meters above grade) and the outdoor-to-indoor noise attenuation provided by the building envelope for the room in question. Tr. 1772.

359 October 2011, Prepared for: The Minnesota Public Utilities Commission Under the auspices of the National Association of Regulatory Utility Commissioners (NARUC), Washington, DC.

provision of stipulation 19, 19(d)(6), applies "exclusively" to the evaluation of community complaint potential and does not refer to discussions of potential adverse health effects and the WHO guidelines.[360] DPS Staff further points out that section 19(d)(12) states that the parties did not reach agreement regarding height of receptors for evaluation of conformance with WHO guidelines."

DPS Staff Witness Moreno-Caballero also disagrees with Bluestone's characterization of its modelling results (achieved in accordance with the ISO 9613-2 standard) as maximum hourly noise levels.[361] In his view, those modeling results likely underestimate Facility noise levels stating that it is possible that greater sound levels could occur.[362] He testified that low frequency sound levels exceed relevant thresholds even with some turbines using low trailing edges.[363] Witness Moreno-Caballero argues that the potential for the Applicant's model to underpredict actual noise levels is demonstrated by a study in Massachusetts which showed that one out of six data points indicated the model underpredicted actual noise levels by 3 dBA.[364] Witness Moreno-Caballero states that, unless these issues are addressed, it may be necessary for the Applicant to rely on NROs in order to meet relevant noise criteria.[365]

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360 DPS Staff Initial Brief, p. 50.

361 Tr. 1758.

362 Tr. 1773.

363 Tr. 1758.

364 Tr. 1776. See Hrg. Exh. 47 from Massachusetts Study on Wind Turbine Acoustics, Figure 26, p. 68. (Hrg. Exh. 46).

365 Tr. 1768-1769. NROs are mitigation options that can be applied on most modern turbines generally consisting of rotating the blades of the rotor so that the noise is reduced. Tr. 1760.

DPS Staff also objects that Bluestone promised updated modeling results in April of 2019 but did not provide those results.[366] As a result, Witness Moreno-Caballero's testimony was based on the noise studies submitted with the Application, consisting of 31 turbines at the original turbine locations, and four different wind turbine models.[367]

Recommendation

Although DPS Staff objects to certain aspects of Applicant's modeling procedures, we are convinced that the modeling is sufficiently conservative to accurately predict the noise and vibration impacts of the Facility. While Bluestone modeled a receptor height of only 1.5 meters which, when considered in isolation, may result in a lower predicted sound level by as much as 1.5 dBA,[368] Bluestone's modeling excluded consideration of wind direction and the record indicates that, if a receptor is upwind from a turbine, measured sound levels will be lower than the model predicts.[369] Given the complexity of the modeling, these two parameters are unlikely to offset each other all the time. In addition, the record includes expert testimony that the modeling parameters employed by Bluestone are similar to those used in many other wind energy projects and have been verified through extensive post-construction measurements which show that, even under worst-case conditions, actual measured sound levels are consistently below predicted sound levels.[370] We conclude that, overall, the Applicant's approach is sufficiently conservative and is

366 Tr. 1756.

367 Tr. 1756-1757.

368 Tr. 2109.

369 Tr. 2105.

370 Tr. 2110.

supported by the literature. In contrast, DPS Staff appears to favor a modeling approach incorporating more conservative values for most if not all of the modeling inputs (e.g., 4 meter receptors, no consideration of atmospheric conditions, etc.).

Further, Bluestone's modeling of a 1.5 meter receptor height complied with Stipulation 19, at least in terms of evaluating the Facility's potential to generate noise complaints. Although DPS Staff argues that a different modeling procedure or inputs should have been used for evaluation of health and annoyance impacts, the record does not contain an explanation why Bluestone's predicted noise levels are sufficiently accurate for evaluating noise complaint potential but not for evaluation of health or annoyance impacts. Therefore, we do not recommend any changes to Bluestone's noise modeling approach when demonstrating compliance with the design goals recommended herein.

d. Post Construction Monitoring

Applicant

The Applicant argues that its post-construction monitoring and compliance protocol is sufficient to verify compliance with noise limits and that Bluestone responds to any noise and vibration complaints.[371] Bluestone argues that its noise consultant, Epsilon, has extensive experience in designing and implementing post-construction monitoring protocols for wind farms and has been monitoring wind farms for about 15 years.[372] Bluestone further argues its proposed monitoring protocol is practical.[373] Bluestone further argues that DPS Staff's protocol

[371] Bluestone Initial Brief, pp. 80-81; Hrg. Exh. 10; Hrg. Exh. 2, App. Appendix Y, Post Construction Noise Evaluation Protocol.

[372] Bluestone Initial Brief, p. 109.

[373] Bluestone Initial Brief, p. 109.

is confusing and unworkable and points out that Witness Moreno-Caballero acknowledges that certain provisions of his suggested protocol may be unclear.[374]

Recommendation

The record indicates that requiring monitoring for compliance with long-term limits are impractical.[375] Further, DPS Staff has not demonstrated that its monitoring protocol is necessary to minimize noise impacts. Therefore, we recommend adoption of Bluestone's proposed monitoring protocol.

e. Broome County Concerned Residents

Broome County Concerned Residents (BCCR) argues that in order to understand the impacts related to noise, the Applicant should be required to choose one turbine model and analyze the sound impacts of that model rather than evaluating each possible turbine model. BCCR claims that trying to compare and evaluate the impacts of various models is distracting. BCCR claims that because Bluestone is a for-profit entity, it is likely to choose a turbine model with the greatest blade-sweep area and the highest sound power levels.[376] BCCR claims that the sound study cannot be complete without knowing which turbine model will be used. BCCR agrees with DPS Staff that the modeled receptor height of 1.5 meters is too low and notes a lack of 3D sound mapping in Bluestone's sound evaluation which, BCCR asserts without citation to the record, would reflect how mountainous topography serve to amplify sound in certain areas.[377] BCCR also claims that the Bluestone's analysis of ambient noise levels in the Project area is incorrect and states

[374] Bluestone Initial Brief, p. 109.

[375] Tr. 2100-2101; Bluestone Initial Brief, p. 93.

[376] BCCR Initial Brief, pp. 6-9.

[377] BCCR Reply Brief, p. 8.

that based on input from BCCR members who have purchased sound measurement devices, that ambient evening noise levels in the area are between 28 dBA and 30 dBA rather than 40 dBA.

Recommendation

BCCR's arguments mostly mirror those of DPS Staff and do not compel changes to the recommended limits or the Applicant's modeling. BCCR's request for 3D sound mapping is not supported by the record, nor is it clear from the record what a 3D sound map would elucidate. Therefore, requiring such a map is not recommended.

F. Cultural, Historic and Recreational Resources

The regulations at 16 NYCRR §1001.20 require the Applicant to provide a study of the potential impacts of construction and operation of the proposed Facility, including the interconnections and ancillary features, on archaeological and historic resources. To prepare the associated application materials, the Applicant consulted with Staff from the New York State Office of Parks Recreation and Historic Preservation (OPRHP)[378] to develop the scope and methodology for the resource studies included with the Application. Exhibit 20 of the Application and associated appendices describe the nature of expected impacts on these resources.[379]

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[378] In 2006, OPRHP developed, *Guidelines for Wind Farm Development Cultural Resources Survey Work* (OPRHP, 2006).

[379] Hrg. Exh. 1, App. Exh. 20, Appendix Z (Phase 1B Archaeological Survey Report), Appendix AA (Unanticipated Discovery Plan), Appendix BB (Stone Landscape Features Memorandum), Appendix CC (Phase 1A Archaeological Survey and Phase 1B Work Plan), Appendix DD (Phase 1A Historic Architectural Survey and Work Plan), Appendix EE (Historic Resources Survey Report), Appendix FF (Historic Resources Effects Analysis), and Appendix GG (Preliminary Cultural Resources Mitigation Plan).

1. Archaeological Resources

With respect to archaeological resources, the Applicant consulted with Staff from OPRHP in March 2017, and prepared a Phase 1A Archaeological Resources Survey and Phase 1B Fieldwork Plan to identify the Area of Potential Effect (APE) associated with the Facility site. The purpose of identifying the APE is to determine whether resources have been previously identified, and to develop a methodology for identifying additional resources.[380] The Applicant then followed up with a Phase 1B Archaeological Resources Study. This study consisted of a site walkover and shovel testing in areas where components of the proposed Facility would be located in proximity to resources depicted on historic maps and areas previously determined to have high sensitivity for Pre-Contact Native American archaeological material.[381]

In addition, the Applicant consulted with the Oneida and Delaware Indian Nations on issues of concern, including the presence of "stone landscape features." These features are a cultural artifact made from stacked, aligned, modified, or otherwise culturally significant stones. These features were previously attributed entirely to historic-period agricultural land clearance, but have recently been recognized as being of Native American origin. Stone landscape features may be considered sacred or otherwise significant.[382]

The Applicant filed an update in April 2019, which included various changes in the Facility layout. The revised layout relocated some components of the proposed Facility to areas not initially reviewed as part of the Phase 1B

[380] Hrg. Exh. 2, App. Exh. 20(a)(2), p. 5, Appendix CC.

[381] Hrg. Exh. 2, App. Exh. 20(a)(3), p. 8, Appendix Z.

[382] Hrg. Exh. 2, App. Exh. 20(a)(1), p. 1.

archaeological survey. As a result, the Applicant conducted an additional pedestrian reconnaissance to identify possible stone landscape features and extant historical-period foundations. The results of the survey did not identify any additional resources.[383]

With respect to the captioned PSL Article 10 application, no parties identified any issues related to archaeological resources. If the Siting Board issues a Certificate, the Applicant would avoid impacts by undertaking the following. Construction drawings will identify all mapped locations of archaeological sites within 100 feet of any components related to the proposed Facility. In addition, the locations of archaeological sites would be identified in the field with construction fencing and signs restricting access.[384] If potentially significant archaeological resources are discovered within the area of potential effect during construction activities, the Applicant would attempt to relocate the component to avoid any adverse impacts. If impacts cannot be avoided, the Applicant would undertake a Phase 2 archaeological investigation consistent with OPRHP guidance.[385] In addition, if unanticipated archaeological resources are discovered, the Applicant would implement its Unanticipated Discovery Plan, which includes provisions to stop all work in the vicinity of the archaeological resources until a Registered Professional Archaeologist evaluates and documents them.[386]

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[383] Hrg. Exh. 7.

[384] Hrg. Exh. 11, SEEP Specifications §A.10(b).

[385] Hrg. Exh. 2, App. Exh. 20(a)(1), p. 2.

[386] Hrg. Exh. 2, App. Exh. 20(a)(6), p. 10, Appendix AA.

Recommendation

Based on the foregoing, the Examiners recommend that the Siting Board conclude that the Applicant has avoided, minimized, and mitigated impacts to archaeological resources to the maximum extent practicable.

2. Cultural and Historic Resources

The Applicant also comprehensively assessed the potential adverse impacts of the proposed Facility on cultural and historic resources. The cultural resource surveys for the Facility included an Historic Resources Survey, summarized in Application Exhibit 20, and submitted to OPRHP for review and comment. The survey inventoried structures and buildings within the APE that were 50 years or older, as well as provided information concerning their architectural style, features, and current integrity. The purpose of the survey was to determine whether any of the structures and buildings should be considered eligible for listing on the State and National Registers of Historic Preservation.[387] Upon review, OPRHP determined that a total of 25 properties should be classified as eligible for listing on the State and National Registers of Historic Preservation.[388]

As outlined in the Historic Resources Survey Report and Application Exhibit 20, the proposed Facility would not damage or remove any of the identified historic architectural resources.[389] However, the only potential effect on historic properties from the proposed Facility would be a change in the

[387] Hrg. Exh. 2, App. Exh. 20(b)(1), pp. 10-11, and Appendices DD & EE.

[388] Hrg. Exh. 2, App. Exh. 20(b)(1), p. 12, Appendix EE.

[389] Hrg. Exh. 2, App. Exh. 20(b)(1), p. 17, Appendix EE.

visual setting of the properties resulting from the introduction of wind turbines into the landscape.[390]

The application materials include a proposed Cultural Resource Mitigation Plan.[391] In addition, the Applicant has accepted Certificate Condition 66. This proposed condition would require the Applicant to undertake the following: (1) avoid or minimize potential impacts to archaeological and historic resources to the extent practicable, (2) prepare a Final Unanticipated Discovery Plan, (3) consult with Staff from OPRHP and DPS when complete avoidance of archaeological sites is impossible, and (4) prepare a Final Cultural Resources Mitigation and Offset Plan.[392]

Recommendation

Based on the foregoing, the Examiners recommend that the Siting Board conclude that the Applicant has avoided, minimized, and mitigated impacts to cultural and historic resources to the maximum extent practicable.

3. Visual Impacts

The proposed Facility would impact the viewshed in and around the Facility site, including changes to the visual character of existing and proposed historical and recreational resources. The probable visual impacts are detailed in Application Exhibit 24 and updates. The nature and extent of visual impacts are represented in the visual impact assessment (VIA), which among other things, identifies visually sensitive resources, includes viewshed mapping, and provides high-

[390] Hrg. Exh. 2, App. Exh. 20(b)(1), pp. 17-18, Appendix EE.

[391] Hrg. Exh. 2, App. Exh. 20(b) at 30, Appendix GG.

[392] Hrg. Exh. 10.

resolution computer-enhanced photographic simulations from various viewpoints.[393]

The VIA evaluated the potential visibility of the proposed Facility, included an assessment of the character and visual quality of the existing landscape, identified visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), and potential visual mitigation, among other things. These analyses were performed within a 10-mile radius of the Facility, referred to as the visual study area, and included the varying topography of the Facility site and vicinity.[394]

To account for topographic conditions in the area, the viewshed analyses evaluated potential turbine visibility within a 10-mile radius and potential substation visibility within a 1-mile radius.[395] The Applicant's consultants prepared two sets of topographic viewshed maps. The first set illustrates the "worst case" daytime visibility based on the location of the proposed turbines on the highest elevations of the landscape, with a maximum blade tip height of 205 meters (673 feet) above existing grade. The second set of viewshed maps illustrates the worst case potential visibility of turbine lights at night based on the Federal Aviation Administration (FAA) warning light height of 131 meters (430 feet) above existing grade.[396] Both sets of analyses accurately identify the areas where views of the proposed Facility would not be visible due to topography. However, the analyses are less accurate when assessing where

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393 Hrg. Exh. 2, App. Exh. 24, Appendix ZZ (Visual Impact Assessment [VIA]); Hrg. Exh. 7, App. Update Exh. 24, Addendum to Appendix ZZ.

394 Hrg. Exh. 2, App. Exh. 24(a)(1), pp. 1-3, and Appendix ZZ.

395 Hrg. Exh. 2, Appendix ZZ, §4.1, pp. 57-59.

396 Hrg. Exh. 2, App. Exh. 24(b)(2), pp. 24-28.

views of the proposed Facility would be limited by screening from trees and buildings.[397]

Members of BCCR raised concerns about the height of the turbine towers and their visibility. According to the Applicant, three of the four individuals who raised concerns with visual impacts own properties that are located beyond 1.5 miles from the nearest turbine. Mary Willis's property would be 9,128 feet (1.73 miles) away. John Alfano's property would be 29,066 feet (5.5 miles) away, and Joanne McGibney's property would by 14,514 feet (2.74 miles) way.[398]

In addition, Ms. McGibney criticized the visual impact assessment process. Ms. McGibney said that the Applicant's outreach to the public was insufficient with respect to the viewpoint selection process for the VIA.[399]

This assertion is incorrect, based on the following. After completing the viewshed mapping in the visual study area, as described above, the Applicant's consultants conducted field reviews in the visual study area on March 27, April 29, and May 24, 2018. On these dates, the surveyors encountered various weather and foliage conditions during each field visit and documented the landscape during different seasons and under various sky conditions. The field verification included views from the Stileville area, Route 8, the Cannonsville Reservoir, and the West Branch of the Delaware River.[400] The Applicant's consultants conducted several rounds of visual outreach as required by 16 NYCRR §1001.24(b)(4) and identified 19 simulation

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397 Hrg. Exh. 2, App. Exh. 24(b)(2), pp. 28-31.

398 Tr. 2142, 2144.

399 Tr. 1247-1248.

400 Hrg. Exh. 2, Appendix B (Visual Field Work Photolog [Viewpoints 12, 13, 14, 15, 22, 23, 24, 25, 65, 68, 69, 89, 90, and 91]) of Appendix ZZ.

locations as part of the VIA submittal. The simulations included multiple views from the Village of Deposit, the West Branch Delaware River, and the Cannonsville Reservoir.[401]

With respect to construction, potential visual impacts are anticipated to be relatively minor and temporary in duration. The VIA included representative photographs of construction activities.[402] Visual impacts associated with construction may include, among other things, temporary increase in truck traffic on area roadways, temporary widening of some public roads and intersections, construction and operation of laydown yards, disturbance associated with the construction and operation of the access roads, construction of turbine foundations, and installation of the tower, nacelles, and rotors using a large erection crane. All temporarily disturbed areas would be restored to original grades and reseeded to minimize visual impacts following the completion of construction.[403]

DPS Staff Witness Andrew Davis testified that the VIA reasonably depicts and characterizes the likely appearance of the proposed Facility from a range of viewpoints and acknowledged that some parties may take issue with the impact ratings or the location of viewpoints selected for detailed analysis.[404] DPS Staff identified the VIA as representative. The VIA identified and addressed potential impacts on the range of landscapes, user-groups, and distance zones in the Study Area.[405] The application materials also provided site-specific assessments of the extent of the visibility of the proposed

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401 Hrg. Exh. 2, App. Exh. 24(b)(5) at 36, and Appendix D (Visual Simulations) of Appendix ZZ.

402 Hrg. Exh. 2, Appendix I of Appendix ZZ.

403 Hrg. Exh. 2, App. Exh. 24(a)(7), pp. 13-15.

404 Tr. 1384.

405 Tr. 1384.

Facility at public lands and New York State-owned recreational resources.[406]

Measures to minimize and mitigate visual impacts are limited given the height of wind turbines generally. However, the Applicant agreed to incorporate recommendations outlined in NYSDEC Program Policy: *Assessing and Mitigating Visual Impacts, DEP-00-2* (NYSDEC, 2000) (NYSDEC Visual Policy). These recommendations are included in proposed Certificate Condition 43. Among other things, the terms of the proposed Certificate Condition would require the Applicant to file an attestation affirming that the design of the Facility would incorporate the following details:

1. prohibit advertisements, conspicuous lettering, or logos that identify the Facility owner, turbine manufacturer or other entity;

2. require turbines, towers and blades to be in FAA-approved colors and non-reflective finishes; and

3. require turbine lighting to be kept to the minimum allowable by the FAA.[407]

Witness Davis testified that turbine design and finish features, discussed in proposed Certificate Condition 43, are standard industry practice or requirements for aircraft safety, and would require the Applicant to minimize wind turbine lighting to the extent allowed by the Federal Aviation Administration.[408] He further testified that lighting design mitigation should be applied at the final design stage, and

[406] Tr. 1384-1385.

[407] Hrg. Exh. 10.

[408] Tr. 1383.

Certificate Conditions requiring additional showings of lighting details and operational controls should be adopted.

The terms of proposed Certificate Condition 54 (Facility Exterior Lighting Plan) would address design and control measures appropriate for mitigating impacts from lighting.[409] Witness Davis discussed the possibility of using a radar-activated detection lighting system at the proposed Facility. This system allows turbine hazard lights to be turned on only when activated by radar sensors detecting aircraft approaching and passing nearby or over the Facility. However, the characteristics of the Facility site may not be suited to this technology.[410] Nevertheless, the Applicant agreed to review the feasibility of using the radar-activated detection lighting system at the proposed Facility. If the technology is feasible, given the specific parameters and site conditions, the Applicant agreed to install and use it.[411]

Recommendation

Based on the foregoing, the Examiners recommend that, with the appropriate Certificate Conditions in place, the Siting Board find that the potential impacts to scenic resources would be minimized or avoided to the maximum extent practicable.

G. Infrastructure Impacts

The Siting Board must make explicit findings regarding the nature of the probable environmental impacts of the construction and operation of the Facility on transportation, communication, utilities and other infrastructure.[412] The Siting Board cannot grant a Certificate without first making certain

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[409] Tr. 1386.

[410] Tr. 1383.

[411] Hrg. Exh. 10 [Condition 54]; Bluestone Initial Brief, p. 120.

[412] PSL §168(2)(d).

findings, including a finding that the adverse environmental effects of the construction and operation of the facility, including impacts on transportation, utilities and other infrastructure, will be minimized or avoided to the maximum extent practicable.[413]

Bluestone's Application addressed impacts on transportation, communications, utilities, and other infrastructure.[414] No issues were raised during the testimony regarding electric, gas, water, wastewater and telecommunications interconnections.[415] Bluestone proposes no gas, water, wastewater or telecommunications interconnections, and its proposed electric system interconnection specifications[416] were not contested. Accordingly, our discussion will be limited to impacts on transportation, communications and utilities.

1. Transportation

Bluestone asserts, and DPS Staff agreed, that Facility impacts on ground transportation are expected to be minimal, temporary, and limited to construction-related activities.[417] After conducting a review and assessment of impacts on local roadways and traffic, Bluestone identified, and agreed to comply with, a number of conditions to maintain the safety of road users and to mitigate traffic delays caused by additional truck traffic during construction. Certificate Conditions 55 and 56 relate to traffic control, local and State permitting, and consultation with local officials regarding construction traffic

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413 PSL §168(3)(c).

414 Hrg. Exh. 2, App. Exhs. 25, 26, 34, 36, 38-40.

415 Hrg. Exh. 2, App. Exhs. 34, 36, 38-40.

416 Hrg. Exh. 2, App. Exh. 34.

417 Hrg. Exh. 2, App. Exh. 25; DPS Staff Initial Brief, p. 70.

and deliveries.[418] The Stipulated SEEP Specifications require Bluestone's SEEP to include a Route Evaluation Study and a Traffic Control Plan, and describe what those documents must include.[419] Under the SEEP Specifications, Bluestone will be required to submit compliance filings including all Road Use Agreements, any crossing agreements with utility companies, and all permits associated with delivery of Facility equipment.[420] Bluestone will be required to prepare a Final Route Evaluation Study, including maps, and Traffic Control Plans for any city, town, or village that may experience delays to local traffic during construction activities.[421] DPS Staff expressed agreement with these requirements,[422] and no other parties objected.[423]

With respect to aviation transportation, Bluestone filed a Notice of Proposed Construction with the administrator of the Federal Aviation Administration[424] as required by 14 CFR Part 77. Bluestone also sought input from local surrounding airports. Airport managers that responded did not identify any issues, provided that Determinations of No Hazards are received from the FAA.[425] Bluestone asserted in its brief that it has received from the FAA a Determination of No Hazard for the 33-turbine layout described in Bluestone's Application,[426] but the

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418 Hrg. Exh. 10.

419 Hrg. Exh. 11; Final Appendix A Bluestone SEEP, p. 15.

420 Certificate Conditions, Appendix A, 15.

421 Hrg. Exh. 10, Stipulated Certificate Conditions 56(b) and (c).

422 DPS Staff Initial Brief, pp. 70-71.

423 Several members of BCCS expressed concerns about the impact of construction on local traffic (Tr. 1255, 1923, 1927). However, BCCS did not raise this issue in its briefs.

424 Hrg. Exh. 2, App. Exh. 26(a)(10).

425 Hrg. Exh. 2, App. Exh. 25.

426 Bluestone Initial Brief, p. 203.

design layout has since changed. Bluestone has agreed to file final determinations from the FAA based on its final facility design, including all FAA approval documentation regarding turbine sites and lighting systems.[427] No parties raised objections to these agreements.

Recommendation

Based on the foregoing, the Examiners recommend the Siting Board find that impacts on transportation will be minimized or avoided to the maximum extent practicable.

2. Communications

Bluestone retained Comsearch, an expert in communications interference analysis, to conduct a study of the potential impact of the Facility on communications. Comsearch found that there is no expected impact from the Facility on AM or FM radio broadcast, cable or satellite television, cellular phone service, emergency services, municipal/school district services, public utility services, GPS, federal communications systems, microwave, NEXRAD or Doppler weather radar.[428] The National Telecommunications and Information Administration, which represents numerous federal agencies, identified no issues with turbine placement with either 410-foot or 673-foot turbine heights.[429]

Comsearch identified possible impacts on over-the-air (also called "off-air") television reception. Residents may have problems receiving the signals of 11 of 18 full-power television stations that broadcast within 100 km of the Facility, primarily where the resident is on the opposite side

[427] Hrg. Exh. 10, Bluestone Final Certificate Condition 41.

[428] Hrg. Exh. 2, App. Exh. 26(a).

[429] Hrg. Exh. 2, App. Exh. 26(a). Id.

of the Facility from the transmitting antennas.[430] Bluestone has agreed that any resident who experiences degraded over-the-air television service after installation of the Facility may file a complaint with Bluestone in accordance with the Complaint Resolution Plan.[431] Bluestone will work with the complainant to resolve the issue consistent with the Complaint Resolution Plan. There were no objections from the other parties on these matters.

Recommendation

Based on the foregoing, the Examiners recommend the Siting Board find that impacts on communications will be minimized or avoided to the maximum extent practicable.

3. Utilities

Under Certificate Condition 59, as part of the SEEP, Bluestone must make compliance filings regarding the mapping of existing utilities and details of any protective requirements associated with co-location and crossings of existing utilities by Project components. Compliance filings will also be required to address cathodic protection impact studies, documentation of agreements with utility owners regarding crossings of existing utilities, detailed drawings of any such proposed crossings (by Project components and construction machinery), and descriptions and details of any existing utility owner approved methods for crossing of utilities.[432]

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[430] Hrg. Exh. 2, App. Exh. 26(a)(3), (c)(1) and Appendix FFF.

[431] Hrg. Exh. 2, App. Exh. 26, Appendix R; Hrg. Exh. 10, Bluestone Final Certificate Condition 49 (addressing preparation of Final Complaint Resolution Plan).

[432] DPS Staff Initial Brief, pp. 101-102 (citing Hrg. Exh. 11, Certificate Conditions, Final Appendix A, Bluestone SEEP, pp. 4-5).

The Application contains a written statement noting Bluestone's commitment to complying with the Dig Safely New York program.[433] In addition, the Application stated that Bluestone's contractors will comply with PSL §119-b, specifying protection of underground facilities, as implemented by 16 NYCRR Part 753.[434] DPS Staff noted that that there are numerous existing major gas pipelines (and one proposed pipelines) within the Facility site and the Applicant has proposed several instances of crossing these pipelines with its electrical collection system and access roads.[435]

DPS Staff concludes that, provided the Siting Board adopts the Stipulated Certificate Conditions and associated Guidance For The Development of Site Engineering and Environmental Plan, the probable construction impacts related to the co-location of existing gas infrastructure will be minimized to the greatest extent practicable.

Recommendation

Based on the foregoing, and with the above conditions, the Examiners recommend the Siting Board find that impacts on utilities will be minimized or avoided to the maximum extent practicable.

H. Environmental Justice – PSL §168(2)(d) & (3)(d)

To be complete, an Article 10 application must include "an evaluation of significant and adverse disproportionate environmental impacts of the proposed facility, if any, resulting from its construction and operation" concerning environmental justice considerations, in accordance with 6 NYCRR

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433 DPS Staff Initial Brief, p. 101 (citing Hrg. Exhs. 2 and 12, p. 7.

434 Hrg. Exh. 2, App. Exh. 12, p. 7.

435 DPS Staff Initial Brief, p. 101.

Part 487. In its PSS, filed August 18, 2017, Bluestone stated that the Facility is not expected to impact any environmental justice areas.[436] The PSS described the Article 10 Environmental Justice evaluation as intended "to determine if air quality and associated health impacts are disproportionately affecting certain communities or populations." Noting that the Facility will not result in emissions or air quality impacts,[437] the PSS explained that Bluestone defined the "Impact Study Area" to include areas within "a 5-mile radius around each of the Facility Components."[438] Bluestone noted that this was greater than minimum regulatory standard of "at least a one-half mile radius around the location of a proposed major electric generating facility."[439]

The PSS stated that,

> "[b]ased on data obtained from the NYSDEC's Geospatial Information System (GIS) Tools for Environmental Justice website (www.dec.ny.gov/public/911.html), there are no Potential Environmental Justice Areas within the Facility Area or Study Area Boundaries. The nearest Potential Environmental Justice Areas are approximately 12.5 miles from the Facility Area Boundary in the City of Binghamton and 16.6 miles from the Facility Area Boundary in the Village of Sidney (Delaware County) (see Figure 11)."[440]

In the PSS, Bluestone explained that its Public Involvement Plan had provided information on potential environmental justice areas, and that as of the date of the filing of the PSS no comments related to environmental justice had been received. The PSS had concluded that, because of the distances between the

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[436] PSS, p. 43.

[437] PSS, p. 159, §2.28.

[438] PSS, p. 159, §2.28.

[439] 6 NYCRR §487.3(o).

[440] PSS, p. 159, §2.28.

Facility and the nearest environmental Justice Areas, "the full Environmental Justice Analysis outlined in 6 NYCRR 487.6 is not required, and will not be provided in the Article 10 Application."[441]

Pre-application stipulations were filed September 7, 2018.[442] Those stipulations were executed by Bluestone, DPS Staff, DEC Staff,[443] the New York State Department of State, DAM Staff, the Town of Windsor, the Town of Sanford, and DOAS. Stipulation 2(2) specified that Application Exhibit 2 would describe the Applicant's efforts to identify environmental justice areas.[444] Stipulation 28 stated that Application Exhibit 28 "shall contain a statement that the Facility and Off-site Ancillary Facilities are not expected to have any impacts on Environmental Justice areas [, and will] ... contain a map showing the Facility and Off-site Ancillary Facilities relative to the nearest potential Environmental Justice Area."[445]

DPS Staff, in brief, stated that, based upon its review of Application Exhibit 28, the construction and operation of the Facility is not expected to have any environmental justice impacts. Based on this, DPS Staff recommended that the Siting Board make a finding that Bluestone has met is burden

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441 PSS, p. 159, §2.28.

442 Hrg. Exh. 1.

443 The signature of DEC Staff, who represent the State agency that promulgated 6 NYCRR Part 487, includes the following notation: "Signed as to stipulations 1, 2, 3, 7, 8, 10, 16, 17, 22 except for paragraph 22(1)(l)(ii), 23, 28, 32, 36, and 37."

444 Hrg. Exh. 1, Stipulation 2(2), p. 6.

445 Hrg. Exh. 1, Stipulation 28, p. 54.

under PSL §168."[446] DEC Staff did not offer testimony, either pre-filed or at the evidentiary hearing, on the subject of environmental justice, and did not address this subject in brief.[447]

During this proceeding, Intervenor DeHaan engaged in extensive motion practice on the question of whether the Village of Deposit, a host community for the proposed Facility, constitutes an "environmental justice area." The Applicant opposed Intevenor DeHaan's various motions related to this dispute. In several rulings, the Examiners denied Intervenor DeHaan's various requests for relief.[448]

In her closing briefs, Intervenor DeHaan again raises arguments related to environmental justice issues. Because the

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[446] In its initial brief, p. 80, DPS Staff cited PSL §168. The Applicant has the burden, under PSL §164(1)(f), to address environmental justice issues and comply with 6 NYCRR Part 487. The Siting Board, under PSL §168(2)(d), must make explicit findings on whether the Facility will result in significant and adverse disproportionate environmental impacts in any environmental justice areas. If the Siting Board finds the Facility will cause or contribute to a "significant and adverse dipropionate environmental impact" in a host community, PSL §168(3)(d) requires the Siting Board to find that the applicant will avoid, offset or minimize the impacts caused by the facility upon the local community for the duration that the certificate is issued to the maximum extent practicable using verifiable measures. DPS Staff Witness Davis testified that he reviewed Application Exhibit 31 dealing with Environmental Justice, Tr. 1358. Neither DPS Staff nor DEC offered any testimony related to environmental justice, Application Exhibit 31, or 6 NYCRR Part 487. DPS Staff and DEC did not engage in the related motion practice of the other parties.

[447] DEC Staff Initial Brief, p. 31.

[448] Case 16-F-0559, Bench Ruling Granting Motion to Strike, July 1, 2019 Procedural Conference, Tr. 61-62; Ruling on Motions (issued September 27, 2019); Ruling Denying Motion to Restore DeHaan Testimony (issued August 2, 2019); Ruling on Motions (issued September 27, 2019).

issues asserted and arguments offered by Intervenor DeHaan in her post-hearing briefs already have been addressed and resolved by the Examiners in several rulings, Intervenor DeHaan's arguments constitute administrative appeals to the Siting Board from those rulings.[449] Accordingly, the issues and arguments asserted by Intervenor DeHaan relating to environmental justice, both in her briefs and in her post-evidentiary hearing motions, are not addressed in this Recommended Decision and are instead referred to the Siting Board for its review. Accordingly, the parties are directed not to address such issues in their briefs on exception(s) or their briefs opposing exception(s).

Recommendation

We agree that the record support's Bluestone's assertion as to no Environmental Justice impacts. Accordingly, we recommend that the Siting Board determine that the construction and operation of the Project will not result in a significant and adverse disproportionate environmental impact to Environmental Justice communities.

I. State and Local Laws and Regulations – PSL §168(3)(e)

PSL §168(3)(e) addresses the applicability of State and local procedural and substantive legal requirements to the construction and operation of a proposed major electric generating facility under Article 10. With certain exceptions, PSL §168(3)(e) preempts State and local procedural requirements that otherwise would be applicable, unless the Siting Board expressly authorizes the enacting local authority to exercise such procedural requirements.[450] With respect to substantive State and local legal requirements, the Siting Board cannot grant a Certificate unless it determines that "the facility is

[449] See 16 NYCRR §4.7(d).

[450] See also, PSL §172(1); 16 NYCRR 1001.31(a).

designed to operate in compliance with applicable state and local laws and regulations issued thereunder concerning, among other matters, the environment, public health and safety."[451]

The Siting Board, however, "may elect not to apply, in whole or in part, any local ordinance, law, resolution or other action or any regulation issued thereunder …, which would be otherwise applicable if it finds that, as applied to the proposed facility, such is unreasonably burdensome in view of the technology or the needs of or costs to ratepayers whether located inside or outside of such municipality."[452] An applicant seeking a waiver of a local substantive law has the burden of justifying its waiver request by showing "the degree of burden caused by the requirement, why the burden should not reasonably be borne by the Applicant, that the request cannot reasonably be obviated by design changes to the proposed facility, the request is the minimum necessary, and the adverse impacts in granting the request are mitigated to the maximum extent practicable."[453]

The discussion of issues elsewhere in this RD expresses our view that, subject to appropriate Certificate Conditions, the construction and operation of the Facility will comply with applicable State laws. As required by applicable regulations, the Application, as updated, includes a listing of applicable procedural and substantive local laws.[454] In addition, DPS Staff provided testimony and information related to Town of Sanford Land Use Management Law Article IV – Land Use

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451 PSL §163(3)(e); 16 NYCRR.31(d).

452 PSL §163(3)(e).

453 16 NYCRR §1001.31(e).

454 App. Exh. 31.

Management District Regulations, a local law not identified by the Applicant.[455]

Initially, the Applicant stated that the Project would comply with the substantive requirements contained in local laws and, in its initial brief, DPS Staff recommended that the Siting Board could make a finding that the Facility would operate in compliance with the applicable state and local laws.[456] However, on August 13, 2019, the Town of Sanford adopted Local Law No. 2-2019, which imposes a three-month "moratorium on the development and construction of wind energy conversion systems and meteorological towers" within the Town of Sanford.[457] The stated purpose of the local law is to enable the Town of Sanford to stay the construction, operation, and establishment of, and the submission and processing of applications for, among other things, zoning permits and variances, building permits, site plan approvals, and "other Town-level land use approvals" necessary for meteorological towers (MET Towers), wind energy conversion systems,[458] wind energy activities,[459] and wind energy support activities.[460] The moratorium is intended "to allow the

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455 Hrg. Exh. 71.

456 DPS Staff Initial Brief, p. 91.

457 Town of Sanford Local Law No. 2-2019, §§1, 2(C), 4.

458 A "wind energy conversion system" is defined as "any mechanism including a Wind Turbine designed for the purpose of converting wind energy into electrical energy and all accessory facilities related thereto." Local Law §3.

459 The term "wind energy activities" is defined as "[a]ctivities related to the development of energy production through wind power, including but not limited to the siting and construction of MET Towers, Wind Energy Conversion Systems, and the siting and construction of all accessory, supporting and related infrastructure such as transmission lines, substations, etc." Local Law §3

460 Local Law §2(B).

Town [of Sanford] time to study the potential impacts, effects, and possible controls over [wind energy systems] and to consider the possible amendments to the Town's laws and comprehensive plan to address the same."[461]

Thereafter, in its reply brief, DPS Staff modified its position that the Facility is designed to comply with local law, because the Town of Sanford "is still potentially seeking to amend the Town Laws as they relate to [wind farms]." DPS Staff reasoned that, given the potential for a change in local law, the Siting Board cannot make a finding that the Facility "will be designed to conform or operate in compliance with applicable Local Laws [inasmuch] as the nature of future Local Laws is unknown."[462]

1. BCCR Motion to Stay Proceedings

On August 21, 2019, BCCR moved to stay this proceeding for three months in light of the Town's adoption of Local Law No. 2-2019."[463] The Town of Sanford filed with the Secretary a copy of the Local Law on August 22, 2019, "[t]o inform the administrative record of this proceeding" in light of BCCR's motion.[464]

The motion was denied by a ruling issued on September 27, 2019.

2. Motion to Strike Portion of DPS Staff Reply Brief

On August 29, 2019, the Applicant moved to strike that portion of DPS Staff's reply brief that discusses compliance

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461 Local Law §2(C).

462 DPS Staff Reply Brief, pp. 25-26 (emphasis added).

463 Motion by BCCR (letter dated August 21, 2019), DMM Item No. 301.

464 Correspondence; DMM Item No. 302.

with the Town of Sanford's Local Laws.[465] The Applicant argues that "it is pure speculation as to whether or not the Town Board will act in a manner that the Siting Board would need to conclude that the Facility could not operate in compliance with Local Laws."[466] The Applicant further argued that the Local Law is not part of the record before the Board inasmuch as the Local Law was adopted after the close of the evidentiary record in this proceeding. It also claims that, in any event, the Local Law is procedural, rather than substantive, and therefore is preempted by PSL §168(3)(e).

DPS Staff opposed this motion, arguing that excluding the information in Staff's Reply brief about the local moratorium would be "inappropriate" because such information "may benefit the Siting Board" in making its statutory findings.[467] Staff argued Bluestone may instead seek a waiver of enforcement of the local moratorium from the Siting Board. DPS Staff also expressed concern that the moratorium potentially will expire in November 2019, only one month prior to potential Board action in this case.[468]

Bluestone's motion to strike portions of the filed reply brief was denied in a ruling issued September 27, 2019.

Recommendation

We find that, contrary to the Applicant's contention, the Local Law can be included in the evidentiary record at this stage of the proceeding without further evidentiary process. We

[465] Bluestone did not address the Local Law in its reply brief.

[466] Bluestone Motion to Exclude, pp. 5-6. DMM Item No. 311.

[467] DPS Staff Response Opposing Bluestone Motion to Strike, p. 3.

[468] DPS Staff Response Opposing Bluestone Motion to Strike, p. 3.

judicially notice Local Law 2-2019 and hereby admit into the evidentiary record.[469]

We believe that it is possible to find that the Project would comply with the currently applicable substantive local laws. Local Law 2-2019 does not amend, repeal, adopt or otherwise affect any substantive local law of the Town of Sanford. Rather, it is a procedural local law that places a temporary moratorium on the "construction, operation and establishment of" wind energy projects in the Town, and also stays "the submission and processing of applications for permits, zoning permits, zoning variances, building permits, operating permits, site plan approvals" and other local approvals.[470] Local Law 2-2019 is expressly "intended to be consistent with . . . the Laws of the State of New York,"[471] which include PSL Article 10. Thus, the moratorium specifically targets local-level activities and disclaims applicability to State-level processes, such as action by the Siting Board.[472]

Local Law 2-2019 certainly suggests that the Town of Sanford may, at some future point in time, adopt new or modified substantive local laws that could conflict with the compliance recommendations based upon the current record. Such a development would raise a threshold question of whether a local law adopted after the evidentiary phase of an Article 10 proceeding, and on the eve of a Siting Board decision, could prevent the Siting Board from finding that the facility as proposed conforms to local substantive requirements.

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469 16 NYCRR §1000.12(a)(10)(i).

470 Bluestone's Response to Motion to Strike, p. 3.

471 Local Law §2.A.

472 Local Law §2.A and §6.

Staff has effectively answered this question in the affirmative, both by revoking (in reply brief) its earlier recommendation that the Facility as proposed conforms with substantive local law and in arguing (in opposing Bluestone's motion to strike) that information about Local Law 2-2019 could inform the Siting Board's deliberations. For support, Staff relies on the fact that, in the Cassadaga case, the Siting Board took account of the amendment of a local law after the evidentiary hearings had closed.[473] That local action was sought by the developer in that case, and had the effect of bringing the proposed Facility into compliance with local regulation. Because the terms of the Cassadaga application were consistent with the amended local law, the Examiners determined that no waiver from the local law was required. No motion was ever made in the Cassadaga proceeding to exclude evidence of the late-enacted local requirement. Thus, the key facts in the Cassadaga case are distinguishable, and the Siting Board's decision in that case does not inform our analysis.

Staff cites Cassadaga for the proposition that the close of the evidentiary hearing does not preclude the Siting Board from considering evidence of the enactment of a local law, such as the moratorium in this instant proceeding. As we have concluded, such a circumstance does not pose an "evidentiary" obstacle, inasmuch as judicial notice may be taken of the enactment of a local law. This, in effect, is what the Siting Board did in the Cassadaga case.

The more complex and difficult question, which is not yet joined in this case, and which Staff has not yet addressed,

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[473] Case 14-F-0490, Cassadaga Wind, LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need, With Conditions (issued January 17, 2018).

is whether, in the context of Article 10, a municipality can enforce against an Applicant a local law that was enacted long after an application has been deemed complete, long after the evidentiary hearing has been concluded and record closed, and on the eve of a Siting Board decision, when neither the municipality nor any other party has even suggested that the enactment of the local law was necessary due to an unforeseen and material change in circumstances.

This issue is not joined in this case because, as discussed, the Town of Sanford moratorium has no effect on the Facility as proposed, and the possibility of a new local law is not enough to negate a Siting Board finding regarding compliance with existing local law.[474] At this juncture, it would be speculative to make statements as to whether the Project would or could comply with an as-yet drafted and adopted local laws at

[474] In reply brief, DPS Staff said it could not conclude the Facility "will be" designed to conform or operate in compliance with local law. DPS Staff Reply Brief, p. 26. However, the statutory language is not prospective. The Siting Board must find that "the facility is designed to operate in compliance with applicable state and local laws and regulations ...." PSL §168(3)(e) (emphasis added). See 16 NYCRR §1001.31(d) (requiring every developer to include a statement in Exhibit 31 that "the facility as proposed conforms" to all local substantive requirements).

some unknown future date.[475] Suffice it to say the answer in a given case would likely turn on consideration of many factors and a number of potentially competing interests.

Under the present circumstances, consistent with what DPS Staff recommended in its initial brief, the record in this case supports a recommendation that the Project as designed will the existing substantive local laws of the Town of Sanford.

The discussion of issues elsewhere in this RD expresses our view that, subject to appropriate Certificate Conditions, the construction and operation of the Facility will comply with applicable State laws.

In light of the foregoing discussion, we recommend that the Siting Board may find that the Facility is designed to operate in compliance with applicable state and local laws and regulations issued thereunder, concerning among other matters, the environment, public health and safety.

J. Decommissioning and Restoration – 16 NYCRR §1001.29

Initially, Bluestone proposed deducting anticipated salvage recoveries from the amount of decommissioning and site

[475] We do note, however, that PSL Article 10 requires a municipality seeking to enforce its substantive local law(s) to present evidence in support thereof to the Siting Board or the municipality is prevented, by operation of law, from enforcing the local requirements. PSL §166(1)(j). A reasonable interpretation of this evidentiary requirement is that the municipality timely provide the Siting Board with its local law(s). While the question as to whether a municipality has satisfied this requirement in a timely fashion is fact-specific, it would seem that presenting the Siting Board with a newly adopted substantive local law on the eve of Siting Board action would not satisfy this provision of the law. Indeed, Article 10 demonstrates a strong Legislative intent for swift State review and decisions on applications for Certificates by providing the Siting Board with only 12 months to act. PSL §165(4)(a) (certain exceptions exist but are not applicable here).

restoration costs that will be subject to letters of credit to be held by the Towns of Windsor and Sanford.[476] Although Bluestone continues to maintain in its brief that, as a matter of principle, salvage recoveries should be deducted,[477] Bluestone has agreed after discussions with DPS Staff that salvage will not be deducted.[478] Bluestone and DPS Staff, the only parties to address this issue in detail, also agree on what events would trigger the decommissioning and restoration obligations, the scope of work, and the use of letters of credit to provide the Towns with financial assurance for decommissioning and restoration funding.[479] Both parties also agree that decommissioning expenses should be estimated and submitted as a part of the compliance process rather than determined at this time.[480]

There are only two remaining issues of disagreement on this topic: (1) how to allocate between the two Towns' letters of credit the non-turbine related costs of decommissioning and restoration, such as access road, meteorological tower and substation removals and restorations; and (2) the calculation of the estimated cost of access road demolition and restoration.

1. Allocation of Costs Other than Turbines

Bluestone and DPS Staff agree that the final overall decommissioning and site restoration cost estimate for purposes of determining the amounts of the letters of credit should include not only turbine removal costs, but also the costs of removing facilities other than turbines, including access roads,

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476 Hrg. Exh. 2, App. Exh. 29.

477 Bluestone Initial Brief, pp. 127-128.

478 Hrg. Exh. 10, Final Certificate Condition 48.

479 DPS Staff Reply Brief, p. 15.

480 DPS Staff Reply Brief, p. 15; Bluestone Initial Brief, p. 127.

meteorological towers and the collection substation. DPS Staff proposes to allocate the non-turbine costs equally to each turbine. Bluestone asserts that many ancillary removal costs are not linearly related to the number of turbines and argues for a more granular estimate that allocates these costs between the Towns based on the actual facility layout and the specifics of the decommissioning process. For example, Bluestone notes that the collection substation is wholly located in the Town of Sanford and argues that there is no reason to allocate any of its removal and restoration costs to the letter of credit that will secure the Town of Windsor.[481] The Examiners conclude that Bluestone's proposal is likely to provide a more accurate estimation of Town-specific costs and is therefore more appropriate for determining the amounts of the letters of credit to be issued to the two Towns. We are persuaded by Bluestone's argument that it would be inappropriate to allocate some of the costs of the substation to the Town where it is not located. We accept the reformulation of the initial portion of Certificate Condition 48 as proposed in Bluestone's reply brief. However, we also propose an edit to recognize that there may be more non-turbine costs than those related to access roads, meteorological towers and the collection substation:

> With respect to the turbines, this estimate will be calculated by multiplying the decommissioning and site restoration cost per turbine by the total number of turbines proposed for the Project. With respect to other facilities required to be decommissioned and restored, including <u>but not limited to</u> access roads, meteorological towers and the collection substation, the costs will be allocated between the Towns of Windsor and Sanford based on the estimated cost associated with the removal and restoration of the facilities located in each Town. The estimate will include a 10% contingency.

[481] Bluestone Reply Brief, p. 33.

2. Costs of Access Road Demolition and Restoration

DPS Staff proposes the use of a minimum estimate of $23.65 per foot for access road demolition and restoration activities for purposes of calculating the letter of credit amounts. Bluestone argues that this amount was not addressed in the DPS Staff Decommissioning Panel's testimony.[482] DPS Staff's Decommissioning Panel specifically recommended a minimum estimate of $24 per cubic yard based on industry standards and the Siting Board's decision in the Cassadaga Wind case.[483] The translation from $24 per cubic yard to $23.65 per linear foot appears in DPS Staff's brief without citation to the record.[484]

Both parties claim that their witnesses analyzed all the relevant costs.[485] Although Bluestone's analysis is more detailed than DPS Staff's, there is a sound basis in the record to adopt the $24 per cubic yard estimate supported by DPS Staff's panel. In choosing between the two positions, the Examiners note that the purpose of this estimation process is not to require or authorize the expenditure of any particular amounts, but instead to ensure that the Towns are fully secured in the event that they must take over the removal and restoration process themselves. Under these circumstances, uncertainties should be resolved in favor of the Towns. The impact on Bluestone may be an increase in the cost of the letters of credit, but the Examiners believe this result is

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482 Bluestone Reply Brief, p. 33.

483 Tr. 1513-14,.

484 DPS Staff Initial Brief, pp. 77-78.

485 DPS Staff Initial Brief, pp. 77-79; Bluestone Reply Brief, pp. 34-35.

necessary and appropriate. Using Bluestone's estimate[486] would expose the Towns to risk if the DPS Staff estimate turns out to be more accurate.

The Examiners find that the translation from $24 per cubic yard to $23.65 per foot is unsupported by the record. However, the Examiners recommend that the Siting Board require Bluestone to use a minimum of $24 per cubic yard in its calculation of access road removal and restoration costs for purposes of the letters of credit.

Recommendation

The Examiners recommend that the Siting Board revise proposed Stipulated Certificate Conditions 48 as described above, require the Applicant to estimate a minimum access and road restoration cost when determining the amount of the letters of credit, and adopt the proposed SEEP Specifications guidance document.

K. Public Interest Review – PSL §168(3)(b)

Section 168(3)(b) of the PSL requires the Board to determine that construction and operation of the Project will serve the public interest. In making this determination, the Board considers the consistency of the construction and operation of the Facility with energy policies and long-range planning objectives and strategies contained in the most recent SEP and additional social, economic, and other factors deemed relevant by the Board.

[486] DPS Staff asserts that Bluestone's estimate equates to $11 per foot. DPS Staff Initial Brief, p. 77. Despite the unclarity of the record on the conversion from cubic yards to linear feet, it is clear that Bluestone's estimate is lower than DPS Staff's.

Bluestone asserts that the record establishes that the Project is in the public interest.[487] Bluestone cites PSL §66-c, which provides that it is the "declared … policy of this state that it is in the public interest to encourage … the development of alternate energy production facilities." Bluestone makes various arguments in support of its position that the Project is in the public interest, including: (1) regional air quality and greenhouse gas emission reductions;[488] (2) advancement of environmental justice goals;[489] (3) economic benefits including direct and indirect jobs, PILOT payments and payments to landowners;[490] (4) the unlikelihood, in Bluestone's view, of property value reductions;[491] and (5) consistency with the state energy plan and state energy policies.[492]

DPS Staff asserts that based on all relevant factors, and subject to DPS Staff's agreed-to or proposed Certificate Conditions and modifications, the grant of a CECPN in this case would serve the public interest.[493]

We discuss a number of factors below that are relevant to and support our recommendation that the Siting Board find that the Facility is in the public interest.

1. Air Quality - Regional Benefits and Greenhouse Gas Emissions Reductions

The Facility is in the public interest because it addresses both State and regional air pollution and greenhouse gas (GHG) emission reduction goals, including the State Energy

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487 Bluestone Initial Brief, p. 133.

488 Hrg. Exh. 2, App. Exh. 17.

489 Hrg. Exh. 2, App. Exh. 28.

490 Hrg. Exh. 2, App. Exh. 27.

491 Hrg. Exh. 2, App. Exh. 4(p)(1); Tr. 1929-1938.

492 Hrg. Exh. 2, App. Exhs. 2, 10, 17; Tr. 1573-1575.

493 DPS Staff Initial Brief, pp. 5, 12, 80-87.

Plan's goal of reducing GHG emissions in New York State by 40% by the year 2030, and goal, under the Regional Greenhouse Gas Initiative (RGGI), to reduce GHG emissions from the energy generation sector by an additional 30% below 2020 levels by 2030 in RGGI participating states.[494] Large-scale wind farms like the Facility produce significant quantities of electricity without generating any direct GHG emissions. By reducing regional GHG emissions, the Facility will contribute to the RGGI goal.[495]

Because the Facility will not produce any direct emissions of other air pollutants, such as nitrogen oxides (NOx) and sulfur dioxide (SO2) that contribute to regional air pollution problems such as smog and acid rain, it will advance the State and regional goals of reducing total emissions of air pollutants resulting from fossil fuel combustion.[496]

DPS Staff's Engineering Panel examined how the Facility would impact electric energy reliability, diversity, capacity, and delivery constraints, as well as consistency with the State Energy Plan (SEP) the Clean Energy Standard (CES), the Reforming the Energy Vision policies of the Public Service Commission (REV), and the Regional Greenhouse Gas Initiative (RGGI).[497] DPS Staff testified that the Facility aligns with the State's energy planning objectives and goals, that it will increase the State's renewable energy generation capacity, that it will help advance the objectives of the SEP, CES, REV, and RGGI, and that the energy generated by the Facility will work toward achieving the CES and SEP goals.[498] DPS Staff concluded

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494 Hrg. Exh. 2, App. Exh. 2, 10 and 17.

495 Tr. 1575.

496 Hrg. Exh. 2, App. Exh. 17.

497 Tr. 1549.

498 Tr. 1550.

that the Facility will help New York State meet its energy objectives, and that it is consistent with the State's energy planning.[499] DPS Staff estimated annual reductions for NOx, SO2, and carbon dioxide (CO2) emissions of 14 tons, 1 ton, and 96,254 tons, respectively.[500]

The Examiners agree that the Facility will improve regional air quality and reduce greenhouse gas and other undesirable emissions.[501]

2. Job Creation and Other Economic Benefits

The parties agree the Facility will provide economic benefits, but disagree about the extent of such benefits. No party disputes that the Facility will create direct jobs and will generate revenues for local governments through Payments In Lieu of Taxes (PILOT) agreements,[502] and revenues for participating landowners through lease and other agreements.

The parties disagree about secondary economic benefits, such as the number of indirect and induced jobs resulting from the Facility. Bluestone used the National Renewable Energy Laboratory's Jobs and Economic Development Impact (JEDI) model, and estimated 150 direct construction job additions, 7 direct operational job additions, 406 indirect and induced jobs related to construction, and 17 indirect and induced jobs related to operation of the Facility.[503]

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499 Tr. 1550.

500 DPS Staff Initial Brief, p. 80 (citing Tr. 1549-1551).

501 Bluestone's argument with respect to air quality is supported by DPS Staff. DPS Staff estimated annual reductions for NOx, SO2 and CO2 emissions of 14 tons, 1 ton, and 96,254 tons, respectively. Tr. 1549-1551.

502 Such PILOTs are made to local taxing authorities.

503 Hrg. Exh. 2, App. Exh. 27.

DPS Staff does not challenge the direct job estimates in its brief,[504] although DPS Staff's witness expressed some concern about the estimation of construction jobs.[505] In testimony and briefs, DPS Staff challenges the results of the JEDI model with respect to the calculation of indirect and induced jobs. DPS Staff asserts that the indirect and induced jobs should not be quantitively weighed as a benefit because the JEDI model does not account for secondary impacts of the Facility that could cause job losses. For an example, DPS Staff notes that construction and operation of the Facility could lead to higher retail electric rates or the displacement of another generator which, in turn, could cause job losses.[506]

Bluestone counters that it was not required nor was it able to estimate the Facility's impact on retail rates, and that the decision to close any other generating plant would result from a host of factors, most of which would be unrelated to the Facility's 124.2 MW of electricity, which is a tiny fraction of the State's 38,778 MW total installed generation capacity.[507]

Recommendation

The Examiners agree with DPS Staff that the JEDI model fails to take into account the potential for job losses if the operation of the Facility causes a retail price increase or causes another generating station to close. However, the Examiners agree with Bluestone that these factors are very difficult if not impossible to forecast with respect to the proposed Facility. Accordingly, the Examiners recommend that the Siting Board assign little to no weight to the JEDI model's

[504] DPS Staff Initial Brief, p. 82.

[505] Tr. 1913-1915.

[506] Tr. 1916-1917.

[507] Tr. 2152; Hrg. Exh. 10, App. Exh. 109(c), Table 10-1.

estimates of indirect and induced jobs, thus treating these estimates as neither a positive nor a negative factor in evaluating the public interest of the Facility.[508]

Bluestone has agreed to provide data that will aid the Siting Board in its future decisions. Bluestone will file a tracking report detailing the actual number of jobs created and actual tax payments to local jurisdictions within one year of the Project becoming operational.[509] Although this information will not resolve the issue of indirect and induced job creations or losses, it will serve as a partial check of the accuracy of the JEDI model and of Bluestone's forecasts. We recommend that the Siting Board adopt this condition.

3. Impacts on Property Values

Bluestone asserts that it was not required by any statute or regulation to present evidence with respect to the impact of the Facility on property values.[510] Nevertheless, Bluestone agreed in the scoping and stipulation phase of this proceeding to provide a review of publicly available property value studies.[511] Bluestone's application referenced a number of studies finding that wind facilities have no consistent significant impact on property values.[512]

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[508] This is consistent with the Siting Board's recent decision in the Eight Point Wind case. Case 16-F-0062, Eight Point Wind, LLC – Wind Electric Generation Siting, Order Granting Certificate of Environmental Compatibility and Public Need, with Conditions (issued August 20, 2019), pp. 14-15 (giving little to no weight to estimates of annual secondary jobs and economic activity that were derived by the applicant using the JEDI model).

[509] Hrg. Exh. 10, Final Bluestone Certificate Condition 39.

[510] Bluestone Initial Brief, pp. 145-146.

[511] Hrg. Exh. 1, Executed Application Stipulation, 4.

[512] Hrg. Exh. 2, App. Exh. 4(p)(1).

A number of BCCR members testified about their concerns about the impact of the Facility on property values.[513] Bluestone submitted rebuttal testimony analyzing eleven studies, nine of which showed no significant impact of wind turbines on property values, and the other two of which showed negative, positive or neutral effects.[514] Bluestone's witness also conceded that some studies show that there may be a negative impact on property values in the post-announcement, pre-construction phase, but that these effects are transitory and disappear once operations commence.[515] Bluestone's witness also reviewed two peer-reviewed meta-studies, which analyzed the existing body of peer-reviewed studies. The two meta-studies concluded that the vast majority of the studies determine that wind facilities have no significant impact on nearby property values, but that the perception or belief of property value impacts may still affect acceptance of wind.[516]

The other parties to this proceeding did not brief the issue of property values.[517] Because this issue has not been thoroughly explored and tested by parties other than Bluestone, and given that findings on property values are not required by Article 10, the Examiners recommend that the Siting Board make no finding on the issue of property value impacts, and that the

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513 E.g., Tr. 1243.

514 Tr. 1932-1936.

515 Tr. 1934.

516 Tr. 1936-1937.

517 DPS Staff concluded that impacts to property values were not applicable to DPS Staff's review. DPS Staff Initial Brief, p. 85. DEC Staff did not offer testimony on this subject. DEC Initial Brief, pp. 31-32. BCCR, in brief, claimed the Facility would decrease property values, but without citation to the record. BCCR Initial Brief, pp. 67-68.

Siting Board assign no weight to the property value issue in its public interest determination.

Recommendation

DPS Staff recommends in testimony that the Siting Board find that the construction and operation of the Facility would serve the public interest if the Siting Board adopts appropriate Certificate Conditions as necessary to minimize environmental and other adverse impacts of the Project and to enable other required findings as recommended by DPS Staff.[518] The Examiners agree that appropriate conditions will protect the public interest. For reasons stated in this section and elsewhere in this RD, we conclude that the Certificate Conditions attached as Appendix A will ensure that the construction and operation of the Facility will be in the public interest. Accordingly, we recommend that the Siting Board find that the construction and operation of the Facility will serve the public interest.

IV. CONCLUSION

Based on the extensive record in this proceeding, we recommend that the Siting Board adopt the proposed Certificate Conditions set forth in Appendix A, and modified as recommended above, and issue a Certificate, subject to those conditions, that authorizes Bluestone to construct and operate the Project. The recommended Certificate Conditions in Appendix A as modified are designed to ensure that the Project's impacts, identified in this RD, are minimized and avoided to the maximum extent practicable, that the Project will be constructed and operated in compliance with all applicable State and local environmental and public health and safety laws and regulations, and that

[518] Tr. 1566-1567.

other necessary consents and approvals are secured by the Certificate Holder prior to the commencement of the Project's construction.

Bluestone Wind Project
Proposed Certificate Conditions
Case No. 16-F-0559
FINAL PROPOSED CONDITIONS
June 6, 2019
AS MODIFIED BY THE EXAMINERS PER THE RD

I. Project Authorization

1. The Certificate Holder is authorized to construct and operate the Facility (or the Project), as described in the Application by Bluestone Wind, LLC (Bluestone Wind) for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the New York State Public Service Law (PSL) (the Application) and clarified by the Certificate Holder's supplemental filings, except as waived, modified or supplemented by the New York State Board on Electric Generation Siting and the Environment's (Siting Board's) Order Granting Certificate or other permits.

2. Pursuant to Title 16 of the New York Codes, Rules and Regulations (NYCRR) §1000.15, the Certificate Holder shall, within 30 days after the issuance of the Certificate, file with the Siting Board either a petition for rehearing or a verified statement that it accepts and will comply with the Certificate for the Project. Failure of the Certificate Holder to comply with this condition shall invalidate the Certificate.

3. The Certificate Holder is responsible for obtaining all necessary permits and any other approvals (including those pursuant to PSL §§68, 69, and 70, if applicable), land easements, and rights-of-way that may be required for this Facility and which the New York State Board on Electric Generation Siting and the Environment (Siting Board) is not empowered to provide, or has expressly authorized. In addition, the Siting Board expressly authorizes the Public Service Commission (Commission) to require approvals, consents, permits, certificates or other conditions for the construction or operation of the Facility under PSL §§68, 69 and 70, with the understanding that the Commission will not duplicate any issue already addressed by the Siting Board and will instead only act on its police power functions related to the entity as described in the body of this Article 10 certificate.

4. If the Certificate Holder believes that any action taken, or determination made, by a State or local agency or their respective staffs, in furtherance of such agency's review of any applicable regulatory permits or approvals, or actions or the lack thereof by a utility subject to the Public Service Commission's jurisdiction, is unreasonable or unreasonably delayed, conditioned or withheld, the Certificate Holder may

petition the Siting Board or the Commission, as the case may be, upon reasonable notice to that agency, to seek a determination of any such unreasonable or unreasonably delayed, conditioned or withheld, action or determination. The permitting agency, agency staff or utility, as the case may be, may respond to the petition, within ten days, to address the reasonableness of its action or determination.

5. Facility construction is authorized for up to 27 wind turbines in the Towns of Sanford and Windsor, in Broome County, together with the following: temporary or permanent access roads, 34.5 kilovolt (kV) underground collection system, collection and interconnection substation, overhead 115 kV transmission line, 10 MW battery storage system, two permanent meteorological towers, one operations and maintenance (O&M) facility (in Sanford), temporary concrete batch plant (if necessary) and two temporary laydown yard/staging areas. The total nameplate capacity of the Facility shall not exceed 124.2 megawatts (MWs).

6. If the Certificate Holder decides not to commence construction of any portion of the Project (not including turbine deletions as a result of final facility design as long as turbine deletions do not result in substantial re-routing of proposed Facility components including access roads, interconnection and collection lines), it shall so notify the Secretary to the Siting Board (Secretary) promptly after making such decision and shall serve a copy of such notice upon all parties and all entities entitled to service of the application or notice of the application. Such decisions shall not require an amendment to the Certificate.

7. The Certificate Holder shall file a request/application for a Water Quality Certification with the Secretary, prior to the commencement of construction of the Facility. This request shall be filed and served and noticed pursuant to 16 NYCRR §1000.8(a)(8) and shall be filed concurrently with the permit application filed with the United States Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act. Construction activities regulated under federal law may not commence until a Water Quality Certification has been issued by the Chief of the Environmental Certification and Compliance Section of the New York State Department of Public Service Office of Electric, Gas and Water. Upon receipt of any and all permits, the Certificate Holder shall file notice of receipt of the permit(s) with the Secretary as soon as

practical. Should any permits be denied, the Certificate Holder shall file with the Secretary documentation demonstrating the reasons for the denial and how it plans to proceed with its Project plans in light of the denial.

8. The Secretary to the Siting Board, or Secretary to the Commission after the Siting Board's jurisdiction has ceased, may extend any deadlines established by this order for good cause shown. Any request for an extension must be in writing, include a justification for the extension, and be filed at least one day prior to the affected deadline.

9. Decisions on compliance filings will generally be made at the next available session of the Board or the Commission, as the case may be, provided the compliance filing is received sufficiently in advance of such sessions that there is adequate time in the circumstances to receive comments and process the matter. If DPS Staff determine that a compliance filing requires additional information, details or deliberation, such that the filing will not be decided at the next available session of the Board or Commission, DPS Staff will notify the Certificate Holder within 30 days of submission of the filing and inform the Applicant of the information needed to place the filing on the next available session.

II. General Conditions

10. Certificate Holder and its contractors shall not commence construction until a "Notice to Proceed with Construction" has been issued by the Secretary or by the Chief of the Environmental Certification and Compliance Section of the DPS Office of Electric, Gas and Water. The "Notice to Proceed with Construction" will be issued promptly after all applicable pre-construction compliance and informational filings have been filed by the Certificate Holder and approved, accepted or revised as applicable by the Commission or Secretary. The Notice to Proceed will not be unreasonably withheld.

11. Commencement of construction is defined as the beginning of unlimited and continuous site clearing, site preparation and grading activity; construction of the Facility and does not include staging, tree-cutting activities related to testing or surveying (such as geotechnical drilling and meteorological testing), together with such testing,

surveying, drilling and similar pre-construction activities to determine the adequacy of the site for construction and the preparation of filings pursuant to these conditions.

12. Commencement of commercial operation or commercial operation date (COD) is defined as the date on which the Facility as a whole first commences generating or transmitting electricity for sale, excluding electricity generated or transmitted during the period of on-site test operations and commissioning of the Project.

13. The Secretary or the Chief of the Environmental Certification and Compliance Section of the DPS Office of Electric, Gas and Water will issue a conditional "Notice to Proceed with Site Preparation" for the removal of trees, stumps, shrubs and vegetation from the site to clear the site for construction, prior to the submission of all pre-construction compliance and informational filings, provided that the Certificate Holder shall submit a Tree Clearing Plan consistent with Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" Section D.

14. The Certificate Holder shall implement the impacts avoidance, minimization and mitigation measures, as described in this Order Granting Certificate.

15. The Certificate Holder shall construct and operate the Facility in accordance with the substantive provisions of the applicable local laws as identified in Exhibit 31 of the Application, except for those local laws the Siting Board waives as unreasonably burdensome, as stated in this Order Granting Certificate.

16. The Certificate Holder shall construct and operate the Facility in a manner that conforms to all substantive State requirements as identified in Exhibit 32 of the Application.

17. The Certificate Holder shall incorporate and implement as appropriate, in all compliance filings and construction activities, American National Standards Institute (ANSI) standards and measures for engineering design, construction, inspection, maintenance and operation of its authorized Facility, including features for Facility security and public safety, utility system protection, plans for quality assurance and control measures for facility design and

construction, utility notification and coordination plans for work in close proximity to other utility transmission and distribution facilities, vegetation and facility maintenance standards and practices, emergency response plans for construction and operational phases, and complaint resolution measures.

18. The Certificate Holder shall work with New York State Electric and Gas Corporation (NYSEG), and any successor Transmission Owner (as defined in the New York Independent System Operator (NYISO) Agreement), to ensure that, with the addition of the Facility (as defined in the Interconnection Agreement between the Certificate Holder, NYISO and NYSEG), the system will have power system relay protection and appropriate communication capabilities to ensure that operation of the NYSEG transmission system is adequate under Northeast Power Coordinating Council (NPCC) standards, and meets the protection requirements at all times of the North American Electric Reliability Corporation (NERC), NPCC, New York State Reliability Council (NYSRC), NYISO, and NYSEG, and any successor Transmission Owner (as defined in the NYISO Agreement). Certificate Holder shall demonstrate compliance with applicable NPCC criteria and shall be responsible for the costs to verify that the relay protection system is in compliance with applicable NPCC, NYISO, NYSRC, NERC and NYSEG criteria.

19. The authority granted in the Certificate and any subsequent Order(s) in this proceeding is subject to the following conditions necessary to ensure adherence with such Order(s):

    a) The Certificate Holder shall regard the Department of Public Service Staff (Staff or DPS Staff), authorized pursuant to PSL §66(8), as the Siting Board's representatives in the field and, after the Siting Board's jurisdiction has ceased, as the Public Service Commission's (Commission) representatives in the field. In the event of any emergency resulting from the specific construction or maintenance activities that violate, or may violate, the terms of the Certificate, Compliance Filings, or any other order in this proceeding, such DPS Staff may issue a stop work order for that location or activity. Any stop work orders shall be limited to affected areas of the Project.

b) A stop work order shall expire 24 hours after issuance, or earlier if the issue promoting the stop work order is resolved, unless confirmed by the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, including by Order issued by the Chair of the Siting Board or by one Commissioner of the Commission. DPS Staff shall give the Certificate Holder notice by electronic mail of any application to the Siting Board or Commissioner to have a stop work order confirmed. If a stop work order is confirmed, Certificate Holder may seek reconsideration from the confirming Commissioner, Siting Board or the whole Commission. If the emergency prompting the issuance of a stop work order is resolved to the satisfaction of DPS Staff, the stop work order will be lifted. If the emergency has not been satisfactorily resolved, the stop work order will remain in effect.

c) Stop work authority shall be exercised sparingly and with due regard to potential environmental impact, economic costs involved, possible impact on construction activities, and whether an applicable statute or regulation is violated. Before exercising such authority, DPS Staff will consult wherever practicable with the Certificate Holder's representative(s) possessing comparable authority. Within reasonable time constraints, all attempts will be made to address any issue and resolve any dispute in the field. In the event the dispute cannot be resolved, the matter will be brought immediately to the attention of the Certificate Holder's Project Managers and the Director of the DPS Office of Electric, Gas and Water. If DPS Staff issues a stop work order, neither the Certificate Holder nor the Contractor will be prevented from undertaking any safety-related activities as they deem necessary and appropriate under the circumstances. Issuance of a stop work order, or the implementation of measures as described below may be directed at the sole discretion of DPS Staff during these discussions.

d) If DPS Staff discovers a specific activity that represents a significant environmental threat that is, or immediately may become, a violation of the Certificate, Compliance Filings, or any other Order in this proceeding, DPS Staff may -- in the absence of responsible Certificate Holder supervisory personnel, or

in the presence of such personnel who, after consultation with DPS Staff, refuses to take appropriate action -- direct the field crews to stop the specific potentially harmful activity immediately. If responsible Certificate Holder personnel are not on site, DPS Staff will immediately thereafter inform the Certificate Holder's construction supervisor(s) and/or environmental monitor(s) of the action taken. The stop work order may be lifted by DPS Staff if the situation prompting its issuance is resolved.

e) If DPS Staff determines that a significant threat exists such that protection of the public or the environment at a particular location requires the immediate implementation of specific measures, DPS Staff may, in the absence of responsible Certificate Holder supervisory personnel, or in the presence of such personnel who, after consultation with DPS Staff, refuse to take appropriate action, direct the Certificate Holder or the relevant Contractors to implement the corrective measures identified in the approved Certificate or Compliance Filings. However, all directives must follow the protocol established for communication between parties as required by the final approved Project Communications Plan. The field crews shall immediately comply with DPS Staff's directive as provided through the communication protocol. DPS Staff will immediately thereafter inform Certificate Holder's Construction Inspector(s) and/or environmental monitor(s) of the action taken.

III. Notifications

20. At least 14 days prior to the Certificate Holder's commencement of construction date, the Certificate Holder shall notify the public as follows:

a) Provide notice by mail to host landowners, and to adjacent landowners within 2,500 feet of parcels upon which Project components will be located;

b) Provide notice to local Town and County officials and emergency personnel;

c) Publish notice in the local newspapers of record for dissemination, including at least one free publication, if available (e.g., Pennysaver);

d) Provide notice for display in public places, which will include, but not be limited to, the Town Halls of the host communities, at least one library in each host community, at least one post office in each host community, the Facility website, and the Facility construction trailers/offices; and

e) File notice with the Secretary for posting on the DPS Document Matter Management website.

21. The Certificate Holder shall write the notice(s) required in Condition 20 in language reasonably understandable to the average person and shall ensure that the notice(s) contain(s):

a) A map of the Project;

b) A brief description of the Project;

c) The construction schedule and transportation routes;

d) The name, mailing address, local or toll-free telephone number, and email address of the Project Development Manager and Construction Manager;

e) The procedure and contact information for registering a complaint; and

f) Contact information for the Siting Board and Commission.

22. Upon distribution of the Notice, and prior to commencement of construction, the Certificate Holder shall notify the Town Boards of all areas where information regarding the Project, Project activities, and Project contact information have been posted.

23. At least seven (7) business days prior to commencement of construction, the Certificate Holder shall file with the Secretary an affirmation that it has provided the notifications required by this Section on Notifications and include a copy of the notice(s) under this Section as well as a distribution list.

24. Prior to the end of construction, the Certificate Holder shall notify the entities identified in Condition 20(a), 20(b), and 20(e) with the contact name, telephone number, email and mailing address of the Facility Operations Manager.

25. The Certificate Holder shall file a written notice with the Secretary within 14 days of the completion of construction and provide an anticipated date of commencement of commercial operation of the Facility.

26. Within 14 days of the completion of final post-construction restoration, the Certificate Holder shall notify the Secretary that all such restoration has been completed in compliance with this Certificate and the Order(s) approving all applicable compliance filings.

IV. Information Reports and Compliance Filings Requirements

Information Reports

The following written information reports and other documents shall be filed with Secretary to the Siting Board in accordance with 16 NYCRR §1002.4. The following information reports and other documentation shall be filed prior to the commencement of construction of component facilities related to the report, unless otherwise noted.

General

27. The Certificate Holder shall contact all known pipeline operators within the Project Area and land owners, if necessary, on which Project facilities are to be located or whose property lines are within the zone of safe siting clearance, if any, and shall reach an agreement with each operator to provide that the collection system will not damage any identified pipeline's cathodic protection system or produce damage to the pipeline, either with fault current or from a direct strike of lightning to the collection system, specifically addressing 16 NYCRR §255.467(g) (External corrosion control; electrical isolation), subject to the provisions of Condition 4 herein. A copy of any agreements so entered shall be provided to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary.

28. Documentation demonstrating that all necessary agreements are in place for use of the Facility Site for construction and operation (e.g., landowner agreements, easements, setback waivers, or Good Neighbor Agreements). Proofs of any consent(s) shall be provided to DPS Staff and redacted to protect confidential information.

29. Interconnection:

    a) Provide a copy of the Interconnection Agreement (IA) between the NYISO, NYSEG, and the Certificate Holder upon receipt. Any updates or revisions to the Interconnection Agreement shall be submitted throughout the life of the Project.

    b) Except in the event of an emergency, if any equipment or control system with different characteristics then in the IA is installed throughout the life of the Project, the Certificate Holder shall, at least 90 days before any such change is made, provide information regarding the need for, and the nature of, the change to NYSEG and file such information with the Secretary. If any such change(s) is made in the event of an emergency, the Certificate Holder shall notify the Secretary as soon as practicable, within one week of the date of installation.

30. Facilities Studies:

    a) All Facilities Studies issued by NYSEG and the NYISO related to the Facility and any updated facilities agreements will be filed throughout the life of the Facility.

31. Certificate Holder shall submit any System Reliability Impact Study (SRIS) performed in accordance with the NYISO Open Access Transmission Tariff (OATT) approved by the Federal Energy Regulatory Commission, and all appendices thereto, reflecting the interconnection of the Facility shall be filed with the Secretary.

32. Certificate Holder shall submit any manufacturer provided information regarding the design, safety and testing information for the turbines, substation, transformer, and battery storage equipment to be installed during construction, or as related to any equipment installed during

Facility operation as a replacement of failed or outdated equipment. All such updates will be submitted to the Siting Board, or to the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary throughout the life of the Facility.

33. The following shall be submitted regarding wind turbine model certification(s):

    a) Third-party type certification in accordance with International Electrotechnical Commission (IEC) 61400, proving that wind turbine model(s) meet international design standards; and

    b) Site suitability report from the Original Equipment Manufacturer (OEM) showing that turbine model(s) are compatible with existing Project conditions (i.e., site specific conditions).

34. The Certificate Holder shall file with the Secretary within 60 days after the commercial operation date a certification that the collector lines were constructed to the latest editions of ANSI standards. The Facility's electrical collection system shall be designed in accordance with applicable standards, codes, and guidelines as specified in Exhibit 5 of the Application.

35. Should the final Facility design require a Special Protection System, the Certificate Holder shall file a report with the Secretary regarding implementation of such system, which is designed to avoid possible overloads from certain transmission outages, as well as copies of all studies that support the design of such a system. In addition, Certificate Holder shall provide all documentation for the design of special protection system relays, with a complete description of all components and logic diagrams. Prior to commencement of operations, Certificate Holder shall demonstrate through appropriate plans and procedural requirements that the relevant components of the Special Protection System have been installed.

36. Prior to commercial operation date, the Certificate Holder shall file with the Secretary, **Operation and Maintenance Plan(s)** for the Facility. The plan shall demonstrate conformance with manufacturer's required maintenance schedules.

37. Prior to Certificate Holder providing final design plans and profile drawings of the interconnection facilities, the Certificate Holder shall work with NYSEG to ensure such documents are in accordance with the Facility Study Report and NYSEG's Electric System Bulletins, as well as the New York State High Voltage Proximity Act.

38. A Relay Coordination Study that has been reviewed and accepted by NYSEG shall be filed at least four months prior to the projected date for commencement of commercial operation of the Facility.

39. The Certificate Holder shall file with the Secretary, within 15 months after the Project becomes operational, a tracking report of the actual number of direct jobs created and payments to local jurisdictions made during the construction and operational phases of the Project.

Permits and Approvals

40. Upon receipt, copies of any federal permits and/or approvals required to conduct jurisdictional activities under Sections 401 or 404 of the Clean Water Act associated with certain aspects of construction and operation of the Facility shall be filed with the Secretary. If relevant Project plans require modifications due to conditions of federal permits, the final design drawings and all applicable compliance filings shall be revised accordingly.

41. The following shall be filed regarding Federal Aviation Administration (FAA) permits and required approval documentation:

    a) Final Determinations or Determinations with conditions resulting from aeronautical studies;

    b) If any Determinations of No Hazard to Air Navigation for the Project's wind turbines are extended, revised, or terminated by the issuing office, documentation or verification detailing the actions shall be filed with the Secretary within 10 days of issuance;

    c) All material related to the FAA approval of lighting systems to be installed on wind turbines (and any

associated equipment), shall be filed with the Secretary prior to commencement of construction.

d) Certificate Holder shall provide any updated Compliance Filings, such as modified site plans and other drawings or details, in accordance with the requirements set forth in Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" and detailed in Condition 56, if relevant Project plans require modifications due to results of FAA studies and Determinations; and

e) A copy (or verification of filing to the FAA) of the FAA Form 7460-2, Notice of Actual Construction or Alteration shall be filed with the Secretary within sixty (60) days after completion of construction of the Project.

42. Upon receipt, copies of any local or state permits and/or approvals required for construction and operation of the Facility if such approvals were authorized by the Siting Board and not otherwise included in other filings (i.e. county permits for sewage and water, and local certificates of completion and temporary certificates of completion issued by a qualified independent engineering firm engaged by the Towns). If relevant Project plans require modifications due to conditions of local or state permits, the final design drawings and all applicable compliance filings shall be revised accordingly.

Plans, Profiles, and Detail Drawings

43. Prior to installation of wind turbines, the Certificate Holder shall file an attestation affirming that the final Facility design incorporates the following measures for visual impact minimization:

a) Advertisements, conspicuous lettering, or logos identifying the Facility owner, turbine manufacturer, or any other entity on the turbines shall not be allowed;

b) Wind turbines, towers and blades shall be FAA approved colors to avoid the need for daytime aviation hazard lighting; and non-reflective finishes used on wind turbines to minimize reflected glare;

c) Medium-intensity red strobe lights on turbines for aviation hazard marking, and the extent of lighting will be minimized to the extent allowable by the FAA; and

d) Lighting controls at substations, turbines and turbine sites shall be maintained.

44. As-Built Plans in both hard and electronic copies shall be filed within nine months of the commencement of commercial operation of the Facility and shall include the following:

a) GIS shapefiles showing all components of the Project (wind turbine locations, electrical collection system, substation, buildings, access roads, met towers, point of interconnection, etc.);

b) Collection circuit layout map; and

c) As-Built Plans and details for all Project component crossings of, and co-located installations of Project components with, existing pipelines: showing cover, separation distances, any protection measures installed, and locations of such crossings and co-located installations.

Environmental

45. Water Supply Protection:

a) The Certificate Holder shall file with the Secretary a notice confirming that no wind turbine will be located within 100 feet of an existing water supply well or water supply intake.

b) Applicant will conduct reasonable investigation of active water supply wells or water supply intakes on non-participating parcels that exist within 1,000 feet of any blasting. Blasting shall be prohibited within 500 feet of any known existing, active water supply well or water supply intake on a non-participating parcel.

c) If environmental or engineering constraints require blasting within 1,000 feet of a known existing, active water supply well on a non-participating parcel, the Certificate Holder shall engage a qualified third party to collect pre- and post-blasting water samples at all

water wells within the above specified distances of blasting, provided the Certificate Holder is granted access by the property owner. These water samples will be sent to a New York State Department of Health (NYSDOH) certified laboratory for potability testing. The results of such tests and reports shall be made available to the Towns upon request.

d) If environmental or engineering constraints require siting of collection lines or access roads within 100 feet of a known existing, active water supply well, the Certificate Holder shall perform the pre- and post-construction water potability testing described in Condition 44(c) provided the Certificate Holder is granted access by the property owner. The results of such tests and reports shall be made available to the Towns upon request.

e) Should the NYSDOH-certified laboratory testing described in Conditions 44(c) and 44(d) conclude that the water supplied by an existing, active water supply well met federal and New York State standards for potable water prior to construction, but failed to meet such standards post-construction, the Certificate Holder shall cause a new water well to be constructed, in consultation with the property owner, at least 100 feet from collection lines and access roads, and at least 1,000 feet from wind turbines, as practicable given siting constraints and landowner preferences.

Compliance Filings

The following plans, drawings, and other documents shall be filed for approval by the Siting Board or Public Service Commission in accordance with the rules for submittal, public comment, and decisions set forth in 16 NYCRR §1002.2 and §1002.3, unless otherwise noted. The Certificate Holder shall implement all requirements of the compliance filings, as approved or amended by the Siting Board. Required compliance filings shall be filed with the Secretary prior to the commencement of construction of component facilities directly related to the filing, unless otherwise noted.

General

46. The Certificate Holder shall submit a Site Engineering and Environmental Plan (SEEP) in accordance with Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" which shall describe in detail the final Facility design and the environmental protection measures to be implemented during construction of the Facility. The SEEP will include a table outlining the specific Certificate Conditions referenced in the SEEP.

47. The Certificate Holder shall submit an **Environmental Compliance and Monitoring Plan** including a **Project Communications Plan** identifying the Certificate Holder's construction organizational structure, contact list, and protocol for communication between parties. The Certificate Holder shall provide to DPS Staff and the Towns the names and contact information of all individuals responsible for Project oversight. The Certificate Holder may utilize one or more qualified individuals to satisfy the Project oversight responsibilities associated with the environmental monitor and the agricultural inspector.

48. Prior to commencement of construction, a **Final Decommissioning Plan** shall be submitted. Letters of credit will be established by the Certificate Holder to be held by each town hosting Facility components. The total amount of the letters of credit created for the Towns of Sanford and Windsor will represent the total final decommissioning and site restoration estimate, as described below. The letters of credit shall remain active until the Facility is fully decommissioned. The **Final Decommissioning Plan** will include the following:

    a) A final decommissioning and site restoration estimate (no offset for projected salvage value is permitted in the calculation of the estimate) based on the final Project layout. With respect to turbines, this estimate will be calculated by multiplying the decommissioning and site restoration cost per turbine by the total number of turbines proposed for the Project. With respect to other facilities required to be decommissioned and restored, including but not limited to access roads, meteorological towers and the

collection substation, the costs will be allocated between the Towns of Windsor and Sanford based on the estimated cost associated with the removal and restoration of the facilities located in each Town. The estimate will include a 10% contingency. The estimate shall be updated by a qualified independent engineer licensed to practice engineering in the State of New York to reflect inflation and any other changes after one year of Facility operation, and every fifth year thereafter. Updated estimates will be filed with the Secretary after one year of Project operation and every fifth year thereafter;

b) Documentation indicating approval by the Towns of Sanford and Windsor of an acceptable form of letter of credit;

c) Proof that the letters of credit have been obtained in the final decommissioning and site restoration estimate amount, as calculated pursuant to the Final Decommissioning Plan;

d) Letters of credit shall be updated after one year of Facility operation and every fifth year thereafter, based on updated estimates described in sub-section a of this condition. Documentation shall be filed with the Secretary after one year of Project operation and every fifth year thereafter specifying changes to the structure of the letters of credit; and

e) Copies of agreements between the Certificate Holder and the Towns, establishing a right for each Town to draw on the letters of credit dedicated to its portion of the Facility.

49. The Certificate Holder shall submit a **Final Complaint Resolution Plan** for both construction and operation phases of the Project, which shall be developed in consultation with the Towns. A copy of the Final Complaint Resolution Plan shall be submitted to the Towns and filed at the Facility document repositories. The plan shall address complaint reporting and resolution procedures for all construction and operation issues. The plan shall include protocols as indicated in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

If the Complaint Resolution process determines that Facility operation has resulted in impacts to existing off-air television coverage, the Certificate Holder shall address each individual problem by investigating methods of improving the television reception system.

Health and Safety

50. A **Final Emergency Action Plan** that shall be implemented during Facility construction, and operation. It shall address, amongst other potential contingencies, provisions for the notification of pipeline operators/owners in the event of damage to an existing pipeline. Copies of the final plan shall be provided to DPS Staff, the NYS Division of Homeland Security and Emergency Services, and local emergency responders that serve the Facility. The Certificate Holder may submit separate emergency procedures for construction and operation. Emergency procedures for construction must be submitted prior to the commencement of construction and emergency procedures for operation must be submitted prior the commencement of commercial operation.

51. A final **Site Security Plan** for Facility construction and operations. Copies of the final plan shall be provided to DPS Staff, the NYS Division of Homeland Security and Emergency Services, and local emergency responders that serve the Facility. The Certificate Holder may submit separate Site Security Plans for construction and operation. Security procedures for construction must be submitted prior to the commencement of construction and security procedures for operation must be submitted prior the commencement of commercial operation.

52. A final **Health and Safety Plan** that shall be implemented during Facility operation and construction. The Certificate Holder may submit separate health and safety procedures for construction and operation. Health and safety procedures for construction must be submitted prior to the commencement of construction and health and safety procedures for operation must be submitted prior the commencement of commercial operation.

53. A final site-specific construction **Quality Assurance and Quality Control Plan** (QA/QC Plan), to be developed in

coordination with the selected Balance of Plant (BOP) contractor.

54. Prior to the installation of exterior lighting on facility components a **Facility Exterior Lighting Plan** shall be submitted for review and approval by the Siting Board. The Plan shall address:

a) security lighting needs at wind turbine sites, substation and switchyard sites, battery storage, the Facility Operations and Maintenance building site and any exterior equipment storage yards;

b) plan and profile figures to demonstrate the lighting area needs and proposed lighting arrangement at the collection substation site, battery storage, the Facility Operations and Maintenance building site, any exterior equipment storage yards;

c) plan, elevation, and details for lighting and associated components for wind turbines (including any FAA approved equipment required for Aircraft Detection Lighting Systems);

d) lighting should be designed to provide safe working conditions at appropriate locations;

e) exterior lighting design shall be specified to avoid off-site lighting effects, by:

i. use of task lighting as appropriate to perform specific tasks; task lighting shall be designed to be capable of manual or auto-shut off switch activation rather than motion detection;

ii. for lighting other than turbine door safety lighting, full cutoff fixtures, with no drop-down optical elements (that can spread illumination and create glare), shall be required for permanent exterior lighting; and

iii. manufacturer’s cut sheets of all proposed lighting fixtures shall be provided.

Transportation

55. The Certificate Holder shall coordinate with the State, County, and local municipalities to respond to any locations that may experience any traffic flow or capacity issues.

56. The Certificate Holder will develop final haul routes in consultation with the Towns of Windsor and Sanford, will finalize haul routes in coordination with the turbine manufacturer, and will use the final haul routes in preparing the final construction drawings. The Certificate Holder shall file the following regarding potential transportation impacts in accordance with applicable requirements in Section B of Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project":

    a) Pursuant to 16 NYCRR §1002.4, prior to using a route to haul equipment or materials requiring a permit, and upon receipt copies of all necessary transportation permits from the affected State, County, and Town agencies for such equipment and/or materials on such route. Such permits shall include but not be limited to: Highway Work Permits to work within the Right-of-Way (ROW), permits to exceed posted weight limits, Highway Utility Permits to work within ROW, Traffic Signal Permits to work within ROW, Special Haul Permits for oversize/overweight vehicles, and Divisible Load overweight Permits;

    b) Final or updated **Route Evaluation Study**, including maps of final transportation routes for Project component deliveries;

    c) **Traffic Control Plans** for any city, town, or village that may experience delays to local traffic during construction activities. The Traffic Control Plans shall include copies of any *Host Community Agreements* and/or *Road Use Agreements* with the County and any affected towns where the local roads will be utilized for delivery or construction vehicle transportation;

    d) Upon receipt, pursuant to 16 NYCRR §1002.4 copies of all necessary agreements with utility companies for raising overhead wires where necessary to accommodate the oversize/overweight delivery vehicles, if applicable.

Plans, Profiles, and Detail Drawings

57. Maps, site plans, profile figures, and environmental controls and construction details incorporating all components of the final layout of the Project shall be provided in the SEEP, in accordance with the requirements set forth in Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

58. Final design drawings, site plans, and construction details (to be included as part of the SEEP in accordance with the requirements set forth in Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project")will show wind turbine setback dimensions that meet or exceed the turbine setback requirements in each Town's applicable local law.

59. The Certificate Holder shall provide all of the information required pursuant to Section A. Linear Facility Components of Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" as applicable to Project, including details of proposed component crossings of, or co- locations with, existing gas pipelines within the Project Area.

60. Shapefile data shall be provided to DPS Staff for the locations of turbines, collection lines, transmission lines, substation, designated clearing, construction and laydown areas, access ways, limits of disturbance and other Project facilities.

Environmental

61. **Final Geotechnical Engineering Report** verifying subsurface conditions at each turbine location. The report shall identify appropriate mitigation measures required in locations with highly corrosive soils, soils with a high frost risk, and soils with high shrink/swell potential. The report shall characterize subsurface conditions where horizontal directional drilling (HDD) is proposed and identify all locations where blasting operations will be required.

62. A site-specific **Final Blasting Plan** designed to protect surrounding structures, including groundwater wells.

63. An **Agricultural Area Plan** which shall describe the programs, policies, and procedures to mitigate agricultural impacts.

64. **Final Shadow Flicker Impacts Analysis, Control, Minimization and Mitigation Plan.** Shadow flicker caused by wind turbine operations shall be limited to a maximum of 30 hours annually at any nonparticipating residential receptor, subject to verification using shadow prediction and operational controls at appropriate wind turbines. The Shadow Flicker Impacts Minimization and Mitigation Plan shall include details as outlined in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

65. Upon completion of construction of the Facility, the Certificate Holder shall conduct an assessment of the need for landscape improvements, including vegetation planting, earthwork or installed features to screen or landscape the O&M Building. Based on the results of the assessment, the Certificate Holder shall develop the following in consultation with DPS Staff and the Towns and submit for approval:

    a) Plans for any visual mitigation found necessary, and, in connection therewith, plans for removal, rearrangement and supplementation of existing landscape improvements or plantings, as appropriate;

    b) Landscaping plan specifications and materials list (details shall include measures for third party or wildlife damage to any landscape and vegetation plantings); and

    c) The Certificate Holder shall file a *Final Landscaping Plan* with the Secretary within one year of the commercial operation date of the Facility.

66. Cultural Resources Protection Measures, including:

    a) Plans to avoid or minimize impacts to archeological and historic resources to the extent practicable. Construction, including site preparation, clearing or other disturbance, shall not be allowed in any areas that have not been reviewed and approved for the presence of cultural resources. The Certificate Holder

shall indicate on final Site Engineering and Environmental Plans measures for avoidance of archaeological sites identified within the Facility site. The mapped locations of all identified archaeological sites (including but not limited to Stone Features) within 100 feet (31 meters) of proposed Facility-related impacts shall be identified as "Environmentally Sensitive Areas" or similar on the final Facility construction drawings, and marked in the field by construction fencing with signs that restrict access.

b) **Final Unanticipated Discovery Plan**, establishing procedures in the event that resources of cultural, historical, or archaeological importance are encountered during Facility construction. The plan will include a provision for immediate work stoppage upon the discovery of possible archaeological or human remains. Evaluation of such discoveries, if warranted, shall be conducted by a professional archaeologist, qualified according to New York Archaeological Council Standards. Work shall not resume in the area of such remains until written permission is received from the NYSOPRHP.

c) If complete avoidance of archaeological sites is not possible, the Certificate Holder shall consult with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and DPS Staff to determine if mitigation is warranted. The identification of mitigation measures will be included in the plans.

d) Final **Cultural Resources Mitigation and Offset Plan**, either as adopted by federal permitting agency in subsequent National Historic Preservation Act (NHPA) §106 review, or as proposed in the Application and as revised in further consultation with SHPO in the event that the NHPA §106 review does not require that the mitigation plan be implemented, or as further supplemented pending any negotiations among parties. Proof that mitigation funding awards required under the Plan have been made shall be provided within two years of the commencement of construction of the Facility pursuant to 16 NYCRR §1002.4.

67. **Curtailment Plan** which shall be provided prior to the commencement of commercial operation for minimization of

impacts to all bat species including Northern Long-Eared Bat (NLEB) and migratory tree bats, which shall include:

a) description and implementation of a curtailment regime implemented at all turbines for the life of the Project during the period July 1 through October 1 requiring a minimum curtailment of 5.5 m/s, 30 minutes prior to sunset through 30 minutes after sunrise, when temperatures are greater than 10 degrees Celsius. Following this curtailment regime, operation of the Project for a period of 30 years will result in an estimated take of 16 NLEB.

b) The Certificate Holder shall submit to DEC and DPS a detailed review of curtailment operations and bat fatality rates and species composition every five (5) years. The review shall assess if changes in technology or knowledge of impacts to bats, including NLEB and migratory tree bats, suggests that modification of the Curtailment Plan is warranted. Any proposed or adopted modifications to the Curtailment Plan must provide the same or additional benefit to NLEB (i.e., no change in or further decrease the fatality of NLEB), which is based on the estimated take of 16 NLEB. The curtailment plan may only be modified with the consent of DPS, DEC, the Certificate Holder, and/or USFWS if such consent is applicable under federal law.

68. Bald and Golden Eagle Protection Measures, including:

a) The use of a single bio-monitor to simultaneously monitor turbine locations T25, T26 and T29 during the spring migration (February 15 – April 30) and fall migration period (October 15 – November 30) during all daylight hours for a minimum of two-years after operations or the deployment of Indentiflight® or equivalent automated avian detection and curtailment technology systems covering turbine locations T25, T26 and T29. Curtailment will be implemented at turbines T25, T26, and T29 upon detection of eagles based on a plan prepared in consultation with and accepted by DEC and DPS prior to Project operation. Regardless of the type of monitoring system deployed, the date and time of all eagle detections within 500m of turbines T25, T26, and T29 will be recorded, along with date, time and duration of any curtailment initiated in response to

those detections. A summary of the monitoring data shall be shared with DEC on an annual basis.

b) After the first two years of operation the Certificate Holder will consult with the DPS and DEC to discuss if ongoing monitoring is needed or determine appropriate changes based upon on-site data, updated automated avian detection and curtailment technology, and current research in wind-eagle interactions.

c) In the event of an eagle fatality at any turbine during any time of year at the Facility the ~~Applicant~~ Certificate Holder will coordinate with DPS and DEC to evaluate data and information related to the take, such as but not limited to weather immediately preceding the fatality, age, sex, or proximity to known food sources, and determine practicable measures to address the impact and minimize further fatalities to avoid exceeding the estimated take of 6 bald eagles and 3 golden eagles, if warranted. Such additional minimization may include expanding the bio-monitors to additional turbine locations or deploying Indentiflight® or equivalent automated avian detection and curtailment technology systems at other turbine locations.

69. A final **Net Conservation Benefit Plan** (NCBP), for the take of NLEBs, bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) ("affected species"), shall address the following:

a) To achieve a net conservation benefit for unavoidable impacts to NLEB, mitigation actions will be implemented to compensate for the loss of 17 NLEB.

b) To achieve a net conservation benefit for unavoidable impacts to bald eagles, mitigation actions will be implemented to compensate for the estimated take of 7 bald eagles over the operational period of 30 years.

c) To achieve a net conservation benefit for unavoidable impacts to golden eagles, mitigation actions will be implemented to compensate for the estimated take of 4 golden eagles over the operational period of 30 years.

The final NCBPs shall be prepared in consultation with and accepted by DEC and DPS, such acceptance may not be

unreasonably withheld, and consultations must take place in a timely manner. The final, DEC-accepted NCPB shall be filed prior to implementation and Project operation. The minimization measures in the NCPB that require installation of equipment or monitoring systems shall be installed prior to operation of the Facility. Mitigation actions in the NCBP shall be implemented prior to the start of Project operation.

If this timeframe is not met, to avoid impacts to NLEB, the Certificate Holder shall implement the following curtailment regime until the NCBP has been accepted by DPS and DEC, finalized, and mitigation actions implemented: during the period July 1 through October 1 a minimum curtailment of 6.9 m/s, 30 minutes prior to sunset through 30 minutes after sunrise, when temperatures are greater than 10 degrees Celsius. At such time that the NCBP is accepted by DPS and DEC, finalized, and mitigation actions implemented, curtailment at 5.5 m/s as described above will begin and continue for the remaining life of the Project.

At a minimum, the **Net Conservation Benefit Plan** shall contain:

a) a demonstration that the Net Conservation Benefit Plan (NCBP) results in a positive benefit on each of the affected species;

b) detailed net benefit calculations based on the actual location and type of minimization measures to be taken for each of the affected species;

c) full source information used as inputs to the net benefit calculations for each of the affected species;

d) a consideration of potential minimization and mitigation measures identified by DEC Staff and measures proposed by the Certificate Holder for each of the affected species;

e) a consideration of potential sites identified by DEC Staff for mitigation measures and sites proposed by the Certificate Holder for each of the affected species;

f) the identification and detailed description of the additional minimization measures developed to minimize

potential take of the species that will be undertaken by the Certificate Holder;

g) the identification and detailed description of the mitigation actions that will be undertaken by the Certificate Holder to provide a net conservation benefit to the affected species; and

h) a letter or other indication of the Applicant's financial and technical capability and commitment to fund and execute such management, maintenance and monitoring for the life of the Project/term of the permit.

70. A **Post Construction Avian and Bat Monitoring and Adaptive Management Plan** shall be filed prior to the commencement of commercial operation of the Facility. The plan will include direct impact fatality studies and habituation/avoidance studies. The details of the post-construction studies (i.e., the start date, number and frequency of turbine searches, search area, bat monitoring and species composition, further monitoring beyond the second year, duration and scope of monitoring, methods for observational surveys, reporting requirements etc.), will be described based in part on DEC's June 2016 *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, and will be adapted as needed to design an appropriate monitoring program to determine the effectiveness of the curtailment regime for the affected species covered by the Net Conservation Benefit Plan, A final plan will be developed through consultation between the certificate holder, USFWS, and DEC, and accepted by DEC prior to filing. The post-construction monitoring, and adaptive management plan shall be properly designed to evaluate mortality and displacement impacts that will occur over the life of the Project. The plan will also include notification requirements, adaptive management options and next steps to be implemented if the permitted level of take is exceeded for the affected species covered by the NCBP, or reasonably expected to be exceeded within the terms of the permit.

71. An **Inadvertent Return Plan** showing all locations where horizontal directional drilling (HDD) is proposed. The plan shall assess the potential impacts from frac-outs at the proposed drilling locations and contain details as outlined in Section B of Appendix A, "Guidance for the Development of

Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

72. A long-range **Facility and Corridors Management Plan** shall be filed within one year after the commercial operation date. The plan shall address specific standards, protocols, procedures and specifications for:

    a) Vegetation management recommendations, based on on-site surveys of vegetation cover types and growth habits of undesirable vegetation species;

    b) All proposed chemical and mechanical techniques for managing undesirable vegetation. Herbicide use and limitations, specifications, and control measures will be included, if proposed;

    c) Substation Fence-line Clearances, and Overhead Wire Security Clearance Zone specifications, indicating applicable safety, reliability and operational criteria;

    d) Inspection and target treatment schedules and exceptions;

    e) Standards and practices for inspection of facilities easements for erosion hazard, failure of drainage facilities, hazardous conditions after storm events or other incidents;

    f) Review and response procedures to avoid conflicts with future use encroachment or infrastructure development;

    g) Wetland and stream protection areas, principles and practices; and

    h) Host landowner notification procedures.

73. A final **Invasive Species Control Plan** (ISCP). Control measures shall include construction materials inspection and sanitation, invasive species treatment and removal, and site restoration in accordance with the Facility's final approved Storm Water Pollution Prevention Plan (SWPPP). A post-construction monitoring program (MP) shall be conducted in year 1, year 3, and year 5 following completion of construction and restoration. The MP shall collect information to facilitate evaluation of ISCP effectiveness.

At the conclusion of the MP, a report shall be submitted to DPS Staff, DEC, the Towns, and DAM, and filed with the Secretary, that assesses how well the goal of no net increase of invasive species per the recommendation of the Invasive Plant Species Survey Baseline Report ("Baseline Species Report"), due to construction of the Facility, is achieved. In the event that the report concludes that ISCP goals are not met, and there is an increase of invasive species due to Facility construction, the Certificate Holder, DPS, DEC and DAM will meet to consider why initial control measures were ineffective and the probability of successful additional treatment measures without the need for perpetual treatments.

74. A **Facility Vegetation Clearing Management and Herbicide Use Plan** containing details as outlined in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project."

V. Noise and Vibration

75. The Certificate Holder shall submit to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary at a minimum of 60 days prior to the start of construction~~the following details of the Wind Generating Facility~~:

a) The l~~L~~ocations of all ~~the~~ turbines identified with Geographic Information System (GIS) coordinates and GIS files. Turbine dimensions to include hub height and diameter of tip blades rotation.

b) Proposed grading and turbine ground elevations. Site plan and elevation details, of substations as related to the location of all relevant noise sources (transformers, emergency generator, reactors, if any), any identified mitigations, specifications, and appropriate clearances for sound walls, barriers, mufflers, silencers, and enclosures, if any. Sound information from the manufacturers for all relevant noise sources shall also be presented.

c) Sound Power levels from the turbines by following these provisions:

i. Sound Power levels from the turbines selected for the project shall be documented with information from the manufacturers based on tests that determined sound power levels following the International Electrotechnical Commission (IEC) 61400-11 standard and TS 61400-14 standard (1st edition), if available. Sound Power Information will be reported associated with wind speed magnitudes, angular speed of the rotor, and rated power to the extent this information is available. The Sound Power Information will include specifications for Noise Reduced Operations and Low-Noise Trailing Edges if these are available or required to meet the noise conditions of this Certificate.

~~i.~~ii. Apparent Sound Power levels from the turbines at any wind speed at hub height shall not exceed the final overall broadband (dBA) and the 16 Hz, 31.5 Hz, and 63 Hz full octave band levels (linear) presented in the Application or any subsequent supplement, as measured by following the IEC 61400-11 Standard.

d) ~~If a different turbine model is selected, than one modeled in the Application, or if the layout has changed from the Application, revised sound modeling with the specifications of the wind turbine model selected for construction to demonstrate that the Project is modeled to meet the following design goals~~Revised sound modeling with the specifications of the wind turbine model selected for construction to demonstrate that the Project is modeled to meet the Local Laws on Noise for the Towns of Windsor and Sanford, and the regulatory limits of Conditions 79(a) and 79(e). In addition, the revised sound modeling will show conformance with the following design goals:

i. 40 dBA L(night-outside), annual equivalent continuous average sound level, from the Facility outside any existing permanent or seasonal non-participating residence.

ii. 50 dBA L(night-outside), annual equivalent continuous average nighttime sound level from the Facility outside any existing participating residence.

~~ii.~~iii. 50 dBA L(night-outside), annual equivalent continuous average nighttime sound level from the Facility across any portion of a non-participating property except for portions delineated as wet lands as demonstrated through compliance with the limit at worst-case locations. The Applicant shall include a demonstration of how it determined the worst-case locations with noise data reflecting the final turbine array.

~~iii.~~iv. 65 dBZ L(1-hour), maximum 1-hour equivalent continuous average sound level from the Facility at the 16 Hz, 31.5 Hz, and 63 Hz full octave bands outside any existing non-participating residence.

76. Compliance with Certificate Conditions for the Facility shall be evaluated by the Certificate Holder by following a **Sound Testing Compliance and Noise Complaint Protocol** that shall follow the provisions and procedures for post construction noise performance evaluations presented by the Application and as stated in the Order, in addition to~~.~~:

a. monitoring for compliance with maximum noise limit of 65 dB Leq-1-h at the full octave frequency bands of 31.5, and 63 Hertz outside of any non-participant residence existing as of the issuance date of this Certificate in accordance with Annex D of ANSI standard Sl2 .9-2005/Part 4 Section D.2.(1)(Analysis of sounds with strong low-frequency content).

~~76.~~b. during the Sound Compliance Tests described in Certificate Condition 77, and any subsequent sound testing related to compliance or violations of the noise limits applicable to the Facility, the uncertainty factor in ANSI S12.9 Part 3 Clause 7.3 should be applied against the Facility.

77. At least two Sound Compliance Tests conforming to the compliance protocol required by the Certificate Conditions shall be performed by the Certificate Holders after the commercial operations date of the Facility: One during the "leaf-off" season and one during the "leaf-on" season.

a) Within seven months after the commercial operations date of the Facility~~ but no later than eight (8) months after the commencement of operations of the Facility~~, the

Certificate Holders shall perform and complete the first Sound Compliance Test and the results shall be ~~submitted~~ filed with ~~to~~ the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary a report from an independent acoustical or noise consultant, no later than eight months after the commercial operations date, specifying whether or not the Facility is found in compliance with all Certificate Conditions on noise of this Certificate during the "leaf on" or "leaf off" season as applicable.

b) The second Sound Compliance Test shall be performed, and results shall be submitted to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary subject to the same conditions contained in sub-condition 77(a), but no later than thirteen (13) months after the commencement of operations of the Facility.

78. If the results of the first or the second Sound Compliance Tests, or any subsequent Sound Compliance Test performed by the Certificate Holder, or any Violations Tests performed by DPS, or any test performed in response to complaints indicate that the Facility, related facilities and ancillary equipment do not comply with all Certificate Conditions on noise contained in this Certificate, the Certificate Holders shall:

a) Present minimization options to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary within 60 days after the filing of a noncompliance test result or the finding of a noncompliance or a violation of Certificate Conditions on noise of this Certificate:

i. Operational minimization options related to noise or vibrations caused by the wind turbines that shall be considered, including, at a minimum, modifying or reducing time of turbine operation, incorporating noise reduced operations, shutting down relevant turbines, and modifying operational conditions of the turbines.

ii. Physical minimization options related to noise or vibration caused by the wind turbines that shall be considered, including installation of serrated edge trails on the turbine blades, replacement or

maintenance of noisy components of the equipment, and any other measures as feasible and appropriate.

iii. If applicable, any minimization measures related to noise from transformers (such as walls or barriers) and emergency generators (such as installation of noise walls or barriers, adding or replacing enclosures or silencers to the emergency generator) if any, or any other mitigation measures as feasible and appropriate.

b) Implement any operational noise mitigation measures within 90 calendar days after the finding of a violation situation, as necessary to achieve compliance.

c) Implement any physical noise mitigation measures within 150 days after the finding of a non-compliance or violation situation, as necessary to achieve compliance.

d) Not operate the turbines of the Facility that caused the violation if the minimization measures are not implemented within the schedules specified in this Certificate Condition, and not operate the turbines without the operational or physical minimization measures that are presented and approved by the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, after they are implemented as specified in these Certificate Conditions.

e) Test, document and present to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing with the Secretary results of any minimization measures and compliance with all Certificate Conditions on noise of this Certificate, no later than 90 days after the minimization measures are implemented.

79. Noise levels from all noise sources from the ~~Wind Generating~~ Facility, related facilities and ancillary equipment shall:

a) Comply with a maximum noise limit of ~~Be equal to or less than/comply with a limit of~~ 45 dBA Leq (8-hour ~~nighttime~~), at any existing permanent or seasonal non-participating residence, and 55 dBA Leq (8-hour ~~nighttime~~) at any ~~existing~~ participant~~ting~~ residence

existing as of the issuance ~~at the~~ date of this Certificate;

~~a)~~b)

~~b)~~ Not produce any audible prominent tones, as defined under ANSI S12 .9 Part 4-2005 Annex C at any non-participant residences existing as of the issuance date of this Certificate. Should a prominent tone occur, the broadband overall (dBA) noise level at the evaluated position shall be increased by 5 dBA for evaluation of compliance with sub-condition 79(a). ~~Be equal to or less than/comply with a limit of 65 dBZ L(1-hour), maximum 1-hour equivalent continuous average sound level from the Facility at the 16 Hz, 31.5 Hz, and 63 Hz full octave bands outside any existing non-participating residence.~~

~~c)~~ Comply with a maximum noise limit of 65 dB Leq-1-h at the full octave frequency bands of 31.5, and 63 Hertz outside of any non-participant residence existing as of the issuance date of this Certificate in accordance with Annex D of ANSI standard S12 .9-2005/Part 4 Section D.2.(1)(Analysis of sounds with strong low-frequency content). ~~Not produce any audible prominent tones, as defined under ANSI S12.9 Part 4-2005 Annex C at any non-participant residences existing as of the issuance date of this Certificate. Should a prominent tone occur, the broadband overall (dBA) noise level at the evaluated position shall be increased by 5 dBA for evaluation of compliance with sub-condition 79(a).~~

~~d)~~c) Not produce human perceptible vibrations inside any non-participant residence existing as of the issuance date of this Certificate that exceed the limits for residential use recommended in ANSI Standard S2.71-1983 (August 6, 2012) "Guide to evaluation of human exposure to vibration in Buildings."

~~e)~~d) Comply with a limit of 40 dBA Leq (1-hour) at the outside of any non-participating residence from the collector substation equipment, and subject to the tonal penalties of sub-condition 79(~~e~~b).

Emergency situations are exempt from any of these limits.

80. The Certificate Holder shall adhere to the following condition regarding noise complaints:

a) The Certificate Holder is required to maintain a log of complaints received relating to noise and vibrations caused by the operation of the Facility, related facilities and ancillary equipment. The log shall include name and contact information of the person that lodges the complaint, name of the property owner(s), address of the residence where the complaint was originated, the date and time of the day underlying the event complained of, and a summary of the complaint.

b) The Certificate Holder shall provide the Towns of Sanford and Windsor with a phone number, email address and mailing address where complaints can be notified, along with a form to report complaints designed according to the details required in subsection (a) of this condition.

c) All complaints received shall be reported to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, monthly during the first year of commercial operations and quarterly thereafter, by filing with the Secretary during the first 10 calendar days of each month (or the first 10 days of each quarter after the first year). Reports shall include copies of the complaints and, if available, a description of the probable cause (e.g., outdoor or indoor noise, tones, low frequency noise, amplitude modulation, vibrations, rumbles, rattles, etc., if known); the status of the investigation, summary of findings and whether the Facility has been tested and found in compliance with applicable noise Certificate Conditions or minimization measures have been implemented. If no noise or vibration complaints are received, ~~the filing is not required for that period~~ the Certificate Holder shall submit a letter to the Secretary indicating that no complaints were received during the reporting period.

d) Should complaints related to excessive and persistent amplitude modulation occur at any non-participant residence existing as of the issuance date of this Certificate with measured or modeled sound levels exceeding 40 dBA Leq-1-hr, the Certificate Holder shall investigate and measure amplitude modulation at the affected receptors during the time frame when the worst conditions are known, or, if not known, expected, to

occur. If the L90-10-minute noise levels (dBA), including any amplitude modulation and prominent tone penalties exceed a noise level of 45 dBA and amplitude modulation is in excess of a 5 dB modulation depth at the evaluated receptor(s) for more than 5% of the time during the identified time frame of evaluation (which will not exceed eight consecutive hours), the Certificate Holder shall continue with the investigation, identify frequency of occurrence and the conditions that may be favorable for its occurrence, and propose minimization measures to avoid or minimize the impacts. Minimization measures that avoid, minimize, resolve or mitigate the amplitude modulation impacts shall be identified and reported to the Siting Board, or the Commission after the Siting Board's jurisdiction has ceased, by filing the identified minimization measures with the Secretary and implementing such measures~~ed~~ after, and consistent with, review and approval. Compliance with this Certificate Condition shall be finally demonstrated by conducting a test that shows that the L90-10-minute sound levels (dBA), including a 5-dBA penalty for amplitude modulation (if amplitude modulation depth is in excess of 5 dB for more than 5% of the time in any eight consecutive hours) at that particular location and any additional prominent tone penalties, are lower than or equal to 45 dBA. For any complaints that do not exceed the limits established in the foregoing, the Certificate Holder should handle those complaints under its complaint resolution protocol.

e) The Certificate Holder shall investigate all other noise and vibration complaints by following the Complaint Protocol in, and consistent with the limits imposed by, these Certificate Conditions.

81. The Certificate Holder is required to maintain a log of operational conditions of all the turbines with a 10-minute time interval to include at a minimum wind velocity and wind direction at the hub heights, angular speed of the rotors and generated power and notes indicating operational conditions that could affect the noise levels (e.g. maintenance, shutdown, etc.). A schedule and log of Noise Reduced Operations for individual turbines shall also be kept and updated as necessary. These records shall be maintained by the Certificate Holder for five years from occurrence.

82. The Certificate Holder shall comply with the following conditions regarding construction noise:

a) Comply with all ~~applicable~~ local laws regulating construction noise;

b) Maintain functioning mufflers on all transportation and construction machinery;

c) Respond to noise and vibration complaints according to the protocols established in the Certificate Conditions.

VI. Facility Construction and Maintenance

General

83. At least 30 days prior to the start of construction, the Certificate Holder shall become a member of Dig Safely New York. The Certificate Holder shall require all contractors, excavators, and operators associated with its facilities to comply with the requirements of the Commission's regulations regarding the protection of underground facilities (16 NYCRR Part 753).

84. The Certificate Holder shall comply with all requirements of the Commission's regulations regarding identification and numbering of above ground utility poles (16 NYCRR Part 217).

85. The Certificate Holder shall hire an independent, third-party environmental monitor to oversee compliance with environmental commitments and permit requirements. The environmental monitor shall perform daily inspections of construction work sites and, in consultation with DPS Staff, issue regular reporting and compliance audits. Copies of the reporting and compliance audits will be provided to the Towns upon request. The Certificate Holder shall identify and provide qualifications and contact information for the independent, third-party monitor for environmental compliance monitoring; there shall be an independent, third party agricultural monitor. If the Department of Agriculture and Markets (DAM) agrees that the independent third party monitor is qualified on agricultural issues, one monitor can act as both environmental and agricultural monitor.

86. The environmental monitor shall have stop work authority over all aspects of the Project. Any stop work orders shall be limited to affected areas of the Project.

87. The Certificate Holder shall ensure that its environmental monitor and construction supervisor are equipped with sufficient access to documentation, transportation, and communication equipment to effectively monitor such Certificate Holder's contractor's compliance with the provisions of every Order issued in this proceeding with respect to such Certificate Holder's Project components and to those sections of the Public Service Law, Environmental Conservation Law, Section 401 Water Quality Certification, and the SEEP.

88. At least 14 days before the commencement of construction, the Certificate Holder shall hold a pre-construction meeting with DPS Staff, Staff of the New York State Department of Agriculture and Markets (DAM), New York State Department of Transportation (DOT), Town Supervisors and Highway Departments, County Highway Department, and DEC. The Balance of Plant (BOP) construction contractor and the environmental compliance monitor shall be required to attend the preconstruction meeting.

    a) An agenda, the location, and an attendee list shall be agreed upon between DPS Staff and the Certificate Holder and distributed to the attendee list at least one week prior to the meeting;

    b) Maps showing designated travel routes, construction worker parking and access road locations and a general project schedule shall be distributed to the attendee list at least one week prior to the meeting;

    c) The Certificate Holder shall supply draft minutes from this meeting to the attendee list for corrections or comments, and thereafter the Certificate Holder shall issue the finalized meeting minutes;

    d) If, for any reason, the BOP Contractor cannot finish the construction of the Project, and one or more new BOP contractors are needed, there shall be another preconstruction meeting with the same format as outlined above.

89. Construction and routine maintenance activities on the Project shall be limited to 7:00 a.m. to 8:00 p.m. Monday through Saturday and 8 a.m. to 8:00 p.m. on Sunday and national holidays with the exception of wind turbine construction and delivery activities which may need to occur during extended hours beyond this schedule on an as-needed basis.

    a) Construction work hour limits apply to Facility construction, maintenance, and to construction-related activities including delivery and unloading of materials, maintenance and repairs of construction equipment at outdoor locations, large vehicles idling for extended periods at roadside locations, and related disturbances. This condition shall not apply to vehicles used for transporting construction or maintenance workers, small equipment, and tools to the site to begin construction or maintenance activities. This condition shall also not apply to activities that do not generate noise.

    b) If, due to safety or continuous operation requirements, construction activities are required to occur beyond the allowable work hours, the Certificate Holder shall notify DPS Staff, affected landowners and the municipalities. Such notice shall be given at least 24 hours in advance, unless such construction activities are required to address emergency situations threatening personal injury, property, or severe adverse environmental impact that arise less than 24 hours in advance. In such cases, as much advance notice as is practical shall be provided.

90. At least two weeks, unless a shorter time is agreed to with DPS Staff, before commencement of construction begins in any project component area the Certificate Holder shall stake and/or flag the following:

    a) The limits of clearing;

    b) The limits of disturbance;

    c) All on or off right-of-way (ROW) access roads;

d) Other areas needed for construction such as, but not limited to, turbine work areas, laydowns, and storage areas;

e) All wetlands, streams, waterbodies and DEC wetland adjacent areas;

f) Designated restrictive areas and sensitive environmental resources; and

g) Structure locations.

91. The Certificate Holder shall confine construction and subsequent maintenance for its Project Components to the Facility site and approved additional work areas, as delineated in approved construction plans (SEEP documents or equivalent). If a local contractor is used for the work, the local contractor's facility may also be used as a marshaling yard.

92. The Certificate Holder shall organize and conduct monthly site-compliance inspections for DPS Staff as needed during construction through final completion of the Facility site. A designated official or representative from the Towns shall also be invited to attend.

a) The monthly inspections shall include a review of the status of compliance with all conditions contained in the Certificate and any other Order issued in this proceeding, other legal requirements and commitments, as well as a field review of the Project site, if necessary. The inspection also may include:

i. Review of all complaints received, and their proposed or actual resolutions;

ii. Review of any significant comments, concerns, or suggestions made by the public, local governments, or other agencies and indicate how the Certificate Holder has responded to the public, local governments, or other agencies;

iii. Review of the status of the Project in relation to the overall schedule established prior to the commencement of construction; and

iv. Other items the Certificate Holder or DPS Staff consider appropriate.

b) The Certificate Holder shall provide a written record of the results of the inspection, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit.

Environmental

93. All construction vehicles must be equipped with a spill kit. Any leaks must be stopped and cleaned up immediately.

94. Any debris or excess construction materials shall be removed to a facility duly authorized to receive such material. No burying of construction debris or excess construction materials will be allowed.

95. Cleared vegetation and slash will not be buried or burned.

96. Tree and vegetation clearing shall be limited to the minimum necessary for Facility construction and operation. Surrounding trees and vegetation will not be cut down on any property solely to reduce turbulence or increase wind flow to the Facility.

97. In connection with vegetation clearing, the Certificate Holder shall:

a) comply with the provisions of 6 NYCRR Part 192, Forest Insect and Disease Control, and ECL §9-1303 and any quarantine orders issued thereunder;

b) not create a maximum wood chip depth greater than three inches, except for chip roads (if applicable), nor store or dispose wood chips in wetlands, within stream banks, delineated floodways, or active agricultural fields; and

c) coordinate with landowners to salvage merchantable logs and fuel-wood. Where merchantable logs and fuel-wood will not be removed from the site during clearing activities, SEEP Construction plans shall indicate locations of stockpiles to be established for removal from site or future landowner resource recovery.

98. Use of hay is prohibited.

99. The Certificate Holder shall implement all practical measures to achieve a minimum of 80% vegetative cover across all disturbed soil areas by the end of the first full growing season following construction.

100. The Certificate Holder shall restore disturbed areas, ruts, and rills to original grades and conditions with permanent re-vegetation and erosion controls appropriate for those locations unless the SEEP specifies otherwise. Disturbed roadways shall be restored to their original preconstruction condition or improved.

101. All fill shall consist of clean soil, sand and/or gravel that is free of the following substances: asphalt, slag, fly ash, broken concrete, demolition debris, garbage, household refuse, tires, woody materials including tree or landscape debris, and metal objects. Reasonable efforts will be made use fill materials that are visually free of invasive species.

102. To control the spread of invasive insects, the Certificate Holder shall provide training for clearing and construction crews to identify the Asian Longhorned Beetle and the Emerald Ash Borer and other invasive insects of concern listed per NYSDEC Part 575 Regulations as a potential problem at the project site. If these insects are found, they must be reported to the DEC as soon as practicable.

Threatened and Endangered Species

103. All tree clearing activities shall be allowed between November 1 to March 31 without restrictions. From April 1 to October 31, the following restrictions will be implemented, unless otherwise agreed to with DEC and DPS staff:

    a) The Certificate Holder shall leave uncut all snag and cavity trees, as defined under Department of Environmental Conservation (DEC) Program Policy ONRDLF-2 Retention on State Forests, unless their removal is necessary for protection of human life and property. When necessary, snag or cavity trees may be removed after being cleared by an Environmental Monitor who shall conduct a survey for bats exiting the tree. This survey should begin 1/2 hour before sunset and continue until at least 1 hour after sunset or until it is

otherwise too dark to see emerging bats. Unoccupied snag and cavity trees in the approved clearing area shall be removed within 24-hours of observation;

b) The Certificate Holder shall leave uncut all known and documented roost trees and any trees within a 150-foot radius of a documented summer occurrence;

c) If any bats are observed flying from a tree, or from a tree that has been cut, tree clearing activities within 150 feet of the tree shall be suspended and DEC Wildlife Staff shall be notified as soon as possible. The Certificate Holder shall have an Environmental Monitor present on site during all tree clearing activities. If any bat activity is noted, a stop work order shall immediately be issued and shall remain in place until such time as DEC and DPS Staffs have been consulted and both agencies authorize resumption of work.

104. **Grassland Bird Protection Measures** - All temporary disturbance or modification of grassland bird habitat that occurs as a result of construction activities will be restored to pre-existing grassland habitat conditions by re-grading and re-seeding with an appropriate native seed mix after construction activities are completed. These areas will include, but are not limited to temporary roads, material and equipment staging and storage areas, crane and turbine pads, and electric line rights of way.

105. **Record All Observations of T&E Species** - During construction, restoration, maintenance, and operation of the Project and associated facilities, the Certificate Holder shall maintain a record of all observations of New York State-listed T&E species as follows:

a) ***Construction:*** During construction, the on-site environmental monitors and environmental compliance manager identified in the SEEP will be responsible for recording all occurrences of all T&E species. All occurrences will be reported in the biweekly monitoring report submitted to DPS and DEC and will include the information described below under Reporting Requirements. If a T&E avian species is demonstrating breeding behavior it will be reported to the DEC and DPS Staff within twenty-four (24) hours.

b) ***Post-construction:*** During post-construction wildlife monitoring inspections, the environmental contractor will be responsible for recording all occurrences of T&E species. Occurrences of T&E species during wildlife surveys will be reported as required in the Post Construction Avian and Bat Monitoring and Adaptive Management Plan.

c) ***Operation and Maintenance:*** During regular operation and maintenance, the Certificate Holder will be responsible for training operation and maintenance staff to focus on successfully identifying the following bird species: bald eagle, golden eagle, short-eared owl (*Asio flammeus*), northern harrier (*Circus hudsonius*), and upland sandpiper (*Bartramia longicauda*). The Certificate Holder will report all occurrences of these species to DEC and DPS within one week of the event.

d) ***Reporting Requirements:*** All reports of T&E species will include the following information: species; number of individuals; age and sex of individuals (if known); observation date(s) and time(s); GPS coordinates of each individual observed (if operation and maintenance staff do not have GPS available the report must include the nearest turbine number and cross roads location); behavior(s) observed; identification and contact information of the observer(s); and the nature of and distance to any Project construction, maintenance or restoration activity.

106. **Discovery of T&E Nests or Dead, Injured or Damaged Species**

a) Excluding bald eagles and golden eagles, if a nest of a federally- or State-listed T&E bird species is discovered (by the Certificate Holder's on-site environmental monitors, environmental compliance manager, or other designated agents) at any time during the life of the Project within the Facility Site, the following actions shall be taken:

i. DEC and DPS shall be notified within twenty-four (24) hours of discovery and prior to any further disturbance around the nest;

ii. An area at least five hundred (500) feet in radius around the nest will be posted and avoided until

notice to continue construction, ground clearing, grading, maintenance or restoration activities are granted by DPS in concurrence with DEC; and

iii. The nest(s) or nest tree(s) will not be approached under any circumstances unless authorized by DPS in concurrence with DEC.

b) If a nest or communal roost (defined as a tree with 4 more eagles observed perched) of a bald eagle or golden eagle is discovered (by the Certificate Holder's on-site environmental monitors, environmental compliance manager, or other designated agents) at any time during the life of the Project within the Facility Site, or if any of these species are observed in the Facility area exhibiting breeding or roosting behavior, the following actions shall be taken:

i. DEC and DPS shall be notified within twenty-four (24) hours of discovery/observation of the nest or breeding behavior and prior to any further disturbance around the nest roost, or area where these species were seen exhibiting any breeding or roosting behavior;

ii. An area of at least a ¼ mile (1320 feet) if there is no visual buffer or if there is a visual buffer an area of at least six hundred and sixty feet (660) feet in radius around the nest or communal roost will be posted and avoided until notice to continue construction, ground clearing, grading, maintenance or restoration activities are granted by DPS in concurrence with DEC; and

iii. The nest(s), nest tree(s) or communal roost will not be approached under any circumstances unless authorized by DPS in concurrence with DEC.

c) If any dead, injured, or damaged federally- or State-listed T&E species, or their eggs or nests thereof are discovered (by the Certificate Holder's on-site environmental monitors, environmental compliance manager, or other designated agents) at any time during the life of the Project within the Facility Site, the Certificate Holder will immediately (within twenty-four (24) hours) contact DEC (and United States Fish and

Wildlife Service (USFWS), if federally listed species) to arrange for recovery and transfer of the specimen(s). The following information pertaining to the find shall be recorded:

i. species;

ii. age and sex of the individual(s), if known;

iii. date of discovery of the animal or nest;

iv. condition of the carcass, or state of the nest or live animal;

v. GPS coordinates of the location(s) of discovery;

vi. name(s) and contact information of the person(s) involved with the incident(s) and find(s);

vii. weather conditions at the site for the previous forty-eight (48) hours;

viii. photographs, including scale and of sufficient quality to allow for later identification of the animal or nest; and

ix. an explanation of how the mortality/injury/damage occurred, if known.

Each record will be kept with the container holding the specimen(s) and given to DEC or USFWS at the time of transfer. If the discovery is followed by a non-business day, the Certificate Holder will ensure all the information listed above is properly documented and stored with the specimen(s). Unless otherwise directed by DEC or USFWS, after all information has been collected in the field, the fatality specimen(s) will be placed in a freezer, or in a cooler on ice until transported to a freezer, until it can be retrieved by the proper authorities. DPS shall also be notified if any dead, injured, or damaged federally- or State-listed T&E species, or their eggs or nests thereof are discovered.

Wetlands and Streams, Vegetation, and Invasive Species

107. The Certificate Holder shall perform all construction, operation and maintenance in a manner that avoids then

minimizes adverse impacts to waterbodies, wetlands, and the one hundred (100) foot adjacent areas associated with all State-regulated wetlands. The Certificate Holder shall ensure the provisions to protect wetlands, waterbodies, and adjacent areas are in accordance with the details contained in Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project.

108. The Certificate Holder shall notify DEC within two (2) hours if there is a discharge to a wetland or waterbody resulting in a violation of New York Water Quality Standards.

109. All in-stream work is prohibited from October 1 through May 31 in cold water fisheries, and from March 1 through July 31 in warm water fisheries, or using methods outlined within Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

110. The Certificate Holder shall conduct all work in streams in dry conditions, using appropriate water handling measures to isolate work areas and direct stream flow around the work area, or using methods outlined Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

111. To the extent practicable, buried utilities shall be installed using trenchless methods when traversing wetland and waterbodies. If a trenchless installation method is not practicable, other crossing methods such as open cut or direct burial shall be utilized in accordance with the methods within Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

112. Open cut trenching for the installation of underground utilities in wetlands and waterbodies shall be conducted in one continuous operation and shall not exceed the length that can be completed in one day.

113. Bridges shall be installed wherever a new permanent crossing is required. If a bridge is not practicable for temporary or permanent stream crossings, a culvert crossing will be utilized for stream crossings and shall meet the NYSDEC

and/or US Army Corps of Engineers requirements as outlined in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

114. All equipment and machinery shall be stored and safely contained more than 100 feet from wetlands and waterbodies at the end of each work day unless moving the equipment will cause additional environmental impact.

115. Fuel tanks or other chemical storage tanks shall be appropriately contained and located a minimum of 300 feet away from any wetland or waterbody. If the minimum setback cannot be achieved, storage shall be in according with Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project."

116. All mobile equipment, excluding dewatering pumps, must be fueled, repaired, or maintained in a location at least 100 feet from wetlands and waterbodies, to the maximum extent practicable or unless moving the equipment will cause additional environmental impact. Dewatering pumps operated closer than 100 feet from the stream bank, wetland, or waterbody, must be within a secondary containment large enough to hold the pump and accommodate refueling.

117. Spillage of fuels, waste oils, other petroleum products or hazardous materials shall be reported to DEC's Spill Hotline (1-800-457-7362) within two hours, in accordance with the DEC Spill Reporting and Initial Notification Requirements Technical Field Guidance. DPS Staff shall also be notified of all reported spills.

118. Turbid water resulting from dewatering operations shall not be allowed to enter any wetland, stream or water body. Water resulting from dewatering operations shall be discharged directly to settling basins, filter bags, or other approved device. All necessary measures shall be implemented to prevent any substantial visible increase in turbidity or sedimentation downstream of the work site.

119. All disturbed soils within regulated freshwater wetlands and the associated adjacent areas must be seeded with a native seed mix or crops consistent with existing agricultural uses. Mulch shall be maintained until the disturbed area is

permanently stabilized. Additional seeding shall be completed as necessary to achieve an 80% vegetative cover across all disturbed areas.

120. Restoration of state regulated wetlands and NYS-regulated adjacent areas to pre-construction contours must be completed within 48 hours of final backfilling of the trench unless the SEEP specifies different grading:

    a) Immediately upon completion of grading, the area shall be seeded with an appropriate species mix.

    b) Restored areas shall be monitored for a minimum of 5 years. Monitoring shall continue until an 80% cover of appropriate species has been reestablished over all portions of the replanted area, unless the invasive species baseline survey indicates a smaller percentage of appropriate species exists prior to construction.

121. Cut vegetation in wetlands may be left in place (drop and lop or piled in dry or seasonally saturated portions of freshwater wetlands and 100-foot adjacent areas to create wildlife brush piles).

122. Installation of underground collection lines in wetlands shall be performed using the methods indicated in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

123. Installation of access roads through streams and wetlands shall be performed using the methods, indicated in Section B of Appendix A, "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project".

124. Concrete batch plant operations and concrete washout areas shall be located a minimum of 300 feet away from any wetland or waterbody. If the minimum setback cannot be achieved, the SEEP shall provide justification and demonstrate that impacts to wetlands and waterbodies from concrete batch plants and concrete washout areas shall be avoided or minimized to the maximum extent practicable.

125. Disturbed streams shall be restored to equal width, depth, gradient, length and character as the pre-existing stream

channel and tie in smoothly to the profile of the stream channel upstream and downstream of the disturbance. All disturbed stream banks shall be mulched within (2) days of final grading, stabilized with 100% natural/biodegradable fiber matting, and seeded with an appropriate riparian seed mix specified in the SEEP. Disturbed vegetation shall be replaced with appropriate native shrubs, live stakes, and/or tree plantings as site conditions and facility design allow, as appropriate for consistency with existing land uses.

126. Trees shall not be felled into any stream.

127. The Certificate Holder shall be responsible for checking all culverts and assuring that they are not crushed or blocked during construction and restoration of the Project. If a culvert is blocked or crushed, or otherwise damaged, the Certificate Holder shall repair the culvert or replace it with alternative measures appropriate to maintaining proper drainage.

128. During periods of work activity, flow immediately downstream of the work site shall equal flow immediately upstream of the work site.

129. Any in-stream habitat structures placed in a stream must not create a drop height greater than 6 inches.

130. Following installation of underground facilities, wetlands and State-regulated wetland adjacent areas shall be stabilized within 48 hours of final backfilling of the trench and restored to pre-construction contours as soon as practicable, but no later than 14 days of final backfilling. Immediately upon completion of grading, and as consistent with existing land uses, the area shall be seeded with a seed mix of native plants specified in the SEEP that is appropriate for wetlands and upland areas adjacent to wetlands. Overall vegetative cover in restored areas shall be monitored for a minimum of 5 years or until an 80% cover of plants with the appropriate wetland indicator status has been reestablished over all portions of the restored area. Invasive species growth in the restored areas shall be monitored for a minimum of 5 years. The proportion of invasive species in the wetlands and State-regulated wetland adjacent areas cannot exceed the proportion that existed immediately prior to the start of construction as described in the baseline invasive species survey. If, after one

complete growing season, the 80% cover requirement has not been established or the proportion of invasive species has increased, the Certificate Holder shall consult with DEC and prepare a Wetland Planting Remedial Plan (WPRP) in accordance with Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" and shall submit the WPRP to DEC and DPS for acceptance prior to implementation.

131. The Certificate Holder shall work with DEC to develop a Wetland Mitigation Plan in accordance with Appendix A "Guidance for the Development of Site Engineering and Environmental Plan for the Construction of the Bluestone Wind Project" and shall submit the Wetland Mitigation Plan for DEC acceptance within six months of the start of construction. If mitigation is provided through an approved in-lieu fee program, a final letter of credit availability from an approved wetland mitigation bank, along with document of payment, will be provided, pursuant to 16 NYCRR §1002.4.

VII. Facility Operation

132. The Certificate Holder shall operate the Facility in accordance with the Interconnection Agreement, approved tariffs and applicable rules and protocols of NYSEG, NYISO, NYSRC, NPCC, NERC and successor organizations.

133. The Certificate Holder shall operate the Facility in full compliance with the applicable reliability criteria of NYSEG, NYISO, NPCC, NYSRC, NERC and successors. If it fails to meet the reliability criteria at any time, the Certificate Holder shall notify the NYISO immediately, in accordance with NYISO requirements, and shall simultaneously provide the Board, or the Commission after the Board's jurisdiction has ceased, by filing with the Secretary and NYSEG a copy of the NYISO notice.

134. The Certificate Holder shall obey unit commitment and dispatch instructions issued by NYISO, or its successor, in order to maintain the reliability of the transmission system. In the event that the NYISO System Operator encounters communication difficulties, the Certificate Holder shall obey dispatch instructions issued by the NYSEG Control Center, or its successor, in order to maintain the reliability of the transmission system.

135. Good Utility Practices:

a) The Certificate Holder shall abide by Good Utility Practice, which shall include, but not be limited to, NERC, NPCC, NYSRC, and NYISO criteria, rules, guidelines and standards, including the rules, guidelines and criteria of any successor organization to the foregoing entities.

b) When applied to the Certificate Holder, the term Good Utility Practice shall mean the standards applicable to an independent power producer connecting to the distribution or transmission facilities or system of a utility.

c) Except for periods during which the authorized facilities are unable to safely and reliably convey electrical energy to the New York transmission system (e.g., because of problems with the authorized facilities themselves or upstream electrical equipment), the Facility shall be exclusively connected to the New York transmission system via the facilities identified and authorized in these conditions.

136. The Certificate Holder shall work with NYSEG engineers and safety personnel on testing and energizing equipment in the authorized interconnection and collection substations. If NYSEG's testing protocol is not used, a testing protocol shall be developed and provided to NYSEG for review and acceptance. The Certificate Holder shall file with the Secretary a copy of the final testing design protocol within 30 days of NYSEG's acceptance.

137. The Certificate Holder shall notify DPS Staff of meetings related to the electrical interconnection of the project to the NYSEG transmission system and provide the opportunity for DPS Staff to attend those meetings.

138. Transmission Related Incidents:

a) The Certificate Holder shall call the DPS Bulk Electric System Section within one hour to report any transmission related incident that affects the operation of the Facility.

b) The Certificate Holder shall file with the Secretary a report on any such incident within seven days and provide a copy of the report to NYSEG. The report shall contain, when available, copies of applicable drawings, descriptions of the equipment involved, a description of the incident and a discussion of how future occurrences will be prevented.

c) The Certificate Holder shall work cooperatively with NYSEG, NYISO, NYSRC, NERC and the NPCC to prevent any future occurrences.

139. If NYSEG or the NYISO bring concerns to the Commission, the Certificate Holder shall be obligated to address those concerns and shall make any necessary modifications to its Interconnection Facility if the NYISO or NYSEG find such facilities are causing, or have caused, reliability problems to the New York State Transmission System.

140. If, subsequent to construction of the Facility, no electric power is generated and transferred out of such plant for a period of more than a year, the Commission may consider advising the Siting Board that the amendment, revocation or suspension of the Certificate may be appropriate.

141. Facility Malfunction:

a) In the event that a malfunction of the Facility causes a significant reduction in the capability of such Facility to deliver power, the Certificate Holder shall promptly file with the Secretary and provide to NYSEG copies of all notices, filings, and other substantive written communications with the NYISO as to such reduction, any plans for making repairs to remedy the reduction, and the schedule for any such repairs.

b) The Certificate Holder shall provide monthly reports to the Secretary and NYSEG on the progress of any repairs.

c) If such equipment failure is not completely repaired within nine months of its occurrence, the Certificate Holder shall provide a detailed report to the Secretary, setting forth the progress on the repairs and indicating whether the repairs will be completed within one year of the date of failure. Wind turbines shall be decommissioned if they are non-operational for a period

of one year and a day. However, if the Certificate Holder is expecting delays due to a part manufacturer or complications regarding the repair of non-operational turbine(s), it shall petition the Secretary for an extended amount of time if it is expected that certain turbine(s) will not be in operation for more than one year and a day. The petition shall include an explanation of the circumstance and an estimation of the amount of time it will take to repair the turbine(s).

142. In the event of a blade failure, fire or other catastrophic event involving a wind turbine and its associated equipment, the DPS Chief of Bulk Electric Systems shall be notified no later than 12 hours following such an event.

143. The Certificate Holder shall have an inspection program for the wind turbine blades and other turbine components. Reports shall be filed annually with the Secretary identifying any major damage, defects or any other problems with the wind turbine blades, or indicating that no such damage, defect or problem was found. The annual report shall summarize maintenance and inspection activities performed and include any photographs of the area in question, the repairs under taken and a diagram of the wind turbine blade.

144. The Certificate Holder has not asserted that it has the power of eminent domain to acquire real property or demonstrated that the feasibility of the Project relies in any way upon the Certificate Holder or any other entity having the power of eminent domain or exercising the power of eminent domain to acquire permanent or temporary real property rights for the Facility or for any of the access roads, construction staging areas or interconnections necessary to service the Facility. By granting this Certificate to the Certificate Holder, an entity in the nature of a merchant generator and not in the nature of a fully regulated public utility company with an obligation to serve customers, the Siting Board is not making a finding of public need for any particular parcel of land such that a condemnor would be entitled to an exemption from the provisions of Article 2 of the New York State Eminent Domain Procedure Law ("EDPL") pursuant to Section 206 of the EDPL. As a condition of this Certificate, the Certificate Holder shall not commence any proceedings or cause any other entity having the power of eminent domain to commence any proceedings under the EDPL to acquire permanent or temporary real property rights for the Facility or for any

of the access roads, construction staging areas or interconnections necessary to service the Facility without an express amendment to this Certificate authorizing such granted by the Siting Board.

145. This Certificate will automatically expire in seven years from the date of issuance of this Certificate (the "Expiration Date") unless the Certificate Holder has completed construction and commenced commercial operation of the Facility prior to said Expiration Date.

APPENDIX A

GUIDANCE FOR THE DEVELOPMENT OF SITE ENGINEERING AND ENVIRONMENTAL PLAN FOR THE CONSTRUCTION OF THE BLUESTONE WIND PROJECT

The proposed Bluestone Wind Certificate Conditions require the submission of a Site Engineering and Environmental Plan (SEEP). The SEEP is intended to meet the requirements of New York State Code of Rules and Regulations 16 NYCRR Section 1002.3 and 1002.4 and describe in detail the final Facility design and the environmental protection measures to be implemented during construction of the Bluestone Wind Project (Facility). The SEEP shall include a description of existing and proposed conditions at the Facility, plan and profile drawings illustrating the linear and non-linear components of the Facility, construction access and clearing requirements, protective measures for streams, wetlands, and protected habitats, identification of sensitive receptors, agricultural lands, and protocols to protect previously unknown cultural resource sites during construction.

The SEEP is not intended to be a reiteration of the materials contained in the Application, but instead is intended to demonstrate compliance with the construction avoidance, minimization and mitigation measures, as described in the Application and as clarified by the Certificate Holder's supplemental filings, the Order Granting Certificate and the Certificate Conditions.

For reference, the SEEP will include a table outlining the specific Certificate Conditions incorporated into the SEEP with references to the section of the SEEP where those conditions may be found.

Definitions

Adjacent or Contiguous: located on the same parcel of real property or on separate parcels of real property separated by no more than 500 feet.

Linear Facility Components: electric transmission lines, electric collection or distribution lines, and temporary and permanent access roads.

Non-Linear Facility Components: collection and interconnection substation, battery storage system, permanent meteorological towers, operations and maintenance (O&M) building, temporary concrete batch plant and temporary laydown yard/staging area(s).

Facility or Facility Site: The parcels hosting Facility components.

Facility Components: Linear Facility Components and Non-Linear Facility Components.

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Section A – Plans, Profiles and Detail Drawings

Section A of the following Site Engineering and Environmental Plan (SEEP) addresses the requirements for development of final facility engineering details; site plans for construction, restoration, and environmental control measures; plan and profile drawings of the development site and facility components; and maps of the facility site and the overall facility setting as appropriate to demonstrate compliance with the Certificate of Environmental Compatibility and Public Need for the Bluestone Wind Project.

Plan sheets will be submitted showing the location and design details for all Facility components, including: linear facilities such as electric collection lines, transmission lines and associated access roads, communications lines, fuel gas lines if proposed, water and wastewater or sewer interconnection line if needed; and all temporary and permanent access roads. Plans shall also indicate the location and size of all major structures, features and buildings, wind turbines, permanent meteorological towers, substations, switchyards and point-of-interconnection locations, including associated access roads and the limits of disturbance for work area associated with any component of the Facility. Plans shall include plan-view drawings or photo-strip maps, and illustrations including but not limited to all of the following information:

1. Plan and Profile Details

Wind Turbines and Related Non-Linear Components:

For all proposed wind turbine locations and other Non-Linear Facility components, the Certificate Holder shall provide site plans, profiles, and detail drawings (scale minimum 1 inch = 200 feet)[1] showing:

- A copy of the American Land Title Association (ALTA) survey showing locations of existing utility infrastructure.

- Details and specifications of the selected turbine model(s) (including cut sheets and blade details such as length and thickness).

- Foundation drawings including plan, elevation, and section details for each foundation type proposed; if multiple foundation designs are to be utilized for the Facility, the foundation type at each turbine location shall be specified on site plans; applicable criteria regarding foundation design shall be listed and described in the drawings and details.

- Description of the wind turbine blade installation process will be included as a general note on the site plans, identifying the anticipated installation method for each wind turbine and indicating which wind turbine site locations will require the use of the entire rotor laydown area.

- Details showing limits of clearing, temporary and permanent grading, and laydown space required for wind turbine installation; details of SWPPP should be indicated.

[1] Contour lines at appropriate scale are desirable on the plan view or photo-strip map if they can be added without obscuring the required information.

- The location and boundaries of any areas proposed to be used for fabrication, designated equipment parking, staging, access, lay-down, conductor pulling and splicing; concrete batch plant or other materials preparation or processing sites; operations and maintenance buildings, yards and equipment storage areas. Indicate any planned fencing, surface improvements or screening of storage and staging areas. Demonstrate setback distances appropriate to Facility design; and conformance with applicable requirements of the Certificate or local requirements.

- If an on-site concrete batch plant will be utilized during construction, the Certificate Holder shall provide the following: (information required per subpart "iv" below shall be provided for any concrete that will be used for the Project, regardless of whether a concrete batch plant is proposed):

    i. final details and site plan of the concrete batch plant location, size, access, and layout, at a reasonable scale to show all components (including conveyor layout, equipment, tanks, drainage system, settlement, catchment pits, flush systems, and stockpile areas) and proximity of its location to other Facility components and existing features;

    ii. final layouts showing all proposed components of the concrete batch plant drainage system, including arrows representing potential water flow to any proposed catchment pits, etc.

    iii. temporary lighting that avoids offsite light trespass;

    iv. general concrete testing procedures, including a plan outlining the Certificate Holder's monitoring and testing of concrete procedures in conformance with the Building Code of New York State, ACI, ASTM, and any other applicable specifications.

- The locations or description of locations for concrete chute washout and any other cleaning activities (e.g., equipment cleaning for control of invasive species).

- Maps showing the location for the selected operations and maintenance (O&M) building. If an existing building is not utilized, prior to construction of the O&M building, the Certificate Holder shall provide the final O&M building details and construction drawings. Plans for the O&M building property indicating: zoning designation; compliance with use and area requirements, and setbacks to property lines; access, employee parking, building details, exterior lighting details; any outdoor storage areas, fencing and signage; water source and sewage disposal facilities; and related site development information. This information may be submitted after commencement of construction of the Facility, in which case a plan for the timing of the submission of the O&M building details and construction drawings will be provided.

Linear Facility Components:

For all Linear Facility Components including: electric transmission lines, electric collection or distribution lines, and access roads, site plan and profile figures shall include profile drawings of Facility[2] centerline; for electric lines (whether above ground or underground) plans shall include the Line Profile (at an appropriate scale) and plan drawings (scale minimum 1 inch = 200 feet) showing:

a. *Collection System Circuits Map* for the collection substation and collection line circuits' configuration and location, indicating locations of all overhead and underground installations and the number of required circuits per circuit-run.

b. Final design and details of single and multiple electric circuit underground collection lines. Each Project circuit layout (single, double, triple, etc.) shall include a cross-section and clearing and ROW widths needed for accommodating circuit installations.

c. Final details of single and multiple-circuit overhead 34.5 kV electric collection line layouts. Each Project circuit layout (single, double, triple, etc.) shall include typicals for all overhead structures, proposed guying, and associated clearing.

d. The boundaries of any new, existing, and/or expanded utility right-of-way or road boundaries, and where linear Facility lines or cables are to be constructed overhead or underground; plus, any areas contiguous to the Facility or street within which the Certificate Holder will obtain additional rights.

e. The location of each Facility structure (showing its height, material, finish and color, and type), structural foundation type (e.g., concrete, direct bury) and dimensions, fence, gate, down-guy anchor, and any counterpoise required for the Facility (typical counterpoise drawings will suffice recognizing that before field testing of installed structures the Certificate Holder may be unable to determine the specific location of all required counterpoise), conductors, insulators, splices, and static wires and other components attached to Facility structures.

f. Each Facility access road will be identified by a unique name designation. Each access road will be shown on a scaled drawing indicating the width used during construction and the proposed width post- construction on the restoration plan. Temporary and permanent cut and fill contours for each road shall also be shown at two-foot contours. Access controls such as gates shall be indicated, with typical or specific design indicated as applicable to individual sites, and identifying construction and material details of gates and berms.

[2] The lowest conductor of an overhead electric transmission, collection or distribution facility design shall be shown in relation to ground elevation at the maximum permissible conductor temperature for which the line is designed to operate, i.e., normally the short-time emergency loading temperature specified by the New York ISO. If a lesser conductor temperature is used for the line profile, the maximum sag increase between the conductor temperature and the maximum conductor temperature shall be indicated for each ruling span. For underground Project design, show relation of Project to final surface grade, indicating design depth-of-cover.

g. Discuss the types of access roads or paths that will be used including consideration of:

   i. temporary installations (e.g., corduroy, mat, fill, earthen road, geotextile underlayment, gravel surface, etc.);

   ii. permanent installations (e.g., cut and fill earthen road, geotextile under-layment, gravel surface, paved surface, etc.);

   iii. use of existing roads, driveways, farm lanes, rail beds, etc.; and,

   iv. other access, e.g., helicopter or barge placement.

h. For each temporary and permanent access type, provide a typical installation plan view, cross section and side view with appropriate distances and dimension and identification of material. Where existing access ways will be used, indicate provisions for upgrading for Facility construction. Demonstrate accommodation of planned or proposed future access to sites and lands within or adjacent to the facilities locations (and landowner requested improvements (e.g., access roads across linear facilities such as wires, pipes, or conduits.).

i. Indicate the associated drainage and erosion control features to be used for access road construction and maintenance. Provide re-vegetation materials specifications. Provide diagrams and specifications (include plan and side views with appropriate typical dimensions) for each erosion control feature to be used, such as:

   i. check dam (for ditches or stabilization of topsoil);

   ii. broad-based dip or berm (for water diversion across the access road);

   iii. roadside ditch with turnout and sediment trap;

   iv. French drain;

   v. diversion ditch (water bar);

   vi. culvert (including headwalls, aprons, etc.);

   vii. sediment retention basin (for diverting out-fall of culvert or side ditch); and,

   viii. silt fencing.

j. Indicate the type(s) of stream or wetland crossing method to be used in conjunction with temporary and permanent access road construction. Provide diagrams and specifications (include plan and side view with appropriate dimensions, alignment, extent of clearing) for each crossing device and rationale for their use. Stream crossing methods and design may include but not be limited to:

   i. timber mat or other measures to prevent soil compaction;

ii. culverts including headwalls;

iii. bridges (either temporary or permanent); and,

iv. fords.

k. All diagrams and specifications should include material type and size to be placed in streams and on stream approaches.

l. Existing utility and non-utility structures on or adjacent to the Facility, indicating those to be removed or relocated (include circuit arrangements where new structures will accommodate existing circuits, indicate methods of removal of existing facilities, and show the new locations, types and configurations of relocated facilities). Depict each Facility conductor's clearance from the nearest adjacent overhead electric transmission or distribution lines and communications lines.

m. Existing underground utility or non-utility structures including but not limited to gas, water, telecommunication or electric cable or pipeline. The relationship of the Facility to adjacent fence lines; roads; railways; airfields; property lines; hedgerows; fresh surface waters; wetlands; other water bodies; significant habitats; associated facilities; water springs; adjacent buildings; water wells; or structures; major antennas; oil or gas wells, pipeline facilities, and compressor and pressure-limiting and regulating stations. Regarding co-location and crossing of existing utilities by Project components, the following additional information shall be provided:

i. Results of any cathodic protection impact studies;

ii. Any approval documentation (including a statement that Facility installations meet existing utility owner technical and safety requirements and copies of all relevant technical and safety manuals) from each existing utility that will be co-located with or that will be crossed by Facility components (including construction equipment crossings of existing utilities);

iii. Details of existing utility owner approved crossing plans (crossed by Facility components) showing methods, separation of existing utility and Facility components, cover, installation of protection measures, and workspace, including any bore pits or similar features;

iv. Details of existing utility owner approved co-location installations (with Project components) showing separation distances of existing utilities and Project components and any required or recommended protection measures; and

v. Details and descriptions of existing utility owner approved methods regarding Project construction equipment crossing of existing utilities approved by each existing utility owner.

n. The location, design details, and site plan of any proposed Facility components, generator sites, collection station, control building, new or expanded switching station, substation, or other terminal

or associated utility or non-utility structure (attach plan[3] - plot, grading, drainage, and electrical - and elevation views with architectural details at appropriate scales). Indicate the type of outdoor lighting, including design features to avoid off- site illumination and minimize glare; the color and finish of all structures; the locations of temporary or permanent access roads, parking areas, construction contract limit lines, property lines, designated floodways and flood-hazard area limits, buildings, sheds, relocated structures, and details of any plans for water service and sewage and waste disposal.

2. <u>Stormwater Pollution Prevention</u>

The Compliance Filing plan drawings will include the acknowledged Storm Water Pollution Prevention Plan (SWPPP) plans (and approved MS-4 SWPPP plans if applicable) and drawings, and indicate the locations and details of soil erosion and sediment control measures and any proposed permanent stormwater management controls developed in accordance with the New York Standards and Specifications for Erosion and Sediment Control (e.g., stabilized construction entrances, drainage ditches, silt fences, check dams, and sediment traps) in effect at the time the Certificate is issued. Such plan and drawings shall include contingencies for construction during extreme weather events (e.g., a 100-year storm) to avoid and minimize the cumulative impacts of multiple proximate disturbed areas.

3. <u>Vegetation Clearing and Disposal Methods</u>

Identify on the plan and profile drawings:

a. the locations of sites requiring trimming or clearing of vegetation including both above and below ground (i.e., stumps) and the geographic limits of such trimming or clearing;

b. the specific type and manner of cutting, disposition or disposal method for vegetation (e.g., chip; cut and pile; salvage merchantable timber, etc.);

c. the disposal locations of all vegetation (including stumps) to be cut or removed from each site;

d. any geographical area bounded by distinctly different cover types requiring different cut-vegetation management methods;

e. any geographical area bounded at each end by areas requiring distinctly different cut- vegetation methods due to site conditions such as land use differences, population density, habitat or site protection, soil or terrain conditions, fire hazards, or other factors;

f. site specific vegetation treatment or disposal methods, including any property-owner required details such as log storage or wood chip piling areas, or "no-herbicide" zones;

g. areas requiring danger tree removal (i.e., trees with cracks or decay in proximity of a utility right-of-way); and

[3] Preferably 1" = 50' scale with 2-foot contour lines.

h. the location and details of any areas where specific vegetation protection measures will be employed including those measures to avoid damage to specimen tree stands of desirable species, important screening trees, hedgerows etc.

4. Building and Structure Removal

a. Indicate the locations of any buildings or structures to be acquired, demolished, moved, or removed. Provide plans for site access; and plans and standards for control of dust, runoff and containment of any debris or other waste materials related to removals.

5. Waterbodies

a. Indicate the name, water quality classification and location of all rivers and streams, (whether perennial and intermittent) and drainages within the construction area or crossed by any proposed Linear Facility Component or access road constructed improved or maintained for the Facility. On the plan and profile drawings, indicate:

i. stream crossing method and delineate any designated streamside "protective or buffer zone" in which construction activities will be restricted to the extent necessary to minimize impacts on rivers and streams;

ii. the activities to be restricted in such zones; and,

iii. identify any designated floodways or flood hazard areas within the Facility, or otherwise used for Facility construction or the site of associated facilities. Provide topographic and flood hazard area elevations (if determined by engineering study); and specifications for facilities to be located within designated flood hazard or floodway zones; and design engineering and construction measures to demonstrate conformance with local ordinances, avoid damage to facilities, or avoid increasing flood elevation at any other location due to Facility installation and operation.

b. Show the location of all potable water sources, including springs and wells on or within 100 feet of the Facilities site, indicating on a site-by-site basis, precautionary measures to be taken to protect each water source.

6. Wetlands

a. All Federal and State regulated wetlands and state regulated 100-foot adjacent areas ("adjacent areas") located within the Facility or crossed by or adjacent to any access road to be constructed, improved, used or maintained for the Facility shall be depicted on plan drawings. Each wetland will be identified by a project identification number and by the NYSDEC designation as appropriate.

b. Indicate the location and type (i.e., identification code for regulated town, state, or federal wetlands) of any wetland (e.g., marsh, meadow, bog, or scrub-shrub or forested swamp) within or adjoining the Facility or any temporary access road, as determined by site investigation and delineation.

7. Land Uses

a. Agricultural Areas:

i. Indicate the locations of sites under cultivation or in active agricultural use including rotational pasture, pasture, hayland, and cropland. Designations and descriptions will be those in current use by the NYS Department of Agriculture and Markets (Ag&Mkts.)

ii. Indicate the location of any known unique agricultural lands including maple sugarbush sites, organic muckland, and permanent irrigation systems, as well as areas used to produce specialty crops such as vegetables, berries, apples, or grapes.

iii. Indicate the location of vulnerable soils in agricultural areas that are more sensitive than other agricultural soils to construction disturbance due to factors such as slope, soil wetness, or shallow depth to bedrock.

iv. Indicate the location of all known land and water management features including subsurface drainage, surface drainage, diversion terraces, buried water lines, and water supplies.

v. Designate the site-specific techniques to be implemented to minimize or avoid construction-related impacts to agricultural resources.

b. Sensitive Land Uses and Resources:

i. Identify and indicate the location of known sensitive land uses and resources that may be affected by construction or maintenance of the Facility or by construction-related traffic (e.g., hospitals, emergency services, sanctuaries, schools, and residential areas).

c. Geologic, Historic, and Scenic or Park Resources:

i. Indicate the locations of geologic, historic, and existing or planned scenic or park resources and specify measures to minimize impacts to these resources (e.g., specified setback distances, vegetation protection, fencing, signs).

d. Recreational Areas:

i. Indicate the locations where existing recreational use areas, designated trails, trailhead parking areas or associated access driveways would affect or be affected by the Facility location, site clearing, construction, operation or management of the Facility.

8. Access Roads, Lay-down Areas and Workpads

a. Indicate the locations of temporary and permanent access roads, lay-down areas and workpads.

b. Provide construction type, material, and dimensions and their associated limits of disturbances.

c. Indicate provisions for upgrading any existing access roads.

9. Noise Sensitive Sites

a. Show the locations of sound sensitive receptors. Identify locations and specifications of measures to mitigate construction noise as required by the Certificate.

10. Ecologically and Environmentally Sensitive Areas

a. Indicate the general locations of any known ecologically and environmentally sensitive sites (e.g., archaeological sites; rare, threatened, and endangered species or habitats; agricultural districts; and special flood hazard areas.), adjacent to the Facility or with 100 feet of any access roads to be constructed, improved or maintained for the Facility. Specify the measures that will be taken to protect these resources (e.g., fencing, flagging, signs "Sensitive Environmental Areas, No Access").

b. Measures for avoidance of archaeological sites identified within the Facility shall be indicated on the final site plans. The mapped locations of all identified archaeological sites within 100 feet of proposed Facility-related impacts shall be identified as "Environmentally Sensitive Areas" or similar on the final Facility construction drawings and marked in the field by construction fencing with signs that restrict access.

11. Invasive Species of Special Concern

a. Identify the location(s) of Invasive Species of Special Concern (based on site invasive species survey as required by the Certificate) and the prescribed method to control the spread of the identified species on the site during construction.

12. Vegetation Controls and Herbicides

a. Indicate areas where herbicides will be used, and prescribed treatment methods for specific vegetation control, on the site plans and construction drawings.

Section B – Description and Statement of Objectives, Techniques, Procedures, and Requirements

Section B addresses the description and statement of objectives, techniques, procedures, and requirements, i.e. the narrative portion of the of the SEEP Compliance Filing. In this portion of the filing requirements of §1002.3 will be addressed. Chapters or sections of the document shall identify whether it is addressing a specific certificate condition. This section of the SEEP follows the proposed outline for the SEEP document as described in Section C.

The narrative portion of the SEEP and referenced Compliance filings for the Facility shall include, but need not be limited to, all of the following information:

1. **Facility Location and Description**

This section of the SEEP should contain:

a. A brief description of the final Facility location;

b. A description of the construction hours and schedule;

c. A description of the turbine and associated infrastructure selected for the Facility including any manufacturer provided information regarding the design, safety and testing information for the turbines, substation, transformer, and battery storage equipment to be installed during construction;

d. Wind turbine model certification(s) as described in the Certificate Conditions;

e. For each turbine, indicate the GSA—595A Federal standard color designation or manufacturer's color specification to be used for painted structures;

f. State any objections raised by Federal, State or local transportation (highways, waterways, or aviation) officials to the final location or manner of installation of, or access to, the certified Facility site(s).

2. **Environmental Compliance and Monitoring Plan.**

The SEEP shall include copies of the final and *Environmental Compliance and Monitoring Plan* including a project communications plan. The *Environmental Compliance and Monitoring Plan* shall include the names, titles, qualifications and contact information of all individuals responsible for ensuring minimization of environmental impact by the Project and for enforcing compliance with environmental protection provisions of the Certificate and the compliance filings, including but not limited to:

a. Full-time environmental monitor;

b. Full-time construction supervisor;

c. Part-time or full-time agricultural inspector; and

d. Part-time health and safety inspector.

The Certificate Holder may utilize one or more qualified individuals to satisfy the Project oversight responsibilities associated with the environmental monitor and the agricultural inspector.

The *Environmental Compliance and Monitoring Plan* shall also include:

a. Protocols for supervising demolition, vegetation clearing, use of herbicides, construction, and site restoration activities to ensure minimization of environmental impact and compliance with the environmental protection provisions specified by the Certificate.

b. Specify responsibilities for personnel monitoring all construction activities, such as clearing, sensitive resource protection, site compliance, change notices, etc.

c. Include a statement that the Certificate Holder has made compliance with the SEEP an obligation of its contractors and has provided a copy to those employees and contractors engaged in demolition, clearing, construction and restoration.

d. Describe the procedures to "stop work" in the event of a Certificate violation.

e. The company's designated contact including 24/7 emergency phone number, for assuring overall compliance with Certificate conditions.

f. Ensure that required safety procedures and worksite hazards are communicated to site inspectors in a documented tailboard meeting prior to entry onto the site of work on such Certificate Holder's Project Components.

g. Include a procedure for providing DPS Staff, Ag&Mkts, and DEC with construction look ahead schedules indicating construction activities and location schedules for the next two to three weeks.

3. <u>Complaint Resolution Plan</u>

The SEEP shall include a copy of the final *Complaint Resolution Plan*, which shall include protocols for:

a. Notifying the public of the complaint procedures;

b. Registering a complaint;

c. Responding to and resolving complaints in a consistent and respectful manner;

d. Logging and tracking of all complaints received, and resolutions achieved;

e. Reporting to DPS Staff and Towns any complaints not resolved within 30 days of receipt;

f. Mediating complaints not resolved within 60 days; and

g. Providing quarterly reports of complaint resolution tracking to DPS Staff that shall also be filed with the Secretary.

4. Health and Safety Plans

The SEEP shall include copies of the following final plans for construction:

a. The *Final Emergency Action Plan* that shall be implemented during Facility construction. Copies of the final plan also shall be provided to DPS Staff, the NYS Division of Homeland Security and Emergency Services, and local emergency responders that serve the Facility. The plan will also address follow-up inspections for wind turbines and substation facilities following emergency events for high winds, tornadoes, and hurricanes.

b. The *Final Site Security Plan* for Facility construction. Copies of the final plan also shall be provided to DPS Staff, NYS Division of Homeland Security and Emergency Services and local emergency responders that serve the Facility. The plan shall include, but not be limited to, the following:

    i. posting signs at the edges of the ROW in those locations where the collection lines intersect public roads; and

    ii. working with local law enforcement officials in an effort to prevent trespassing.

c. The *Final Health and Safety Plan* that shall be implemented during Facility construction.

d. A final site-specific construction *Quality Assurance and Quality Control Plan* (QA/QC Plan), to be developed in coordination with the selected Balance of Plant (BOP) contractor.

5. General Construction

a. Provide a copy of the Storm Water Pollution and Prevention Plan (SWPPP) which will Provide an Erosion and Sediment Control Plan and will specify appropriate measures that will be used to minimize fugitive dust and airborne debris from construction activity as outlined in the New York State Standards and Specifications for Erosion and Sediment Controls (NYSDEC, 2016a). The Erosion and Sediment Control Plan will also contain trenching details including:

    i. In locations where electric collection lines and transmission lines will be installed by open trenching, particularly along or across areas of steep slopes, the Erosion and Sediment Control Plan will describe measures to address temporary erosion contingencies (e.g., stormwater events with open trench) and erosional risks that will extend the life of the Facility (e.g., "piping" erosion after backfilling of the trench). Related subsurface drainage to relieve hydraulic pressure behind trench plugs or breakers for the life of the facility will also be addressed.

    ii. The following measures to address in-trench erosion will be implemented, as necessary:

1. Trench Plugs:

Temporary trench plugs will be placed in the excavated trench to impede the flow of water down the trench. Hard plugs (unexcavated earth segments of the ditch line) will be maintained adjacent to streams and wetlands to protect those resources until cable installation activities occur. Soft plugs (replaced trench spoil, fill, sandbags) will be spaced in the trench in sloping areas to reduce erosion and trench slumping. Hay or straw bales will not be used as material for temporary trench plugs.

After cable installation, permanent sandbag or alternative trench breakers will be installed and spaced according to Appendix 1 "Trench Breaker Spacing" before backfilling. At the request of landowners or at the discretion of the environmental inspector or construction supervisor, un-disturbed areas ("hard plugs") will be left in place until cable installation commences, to accommodate equipment crossings. Hard plugs should be a minimum of 50
feet in length for areas where cable splices will occur. For animal and vehicle crossings of the trenchline area, a plug 25 to 30 feet in length should suffice.

2. Trench Breakers:

Trench breakers may be constructed of sandbags or alternative materials. Impervious materials may be used to retain water in the wetlands. Trench breakers should be installed at all wetland edges. The location of these impervious trench breakers will be determined in the field based on locations identified in the construction plan documents. Trench breakers should also be installed at the top of bank of each waterbody crossing.

3. Backfill:

Backfill operations will commence immediately after cable installation operations and will continue until completed. When backfilling the trench, the following will apply:

a. Only on-site, native material should be used in backfill operations unless the native material does not meet specifications, or ledge rock is encountered in the trench. Imported material may be brought in to protect the cables and achieve depth-of-cover requirements. Imported backfill must be free of invasive species pursuant to Invasive Species Control Plan.

b. Where topsoil has been segregated from trench spoil, backfill will be done in reverse order with trench spoil returned first.

c. Excess spoil will be removed. Under no circumstances will excess spoil be spread along the ROW or stockpiled in a manner that permanently changes the soil profile.

d. Trench breakers made of foam, sandbags, or other impervious materials shall be installed at the edge of all wetlands. For those areas where conditions and topography warrant, and the Certificate Holder identifies prior to the start of

construction, the installation of trench breakers at the upland/wetland boundaries is appropriate to minimize changes to hydrologic regime in the wetlands such as drainage from the wetland.

b. The SEEP shall attach a final *Spill Prevention, Containment and Counter Measures (SPCC) Plan* for construction to minimize the potential for unintended releases of petroleum and other hazardous chemicals during Facility construction and operation. The SPCC Plan shall be applied to all relevant construction activities and address the following:

i. General Information about water bodies, procedures for loading and unloading of oil, discharge or drainage controls, procedures in the event of discharge discovery, a discharge response procedure, a list of spill response equipment to be maintained on-site (including a fire extinguisher, shovel, tank patch kit, and oil-absorbent materials), a statement that methods of disposal of contaminated materials in the event of a discharge will follow the appropriate requirements, and spill reporting information. A statement that any spills shall be reported in accordance with State and/or federal regulations.

ii. Storage, handling, transportation, and disposal of petroleum, fuels, oil, chemicals, hazardous substances, and other potentially harmful substances which may be used during, or in connection with, the construction, operation, or maintenance of the Facility.

iii. Avoiding spills and improper storage or application.

iv. Reporting, responding to and remediating the effects of any spill of petroleum, fuels, oil, chemicals, hazardous substances, and other potentially harmful substances in accordance with applicable State and Federal laws, regulations, and guidance, and include proposed methods of handling spills of petroleum, fuels, oil, chemicals, hazardous substances, and other potentially harmful substances which may be stored or utilized during the construction and site restoration, operation, and maintenance of the Facility.

v. Providing of SPCC Plan to local emergency responders; notifying local emergency responders of locations of hazardous substance storage.

6. <u>Clean up and Restoration</u>

Describe the Certificate Holder's program for clean-up and restoration, including:

a. the removal and restoration of any temporary roads, lay-down or staging areas; the finish grading of any scarified or rutted areas; the removal of waste (e.g., excess concrete), scrap metals, surplus or extraneous materials or equipment used; and

b. plans, standards and a schedule for the restoration of vegetative cover, including but not limited to, specifications indicating:

i. design standards for ground cover, including:

1. species mixes and application rates by site;

2. site preparation requirements (soil amendments, stone removal, subsoil treatment, or drainage measures); and

3. acceptable final cover % by cover type.

ii. planting installation specifications and follow-up responsibilities if needed;

iii. a schedule or projected dates of any seeding and/or planting if needed.

c. The SEEP shall attach a copy of the final Decommissioning Plan.

7. <u>Transportation</u>

a. The SEEP shall include copies of the Road Use Agreements with State (if any, County and local municipalities. The SEEP will include copies of any crossing agreements with utility companies.

b. The SEEP shall attach a *Route Evaluation Study* that demonstrates that all municipalities within the Route Evaluation Study Area including the NYS Department of Transportation, NYS State Police Barracks, County Department of Public Works, local school districts, County Sheriffs and local Police department have been contacted or when they will be contacted. The plan shall identify weight limited bridges in the area to be avoided. The plan shall include constraints on use of heavy equipment and vehicles used for construction.

c. The SEEP shall attach a *Traffic Control Plan* that identifies:

i. The delivery route(s) in the Towns of Sanford and Windsor, (all transportation routes from where they exit Interstate 86 to where they end at the delivery site) for oversize or over length equipment or materials and the route(s) for delivery of earthen materials and concrete.

ii. The plan shall describe the delivery of materials to the facilities site and shall indicate mitigation measures to manage traffic during construction and operation.

iii. Copies of all permits associated with the delivery of such equipment and materials shall be provided prior to using a route to haul equipment or materials requiring a permit.

8. <u>Vegetation Clearing and Disposal Methods</u>

The SEEP shall attach a *Facility Vegetation Clearing Management and Herbicide Use Plan* that describes:

a. Describe the specific methods for the type and manner of cutting and disposition or disposal methods for cut vegetation.

b. Indicate specifications and standards applicable to salvage, stockpiling or removal of material.

c. Identify ownership of cleared vegetation based on landowner agreements (as applicable).

d. Specifies the locations where herbicides are to be applied. Provide a general discussion of the site conditions (e.g., land use, target and non-target vegetation species composition, height and density) and the choice of herbicide, formulation, application method and timing. Provide lists of desirable and undesirable vegetation species.

e. Describes the procedures that will be followed during chemical application to protect non- target vegetation, streams, wetlands, potable waters and other water bodies, and residential areas and recreational users on or within 100 feet of the ROW.

9. Plans, Profiles, and Detail Drawings

See Section A of the SEEP for the details to be provided on the Plans, Profiles and Detail Drawings.

10. Land Uses

a. The SEEP shall attach an Agricultural Area Plan which shall describe the programs, policies, and procedures to mitigate agricultural impacts.

b. If required by the issued Certificate, a description of avoidance, minimization or mitigation for impacts to any other sensitive land uses not covered by other sections of the SEEP.

11. Final Geotechnical Engineering Report

a. The SEEP shall attach a final Geotechnical Engineering Report.

12. Inadvertent Return Plan

a. The SEEP shall attach an *Inadvertent Return Plan* showing all locations where horizontal directional drilling (HDD) is proposed. The plan shall assess potential impacts from frac- outs, establish measures for minimizing the risk of adverse impacts to nearby environmental resources, and require the following:

    i. Prior to conducting HDD, Material Safety Data Sheets (SDS) will be provided to DPS and DEC staff.

    ii. Drilling fluid circulation shall be maintained to the extent practical.

    iii. If inadvertent returns occur in upland areas, the fluids shall be immediately contained and collected.

    iv. If the amount of drilling fluids released is not enough to allow practical collection, the affected area will be diluted with freshwater and allowed to dry and dissipate naturally.

v. If the amount of surface return exceeds that which can be collected using small pumps, drilling operations shall be suspended until surface volumes can be brought under control. If inadvertent drilling fluids surface returns occur in an environmentally sensitive area (i.e. wetlands and water bodies) the returns shall be monitored and documented.

vi. Drilling operations must be suspended if the surface returns pose a threat to the resource or to public health and safety.

vii. Removal of released fluids from environmentally sensitive areas will take place only if the removal does not cause additional adverse impacts to the resource. Prior to the removal of fluids from environmentally sensitive areas, DPS and DEC staff will be notified and consulted.

viii. If inadvertent drilling fluids surface returns occur in an environmentally sensitive area DPS and DEC Staff shall be notified immediately and a monitoring report summarizing the location of surface returns, estimated quantity of fluid and summary of cleanup efforts shall be submitted within 48 hours of the occurrence.

ix. The plan shall establish protocols for recovery of inadvertent releases, handing and disposal.

13. <u>Final Blasting Plan</u>

a. The SEEP shall attach a site-specific final Blasting Plan designed to protect surrounding structures, including groundwater wells. The Blasting Plan shall include:

i. Setbacks;

ii. Blasting safety protocols;

iii. Notification procedures for the public and emergency responders;

iv. Water well survey protocols; and

v. Seismic monitoring protocols.

14. <u>Visual Mitigation</u>

a. If required by the issued Certificate, provide details of screening or landscape plans prescribed at roadsides, storage areas, or other specified locations, and for participating and adjacent property owners. Discuss existing or proposed landscape planting, earthwork, or installed features to screen or landscape substations and other Facility components.

b. The SEEP shall attach a *Final Shadow Flicker Impacts Analysis, Control, Minimization and Mitigation Plan* which shall include:

i. updated analysis of realistic and receptor-specific predicted flicker based on final proposed design;

ii. a protocol for monitoring operational conditions and potential flicker exposure at the wind turbine locations identified in the analysis, based on meteorological conditions;

iii. details of the shadow prediction and prevention technology that will be adopted for real-time meteorological monitoring and operational control of turbines;

iv. temporary turbine shutdowns during periods that produce licker over 30 hours/year; and

v. shielding or blocking measures (such as landscape plantings and window treatments) for receptor locations that submit complaints for exposures that are not subject to the 30-hour annual limit.

15. Cultural Resources

a. The SEEP shall attach a *Final Unanticipated Discovery Plan*, establishing procedures to be implemented in the event that resources of cultural, historical, or archaeological importance are encountered during Facility construction. The plan will include a provision for immediate work stoppage upon the discovery of possible archaeological or human remains. Evaluation of such discoveries, if warranted, shall be conducted by a professional archaeologist, qualified according to New York Archaeological Council Standards. Work shall not resume in the area of such remains until written permission is received from the NYSOPRHP.

b. If complete avoidance of archaeological sites is not possible, the Certificate Holder shall consult with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and DPS Staff to determine if mitigation is warranted. The identification of mitigation measures will be included in the plans.

16. Avian and Bat Impacts

a. The SEEP shall attach an Avian and Bat Construction Impact Plan describing measures to be implemented during construction to reduce impacts to birds and bat species.

17. Wetlands and Waterbodies

a. Provide a table listing all waterbodies located within the Facility site and include: Town (location), facility site location (site plan and profile drawing sheet number and reference location); Stream Name, Field/Map Identification Name, Perennial or Intermittent, New York Stream Classification, Water Index Number, Fishery Type, specific construction activities or crossing method specifying the distance of crossing across or to the facility construction area; also provide GPS survey coordinates.

b. A description of construction activities within wetlands and waterbodies outlining the following requirements:

i. In vernal pool areas identified in the project plans per Section A of the SEEP, work should not occur during the peak amphibian breeding season (April 1 to June 15);

ii. Where any temporary or permanent access roads are to be constructed through wetlands, a layer of geotextile fabric shall be placed across the wetland after removal of vegetation and before any backfilling occurs;

iii. The Certificate Holder shall utilize free span temporary equipment bridges or culverts designed to NYSDEC and/or US Army Corps of Engineers standards to cross all streams with flow at the time of the proposed crossing. This will outline how:

a) All structures must be able to safely pass the 1% storm event and be capable of withstanding any higher flow intervals likely to be experienced within a specific waterbody without causing damage to the stream bed or banks.

b) Bridges or culverts may not be dragged through the stream and must be suitably anchored to prevent downstream transport during a flood.

c) Fill may not be placed within the stream channel below bankfull elevation and placement of abutments or fill is authorized only above and outside bankfull boundaries.

d) Geotextile fabric must be placed below and extending onto the bank and suitable side rails built into the bridges to prevent sediment from entering the waterbody.

iv. If there is an inadvertent puncturing of a hydrologic control for a wetland, then the puncture shall be immediately sealed, and no further activity shall take place until DPS and DEC staff are notified and a remediation plan to restore the wetland and prevent future dewatering of the wetland has been approved by DPS and DEC;

v. Low weight to surface area equipment shall be used and/or equipment shall be placed on temporary matting as needed to minimize soil compaction and erosion;

vi. Work areas shall be isolated from flowing streams by use of sandbags, cofferdam, piping or pumping around the work area. Waters accumulated in the isolated work area shall be discharged to an upland settling basin, field or wooded area to provide for settling and filtering of solids and sediments before water is returned to the stream. Return waters shall be as clear as the flowing water upstream from the work area. Temporary dewatering structures (i.e., cofferdams, diversion pipes, etc.) and associated fill shall be completely removed, and the disturbed area shall be regraded and restored immediately following the completion of work;

vii. All fish trapped within cofferdams shall be netted and returned, alive and unharmed, to the water outside the confines of the cofferdam, in the same stream; and

viii. All excess materials shall be completely removed to upland areas more than 100 feet from state-regulated wetlands and waterbodies and shall be suitably stabilized.

c. Description of construction activities that will temporarily impact wetlands and waterbodies, including a site-specific assessment of constructability for all utility crossings that cannot use trenchless methods; specific plans with the alignment for each wetland crossing; the extent of clearing and ground disturbance; proposed locations of temporary access roads; description of methods used to minimize soil compaction; and adherence to the following requirements:

i. Excavation, installation, and backfilling must be done in one continuous operation;

ii. Work within wetlands should be conducted during dry conditions without standing water or when the ground is frozen, where practicable;

iii. Before trenching occurs, upland sections of the trench shall be backfilled or plugged to prevent drainage of turbid trench water from entering wetlands or waterbodies;

iv. Trench breakers/plugs shall be used at the edges of wetlands as needed to prevent wetland draining during construction as described in Section B(5);

v. Only excavated wetland topsoil, hydric soils, and subsoil shall be utilized as backfill at wetland restoration areas;

vi. Wetland topsoil shall be removed and stored separately from wetland subsoil and temporarily placed onto a geo-textile blankets;

vii. The length of the trench to be opened shall not exceed the length that can be completed in one day. This length of trench generally should not exceed 1,500 feet in a wetland; and

viii. When backfilling occurs in wetlands, the subsoil shall be replaced as needed, and then covered with the topsoil, such that the restored topsoil is the same depth as prior to disturbance.

d. Description of wetland restoration measures, including:

i. Contours shall be restored to pre-construction conditions within 48 hours of final backfilling of the trench within wetlands and state-regulated adjacent areas;

ii. Immediately upon completion of grading, wetland and adjacent areas shall be seeded and/or replanted with native shrubs and herbaceous plants at pre- construction densities. Seeding with an appropriate native wetland species mix (e.g. Ernst Wetland Mix (OBL-FACW Perennial Wetland Mix, OBL Wetland Mix, Specialized Wetland Mix for Shaded OBL-FACW), or equivalent), or seeding with crop species mix

consistent with existing, continued agricultural use, shall be completed to help stabilize the soils;

iii. Wetland restoration areas shall be monitored for a minimum of 5 years or until an 80% cover of plants with the appropriate wetland indicator status has been reestablished over all portions of the restored area. At the end of the first year of monitoring, the Certificate Holder shall replace lost wetland and/or wetland adjacent area plantings if the survival rate of the initial plantings is less than 80%; and

iv. If at the end of the second year of monitoring, the criteria for restoration plantings (80% cover, 80% survival of plantings) are not met, then the Certificate Holder must evaluate the reasons for these results and submit an approvable Wetland Planting Remedial Plan (WPRP) for DEC and DPS approval. The WPRP must including the following:

a) Analysis of poor survival;

b) Corrective actions to ensure a successful restoration; and

c) Schedule for conducting the remedial work. Once approved, the WPRP will be implemented according to the approved schedule.

e. A site-specific Stream Crossing Plan shall be developed for each permanent stream crossing and shall include detailed plan, profile and cross-sectional view plans; drainage area and flow calculations; and location, quantity and type of fill. Bridges that span the stream bed and banks should be utilized where practicable. If a bridge is not practicable, culverts can be utilized and shall be designed as follows:

i. To safely pass the 1% annual (100-year return) chance storm event;

ii. To contain native streambed substrate or equivalent using an open bottom arch, three-sided box culvert, or round/elliptical culvert with at least 20% of the culvert height embedded beneath the existing grade of the stream channel at the downstream invert;

iii. Shall be a minimum width of 1.25 times (1.25X) the bankfull width of stream channel;

iv. The slope shall remain consistent with the slope of the adjacent stream channel. For slopes greater than 3%, an open bottom culvert, where practicable;

v. Shall facilitate downstream and upstream passage of aquatic organisms; and

vi. Water handling plan describing the measures to direct stream flow around the work area and measures to dewater the isolated work area.

The Stream Crossing Plan will also include an analysis of the proposed collection line crossing of Oquaga Creek consisting of:

vii. Plan view and cross-sectional view drawings which depict the extent of clearing and disturbance;

viii. An analysis of vertical and lateral profiles for Oquaga Creek at the location of the proposed collection line crossing showing the stream bed is sufficient to prevent exposure of the collection line from stream erosion both vertically and horizontally for the life of the pipeline. A collection line profile of the crossing will be provided in per Section A(1) above;

ix. A description of access location, types and restoration practices; and

x. A description of specific dewatering practices for Oquaga Creek crossing (including the nearby adjacent wetlands and tributaries) demonstrating consistency with SWPPP, and/or the use of additional BMPs (i.e., silt sacs, dewatering bags, etc.).

f. A description of stream restoration demonstrating adherence with the following:

i. The restored stream channel shall be equal in width, depth, gradient, length and character as the pre-existing stream channel and tie in smoothly to profile of the stream channel upstream and downstream of the project area. The planform of any stream shall not be changed;

ii. Any instream work or restoration shall not result in an impediment to passage of aquatic organisms;

iii. Any in-stream work (excluding dewatering practices associated with dry trench crossings) and restoration shall be constructed in a manner which maintains low flow conditions and preserves water depths and velocities similar to undisturbed upstream and downstream reaches necessary to sustain the movement of native aquatic organisms. Any in-stream habitat structures shall not create a drop height greater than 6-inches;

iv. All disturbed stream banks below the normal high-water elevation must be graded no steeper than 1 vertical to 2 horizontal slope, or to the original grade as appropriate, and adequately stabilized;

v. All other areas of soil disturbance above the ordinary high-water elevation, or elsewhere, shall be stabilized with natural fiber matting, seeded with an appropriate perennial native conservation seed mix, and mulched with straw within two (2) days of final grading. Mulch shall be maintained until suitable vegetation cover is established; and

vi. Destroyed bank vegetation shall be replaced with appropriate native shrubs, live stakes, and/or tree plantings as site conditions, as appropriate.

g. If mitigation is provided through an approved in-lieu fee program, a final letter of credit availability from an approved wetland mitigation bank, along with document of payment, will be provided, pursuant to 16 NYCRR § 1002.4. If on-site wetland mitigation is required, the SEEP shall attach a copy of the final *Wetlands Mitigation Plan*, developed in coordination with DEC, DPS Staff, and the Army Corps of Engineers, addressing permanent impacts to federal and State-regulated wetlands. The Wetlands Mitigation Plan shall:

i. Describe all activities that will occur within §404 wetland, tidal wetland and State wetlands.

ii. For each State-regulated wetland or associated adjacent areas, indicate the type of activity (e.g., construction, filling, grading, vegetation clearing, and excavation) and summarize how the activity is consistent with the weighing standards set forth in 6 NYCRR 663.5(e) and (f).

iii. Describe how impacts to wetlands, adjacent areas, associated drainage patterns and wetland functions will be avoided, and how impacts will be minimized.

iv. Describe the precautions or measures to be taken to protect all other wetlands (e.g., town or federal wetlands) associated drainage patterns, and wetland functions, including describing the measures to be taken to protect stream bank stability, stream habitat, and water quality including, but not limited to: crossing technique; crossing structure type; timing restrictions for in-stream work; stream bed and bank restoration measures; vegetation restoration measures; and other site-specific measures to minimize impacts, protect resources, and manage Facility construction.

v. Include the creation of compensatory wetlands at a ratio that is consistent with state and federal regulations.

vi. Provide a project construction timeline.

vii. Describe construction details for meeting all requirements contained in these proposed certificate conditions.

viii. Describe performance standards that meet state and federal requirements for determining wetland mitigation success.

ix. Include specifications for post construction monitoring for at least 5 years after completion of the wetland mitigation. After each monitoring period the Certificate Holder shall take corrective action for any areas that do not meet the above referenced performance standards to increase the likelihood of meeting the performance standards after 5 years. If, after 5 years, monitoring demonstrates that the wetland mitigation is still not meeting the established performance standards, the Certificate Holder must submit a Wetland Mitigation Remedial Plan (WMRP). The WMRP must include the following:

a) Evaluation for why performance standards are not being achieved;

b) Corrective actions to ensure a successful mitigation; and

c) Schedule for conducting the remedial work. Once approved, the WMRP will be implemented according to the approved schedule.

18. Invasive Species Control Plan

a. The SEEP shall attach a *Final Invasive Species Control Plan* (ISCP), based on the pre- construction invasive species survey of invasive species conducted within the Project Area during the previous growing season. The ISCP shall include:

i. Measures that will be implemented to minimize the introduction of Invasive Species of Special Concern and control the spread of existing invasive species of special concern during construction (e.g., soil disturbance, vegetation clearing, transportation of materials and equipment, and landscaping/re-vegetation).

ii. Control measures shall include construction materials inspection and sanitation, invasive species treatment and removal, and site restoration.

iii. A post-construction monitoring program (MP) shall be conducted in year 1, ~~and~~ year[DPO'C1] 3 and year 5 following completion of construction and restoration. The MP shall collect information to facilitate evaluation of ISCP effectiveness.

19. Sound

a. A statement that the Certificate Holder will comply with the following conditions regarding construction noise:

i. Comply with all local laws regulating construction noise;

ii. Maintain functioning mufflers on all transportation and construction machinery;

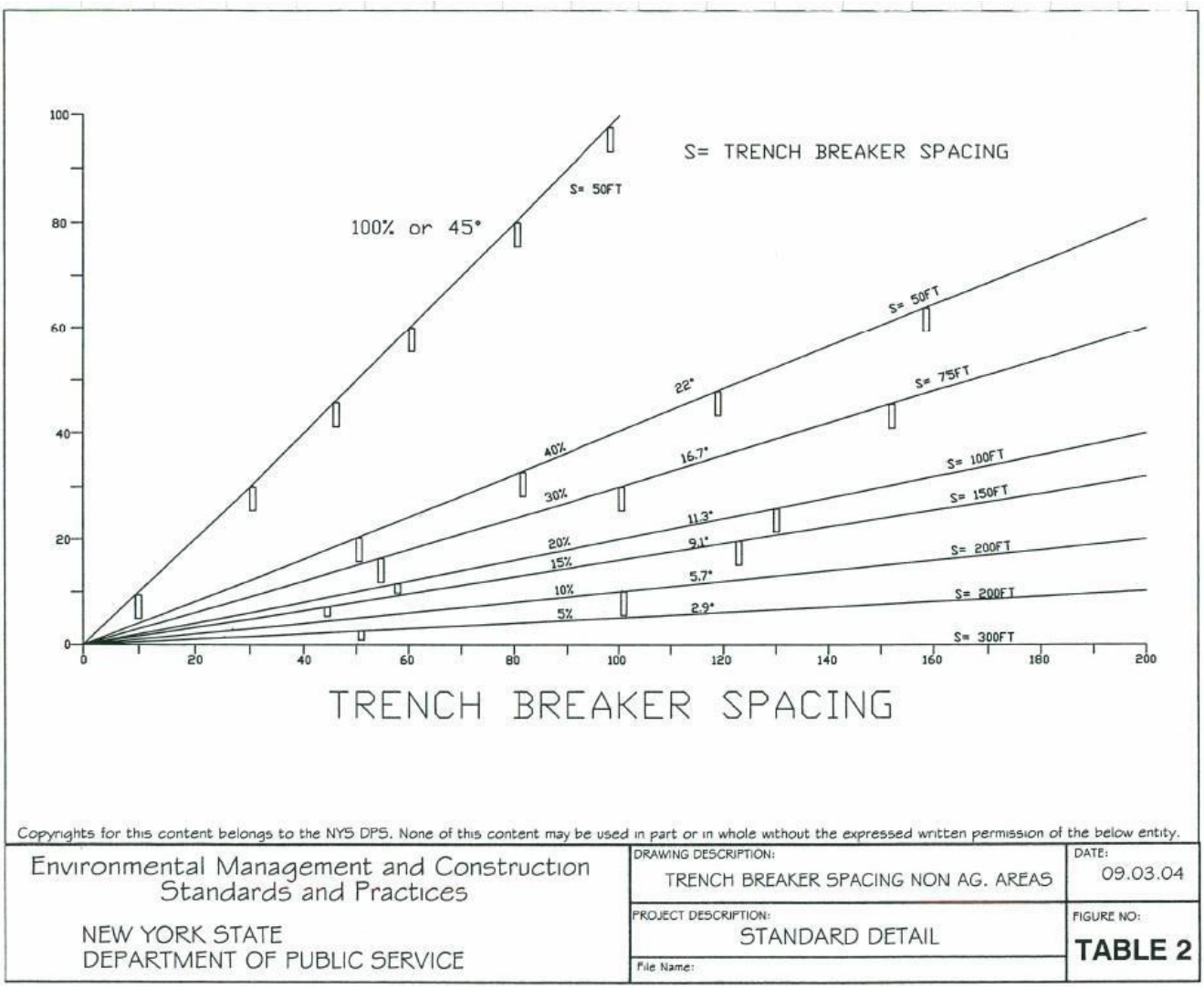
iii. Respond to noise and vibration complaints according to the protocols established in the Complaint Resolution Plan.

b. Specify procedures to be followed to minimize noise impacts related to facility site clearing and construction of the Facility. Indicate the types of major equipment to be used in construction and Facility operation; sound levels at which that equipment operates; days of the week and hours of the day during which that equipment will normally be operated; any exceptions to these schedules; and any measures to be taken to reduce audible noise levels caused by either construction equipment or Facility operation.

20. Operations Schedule and Timing

a. This section of the SEEP should include a discussion of Pre-Operational and Post- Operational Filings and Expected Timing of Submissions.

Appendix 1 - Trench Breaker Spacing



Section C – Proposed Outline of Construction SEEP

The proposed outline below summarizes the format of the SEEP filing and the anticipated contents of the SEEP. This outline will work as the final Table of Contents for the SEEP filing and the numbered sections follow the numbers in Section B above.

1. Introduction
    - 1.1 SEEP Purpose
    - 1.2 Facility Location and Description
    - 1.3 Construction Schedule and Hours
    - 1.4 Status of Other Permits and Approvals Needed for Construction
        - 1.4.1 Federal
        - 1.4.2 FAA
        - 1.4.3 Local or State Permits
        - 1.4.4 Pipeline Agreements
2. Project Communications Plan
    - 2.1 Environmental Compliance and Monitoring Plan
3. Complaint Resolution Plan For Construction
4. Health and Safety Plans For Construction
    - 4.1 Emergency Action Plan
    - 4.2 Site Security Plan
    - 4.3 Health and Safety Plan
    - 4.4 Quality Assurance and Quality Control Plan
5. General Construction
    - 5.1 Fugitive Dust Control Measures
    - 5.2 Spill Prevention, Containment and Counter Measures (SPCC) Plan
6. Clean up and Restoration
    - 6.1 Decommissioning Plan
7. Transportation
    - 7.1 Status of coordination with State, County and local municipalities
        - 7.1.1 Road Use Agreements
        - 7.1.2 Utility Agreements
    - 7.2 Route Evaluation Study
    - 7.3 Traffic Control Plans
8. Vegetation Clearing and Disposal Methods
    - 8.1 Vegetation Management and Herbicide Plan
9. Plans, Profiles and Detail Drawings (see Section A)
    - 9.1 Turbines
        - 9.1.1 Details of Selected Turbine Model
        - 9.1.2 Details of Wind Turbine Blade Installation Process
        - 9.1.3 Foundations

- 9.2 Linear Components
  - 9.2.1 Collection
  - 9.2.2 Access Roads
  - 9.2.3 Intersection Improvements
- 9.3 Non-Linear Components
  - 9.3.1 POI and Collection Substation
  - 9.3.2 Battery Storage
  - 9.3.3 Laydown Areas
  - 9.3.4 O&M Building
  - 9.3.5 Concrete Batch Plant
  - 9.3.6 Permanent Met Towers

10. Land Uses
    - 10.1 Agricultural Areas
    - 10.2 Sensitive Land Uses
    - 10.3 Geologic, Historic, and Scenic or Park resources
11. Final Geotechnical Engineering Report
12. Inadvertent Return Plan
13. Final Blasting Plan
14. Visual Mitigation
    - 14.1 Updated Shadow Flicker Analysis
    - 14.2 Shadow Flicker Control, Minimization and Mitigation Plan
    - 14.3 Other Visual Impact Mitigation
15. Cultural Resources
    - 15.1 Cultural Resources Protection Measures
    - 15.2 Unanticipated Discovery Plan
16. Avian and Bat Impacts
    - 16.1 Description of construction restrictions
17. Wetlands and Waterbodies
    - 17.1 Wetland Delineation Report
    - 17.2 Wetland and Stream Impact Drawings
    - 17.3 Final Wetland Mitigation Plan
    - 17.4 Storm Water Pollution and Prevention Plan (SWPPP)
18. Invasive Species Control Plan
19. Sound
    - 19.1 Construction Noise
    - 19.2 Revised Sound Modeling
20. Operations
    - 20.1 Projected Schedule
    - 20.2 Discussion of Pre-Operational and Post-Operational Filings and Expected Timing of Submission

Section D – Tree Clearing Plan

Section D of the following Site Engineering and Environmental Plan (SEEP) addresses the requirements for development of a Tree Clearing Plan if the Certificate Holder separates the tree clearing phase of construction from other phases of construction.

OUTLINE OF TREE CLEARING PLAN FOR BLUESTONE FACILITY

1. Introduction
    - 1.1 Facility Location and Description
    - 1.2 Tree Clearing Schedule and Hours

2. Tree Clearing Communications and Monitoring Plan

3. Complaint Resolution Plan for Tree Clearing

4. Health and Safety Plan for Tree Clearing

5. General Tree Clearing
    - 5.1 Fugitive Dust Control Measures
    - 5.2 Spill Prevention, Containment and Counter Measures (SPCC) Plan

6. Transportation
    - 6.1 Route Evaluation Study
    - 6.2 Traffic Control Plans

7. Vegetation Clearing and Disposal Methods
    - 7.1 Vegetation Management and Herbicide Plan

8. Plans, Profiles and Detail Drawings (See Details Below)

9. Cultural Resources
    - 9.1 Cultural Resources Protection Measures
    - 9.2 Unanticipated Discovery Plan

10. Avian and Bat Impacts
    - 10.1 Description of tree clearing restrictions if any

11. Wetlands and Waterbodies
    - 11.1 Storm Water Pollution and Prevention Plan (SWPPP)

12. Invasive Species Control Plan

13. Sound

13.1 Procedures to be followed to minimize noise impacts related to facility site clearing.

1. Introduction

The Tree Clearing Plan will include a description of the tree clearing to be conducted and a schedule of tree clearing activities. This section will also include a reference to all applicable Certificate Conditions addressed in or by the Plan[DPO'C2][DPO'C3] including conditions 97, 98, 102, 013 [sic], et al. This section will also demonstrate that access and property rights have been acquired for parcels needing clearing or[DPO'C4] for clearing access.

2. Tree Clearing Communications and Monitoring Plan

The *Tree Clearing Communications and Monitoring Plan* shall include the names, titles, qualifications and contact information of all individuals responsible for ensuring minimization of environmental impact by clearing and for enforcing compliance with environmental protection provisions of the Certificate and the compliance filings during tree clearing, including but not limited to:

a. Full-time environmental monitor;

b. Full-time tree clearing supervisor;

c. Part-time or full-time agricultural inspector; and

d. Part-time health and safety inspector.

The Certificate Holder may utilize one or more qualified individuals to satisfy the tree clearing oversight responsibilities associated with the environmental monitor and the agricultural inspector.

The *Tree Clearing Communications and Monitoring Plan* shall also include:

a. Protocols for supervising, vegetation clearing, use of herbicides, construction, and site restoration activities to ensure minimization of environmental impact and compliance with the environmental protection provisions specified by the Certificate.

b. Specify responsibilities for personnel monitoring all tree clearing activities, such as clearing, sensitive resource protection, site compliance, change notices, etc.

c. Include a statement that the Certificate Holder has made compliance with the Certificate and Tree Clearing Plan an obligation of its contractors and has provided a copy to those employees and contractors engaged in clearing.

d. Describe the procedures to "stop work" in the event of a Certificate violation.

e. The company's designated contact including 24/7 emergency phone number, for assuring overall

compliance with Certificate conditions.

~~e.~~f. Provide notice to municipal officials and property owners that Facility Site tree clearing activities are due to start prior to the full start of construction[DPO'C5].

3. Complaint Resolution Plan For Tree Clearing

The Tree Clearing Plan shall include a copy of a Complaint Resolution Plan, which shall include protocols for:

a. Notifying the public of the complaint procedures;

b. Registering a complaint;

c. Responding to and resolving complaints in a consistent and respectful manner;

d. Logging and tracking of all complaints received and resolutions achieved;

e. Reporting to DPS Staff any complaints not resolved within 30 days of receipt;

f. Arbitrating complaints not resolved within 60 days; and

g. Providing quarterly reports of complaint resolution tracking to DPS Staff that shall also be filed with the Secretary.

4. Health and Safety Plans For Tree Clearing

The Tree Clearing Plan shall include copies of the following plans for tree clearing:

a. An *Emergency Action Plan* that shall be implemented during Facility clearing. Copies of the plan also shall be provided to DPS Staff and local emergency responders that serve the Facility.

b. The *Final Health and Safety Plan* that shall be implemented during Facility clearing.

5. General Tree Clearing

Provide an Erosion and Sediment Control Plan which specifies appropriate measures that will be used to minimize fugitive dust and airborne debris from clearing activity as outlined in the *New York State Standards and Specifications for Erosion and Sediment Controls* (NYSDEC, 2016a). Provide a *Spill Prevention, Containment and Counter Measures (SPCC) Plan* for tree clearing. Areas to be cleared will be staked and/or flagged as relevant in accordance with Contiion 90(a), (b), (e) and (f).

6. Transportation

The Tree Clearing Plan shall attach a *Traffic Control Plan* that identifies the truck route(s) in the Towns of Sanford and Windsor, (all transportation routes from where they exit Interstate 86 to where they end at the delivery site) for oversize or over length equipment.

7. Vegetation Clearing and Disposal Methods

The Tree Clearing Plan shall attach a *Clearing Vegetation Management and Herbicide Use Plan* that describes:

a. Describe the specific methods for the type and manner of cutting and disposition or disposal methods for cut vegetation.

b. Indicate specifications and standards applicable to salvage, stockpiling or removal of material.

c. Identify ownership of cleared vegetation based on landowner agreements (as applicable).

d. Specifies the locations where herbicides are to be applied. Provide a general discussion of the site conditions (e.g., land use, target and non-target vegetation species composition, height and density) and the choice of herbicide, formulation, application method and timing. Provide lists of desirable and undesirable vegetation species.

e. Describes the procedures that will be followed during chemical application to protect non-target vegetation, streams, wetlands, potable waters and other water bodies, and residential areas and recreational users on or within 100 feet of the ROW.

8. Plans and Profile Drawings (See Details Below)

9. Cultural Resources

a. The Tree Clearing Plan shall attach a Final Unanticipated Discovery Plan, establishing procedures to be implemented in the event that resources of cultural, historical, or archaeological importance are encountered during Facility clearing. The plan will include a provision for immediate work stoppage upon the discovery of possible archaeological or human remains. Evaluation of such discoveries, if warranted, shall be conducted by a professional archaeologist, qualified according to New York Archaeological Council Standards. Work shall not resume in the area of such remains until written permission is received from the NYSOPRHP.

b. If complete avoidance of archaeological sites is not possible, the Certificate Holder shall consult with the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and DPS Staff to determine if mitigation is warranted. The identification of mitigation measures will be included in the plans.

10. Avian and Bat Impacts

The Tree Clearing Plan shall attach an Avian and Bat Clearing Impact Plan describing measures to be implemented during clearing to reduce impacts to birds and bat species.

11. Wetlands and Waterbodies

a. If needed, the Tree Clearing Plan shall attach a copy of the *Wetlands Mitigation Plan*, developed in coordination with DEC, DPS Staff, and the Army Corps of Engineers, addressing permanent impacts to federal and State-regulated wetlands. The Wetlands Mitigation Plan shall:

i. Describe all activities that will occur within §404 wetland, tidal wetland and State

wetlands.

ii. For each State-regulated wetland or associated adjacent areas, indicate the type of activity (e.g., construction, filling, grading, vegetation clearing, and excavation) and summarize how the activity is consistent with the weighing standards set forth in 6 NYCRR 663.5(e) and (f).

iii. Describe how impacts to wetlands, adjacent areas, associated drainage patterns and wetland functions will be avoided, and how impacts will be minimized.

iv. Describe the precautions or measures to be taken to protect all other wetlands (e.g., town or federal wetlands) associated drainage patterns, and wetland functions, including describing the measures to be taken to protect stream bank stability, stream habitat, and water quality including, but not limited to: crossing technique; crossing structure type; timing restrictions for in-stream work; stream bed and bank restoration measures; vegetation restoration measures; and other site-specific measures to minimize impacts, protect resources, and manage Facility construction.

v. Describe the installation of underground collection lines in wetlands using the following methods:

1. Topsoil shall be segregated from subsoil and temporarily placed onto a geotextile blanket.

2. The Certificate Holder shall implement best management practices to minimize soil compaction.

3. The length of the trench exposed shall not exceed 1,500 feet in a wetland to the maximum extent practicable.

4. All reasonable efforts shall be made to backfill open trenches within the same work day.

5. All excess materials shall be completely removed from wetlands to upland areas more than 100 feet from State wetlands and suitably stabilized.

vi. Describe the installation of access roads through wetlands using the following methods:

1. vegetation and topsoil shall be removed;

2. a layer of geotextile fabric shall be placed in the location of the wetland crossing; and

3. at least six inches of gravel shall be placed over geotextile fabric in the location of the wetland crossing.

b. For §404 wetlands, the Tree Clearing Plan shall attach copies of individual or nationwide permits.

c. The Tree Clearing Plan shall attach a copy of the Storm Water Pollution and Prevention Plan (SWPPP).

12. Invasive Species Control Plan

a. The Tree Clearing Plan shall attach an *Invasive Species Control Plan* (ISCP), based on the pre-construction invasive species survey of invasive species within the Project Area. The ISCP shall include:

i. Measures that will be implemented to minimize the introduction of Invasive Species of Special Concern and control the spread of existing invasive species of special concern during tree clearing;

ii. Control measures shall include materials inspection and sanitation, invasive species treatment and removal, and site restoration; and

iii. A post-construction monitoring program (MP) shall be conducted in year 1, and year 3 following completion of construction and restoration. The MP shall collect information to facilitate evaluation of ISCP effectiveness.

13. Sound

Specify procedures to be followed to minimize noise impacts related to facility site clearing. Indicate the types of major equipment to be used in clearing; sound levels at which that equipment operates; days of the week and hours of the day during which that equipment will normally be operated; any exceptions to these schedules; and any measures to be taken to reduce audible noise levels caused by tree clearing.

Plans, Profiles and Detail Drawings Details for Tree Clearing Plan

1. Plan and Profile Detail

For all proposed wind turbine locations and other Non-Linear Facility components, the Certificate Holder shall provide site plans, profiles, and detail drawings (scale minimum 1 inch = 200 feet)[4] showing:

- Details showing limits of clearing, temporary and permanent grading, and laydown space required for wind turbine installation;
- Details of SWPPP should be indicated.

For all Linear Facility Components including: electric transmission lines, electric collection or distribution lines, and access roads, site plan and profile figures shall include profile drawings of Facility centerline; for electric lines (whether above ground or underground) plans shall include the Line[5] Profile (at an appropriate scale) and plan drawings (scale minimum 1 inch = 200 feet) showing:

[4] Contour lines at appropriate scale are desirable on the plan view or photo-strip map if they can be added without obscuring the required information.

[5] The lowest conductor of an overhead electric transmission, collection or distribution facility design shall be shown in relation to ground elevation at the maximum permissible conductor temperature for which the line is designed to operate, i.e., normally the

- Details showing limits of clearing, temporary and permanent grading, required for linear components;

- Details of SWPPP should be indicated;

- The boundaries of any new, existing, and/or expanded utility right-of-way or road boundaries, and where linear Facility lines or cables are to be constructed overhead or underground; plus, any areas contiguous to the Facility or street within which the Certificate Holder will obtain additional rights.

- Indicate the associated drainage and erosion control features to be used for access road construction and maintenance. Provide re-vegetation materials specifications. Provide diagrams and specifications (include plan and side views with appropriate typical dimensions) for each erosion control feature to be used, such as:

    i. check dam (for ditches or stabilization of topsoil);

    ii. broad-based dip or berm (for water diversion across the access road);

    iii. roadside ditch with turnout and sediment trap;

    iv. French drain;

    v. diversion ditch (water bar);

    vi. culvert (including headwalls, aprons, etc.);

    vii. sediment retention basin (for diverting out-fall of culvert or side ditch); and,

    viii. silt fencing.

- Indicate the type(s) of stream crossing method to be used in conjunction with temporary and permanent access road construction. Provide diagrams and specifications (include plan and side view with appropriate dimensions alignment, extent of clearing) for each crossing device and rationale for their use. Stream crossing methods and design may include but not be limited to:

    i. timber mat or other measures to prevent soil compaction;

    ii. culverts including headwalls;

    iii. bridges (either temporary or permanent); and,

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short-time emergency loading temperature specified by the New York ISO. If a lesser conductor temperature is used for the line profile, the maximum sag increase between the conductor temperature and the maximum conductor temperature shall be indicated for each ruling span. For underground Project design, show relation of Project to final surface grade, indicating design depth-of-cover.

iv. fords.

- All diagrams and specifications should include material type and size to be placed in streams and on stream approaches.

- Existing underground utility or non-utility structures including but not limited to gas, water, telecommunication or electric cable or pipeline. The relationship of the Facility to adjacent fence lines; roads; railways; airfields; property lines; hedgerows; fresh surface waters; wetlands; other water bodies; significant habitats; associated facilities; water springs; adjacent buildings; water wells; or structures; major antennas; oil or gas wells, pipeline facilities, and compressor and pressure-limiting and regulating stations.

2. <u>Stormwater Pollution Prevention</u>

The Tree Clearing plan drawings will include the acknowledged Storm Water Pollution Prevention Plan (SWPPP) plans (and approved MS-4 SWPPP plans if applicable) and drawings, and indicate the locations and details of soil erosion and sediment control measures and any proposed permanent stormwater management controls developed in accordance with the New York Standards and Specifications for Erosion and Sediment Control (e.g., stabilized construction entrances, drainage ditches, silt fences, check dams, and sediment traps) in effect at the time the Certificate is issued.

3. <u>Vegetation Clearing and Disposal Methods</u>

Identify on the Tree Clearing plan and profile drawings:

- the locations of sites requiring trimming or clearing of vegetation including both above and below ground (i.e., stumps) and the geographic limits of such trimming or clearing;

- the specific type and manner of cutting, disposition or disposal method for vegetation (e.g., chip; cut and pile; salvage merchantable timber, etc.);

- the disposal locations of all vegetation (including stumps) to be cut or removed from each site;

- any geographical area bounded by distinctly different cover types requiring different cut-vegetation management methods;

- any geographical area bounded at each end by areas requiring distinctly different cut-vegetation methods due to site conditions such as land use differences, population density, habitat or site protection, soil or terrain conditions, fire hazards, or other factors;

- site specific vegetation treatment or disposal methods, including any property-owner required details such as log storage or wood chip piling areas, or "no-herbicide" zones;

- areas requiring danger tree removal (i.e., trees with cracks or decay in proximity of a utility right-of-way); and

- the location and details of any areas where specific vegetation protection measures will be employed including those measures to avoid damage to specimen tree stands of desirable species, important screening trees, hedgerows etc.

4. Waterbodies

- Indicate the name, water quality classification and location of all rivers and streams, (whether perennial and intermittent) and drainages within the construction area or crossed by any proposed Linear Facility Component or access road constructed improved or maintained for the Facility. On the plan and profile drawings, indicate:

    i. stream crossing method and delineate any designated streamside "protective or buffer zone" in which construction activities will be restricted to the extent necessary to minimize impacts on rivers and streams;

    ii. the activities to be restricted in such zones; and,

    iii. identify any designated floodways or flood hazard areas within the Facility, or otherwise used for Facility construction or the site of associated facilities. Provide topographic and flood hazard area elevations (if determined by engineering study); and specifications for facilities to be located within designated flood hazard or floodway zones; and design engineering and construction measures to demonstrate conformance with local ordinances, avoid damage to facilities, or avoid increasing flood elevation at any other location due to Facility installation and operation.

- Show the location of all potable water sources, including springs and wells on or within 100 feet of the Facilities site, indicating on a site-by-site basis, precautionary measures to be taken to protect each water source.

5. Wetlands

- All Federal and State regulated wetlands and state regulated 100-foot adjacent areas ("adjacent areas") located within the Facility or crossed by or adjacent to any access road to be constructed, improved, used or maintained for the Facility shall be depicted on plan drawings. Each wetland will be identified by a project identification number and by the NYSDEC designation as appropriate.

- Indicate the location and type (i.e., identification code for regulated town, state, or federal wetlands) of any wetland (e.g., marsh, meadow, bog, or scrub-shrub or forested swamp) within or adjoining the Facility or any temporary access road, as determined by site investigation and delineation.

- For non-jurisdictional wetlands, indicate type and location of measures (e.g., mats) to be taken to protect all wetlands, associated drainage patterns and wetland functions.

6. Land Uses

- Agricultural Areas:

    i. Indicate the locations of sites under cultivation or in active agricultural use including rotational pasture, pasture, hayland, and cropland. Designations and descriptions will be those in current use by the NYS Department of Agriculture and Markets (Ag&Mkts).

    ii. Indicate the location of any known unique agricultural lands including maple sugarbush sites, organic muckland, and permanent irrigation systems, as well as areas used to produce specialty crops such as vegetables, berries, apples, or grapes.

    iii. Indicate the location of vulnerable soils in agricultural areas that are more sensitive than other agricultural soils to construction disturbance due to factors such as slope, soil wetness, or shallow depth to bedrock.

    iv. Indicate the location of all known land and water management features including subsurface drainage, surface drainage, diversion terraces, buried water lines, and water supplies.

    v. Designate the site-specific techniques to be implemented to minimize or avoid construction-related impacts to agricultural resources.

- Sensitive Land Uses and Resources:

  Identify and indicate the location of known sensitive land uses and resources that may be affected by construction or maintenance of the Facility or by construction-related traffic (e.g., hospitals, emergency services, sanctuaries, schools, and residential areas).

- Geologic, Historic, and Scenic or Park Resources:

  Indicate the locations of geologic, historic, and existing or planned scenic or park resources and specify measures to minimize impacts to these resources (e.g., specified setback distances, vegetation protection, fencing, signs).

- Recreational Areas:

  Indicate the locations where existing recreational use areas, designated trails, trailhead parking areas or associated access driveways would affect or be affected by the Facility location, site clearing, construction, operation or management of the Facility.

7. Noise Sensitive Sites

- Show the locations of sound sensitive receptors. Identify locations and specifications of measures to mitigate tree clearing noise as required by the Certificate.

8. Ecologically and Environmentally Sensitive Areas

- Indicate the general locations of any known ecologically and environmentally sensitive sites (e.g., archaeological sites [including but not limited to Stone Features[DPO'C6]]; rare, threatened, and endangered species or habitats; agricultural districts; and special flood hazard areas.), adjacent to the Facility or with 100 feet of any access roads to be cleared. Specify the measures that will be taken to protect these resources (e.g., fencing, flagging, signs "Sensitive Environmental Areas, No Access").

- Measures for avoidance of archaeological sites identified within the Facility shall be indicated on the tree clearing plans. The mapped locations of all identified archaeological sites within 100 feet of proposed Facility-related impacts shall be identified as "Environmentally Sensitive Areas" or similar on the final Facility construction drawings and marked in the field by construction fencing with signs that restrict access.

9. Invasive Species of Special Concern

- Identify the location(s) of Invasive Species of Special Concern (based on site invasive species survey as required by the Certificate) and the prescribed method to control the spread of the identified species on the site during tree clearing.

10. Vegetation Controls and Herbicides

- Indicate areas where herbicides will be used, and prescribed treatment methods for specific vegetation control, on the tree clearing plans and drawings.