Preliminary Scoping Statement Pursuant to Article 10 of the New York State Public Service Law

Watkins Glen Solar Energy Center

Town of Dix, Schuyler County, New York

Case No.: 17-F-0595

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August 2019

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1.0 INTRODUCTION

Watkins Glen Solar Energy Center, LLC, (Watkins Glen Solar Energy Center or the Applicant) a wholly-owned indirect subsidiary of NextEra Energy Resources, LLC (NEER), plans to submit an application to construct a major electric generating facility, the Watkins Glen Solar Energy Center (the Watkins Glen Solar Energy Center Project or the Project), under Article 10 of the Public Service Law (PSL). Pursuant to the rules of the New York State Board on Electric Generation Siting and the Environment (Siting Board), the Applicant is proposing to submit an application to construct a major electric generating facility under Article 10 (Application) and must submit a Preliminary Scoping Statement (PSS) no less than 90 days prior to filing the Application.

The Applicant has been implementing its Public Involvement Program Plan (PIP Plan) and conducting stakeholder outreach as well as consulting with local, state, and federal government agencies and Project stakeholders. Consultations and meetings have been documented in a Meeting Log maintained by the Applicant, which will be updated and submitted to the Secretary to the Siting Board approximately once every two months (or as necessary) and is available on the Applicant's website (www.watkinsglensolarenergycenter.com). The most recent Meeting Log is included with this PSS as Appendix A. The Applicant will continue to implement the PIP Plan and conduct outreach activities throughout the scoping process, during the preparation of the Application, and throughout the remainder of the Article 10 process.

The purpose of the PSS is to present "… as much information as is reasonably available concerning the proposed project…" and propose the methodology, scope of studies, or program of studies to be conducted in support of the Application to be submitted for the Project pursuant to Article 10. The required content of the PSS is prescribed in 16 New York Codes, Rules, and Regulations (NYCRR) § 1000.5(l).

Pursuant to 16 NYCRR § 1000.5(g), within 21 days after the filing of this PSS, any person, agency, or municipality may submit comments on the PSS and file a copy with the Applicant and the Secretary to the Siting Board. Further details for filing comments on this PSS are provided in the Notice accompanying this document (see Appendix B for a copy of the Notice).

2.0 APPLICANT AND PROJECT DESCRIPTION

2.1 Company Profile

Watkins Glen Solar Energy Center, LLC, a limited liability company that will develop, own, operate, and maintain a solar-powered wholesale generating facility in Schuyler County, New York, is a wholly-owned indirect subsidiary of NEER.

NEER is a nationally recognized clean energy provider with a portfolio of facilities totaling over 21,000 megawatts (MW) of generating capacity in the United States and Canada, of which 2,000 MW is derived from the sun. NEER operates primarily as a wholesale power generator, providing power and environmental attributes to utilities, retail electricity providers, power cooperatives, municipal electric providers, and large industrial companies. Approximately 99 percent of NEER's electricity is derived from clean or renewable sources, including solar and wind. NEER, together with its affiliated entities, is the world's largest operator of renewable energy from the wind and sun.

The Watkins Glen Solar Energy Center was selected as part of the New York State Energy Research and Development Authority (NYSERDA) 2018 Renewable Energy Standard Solicitation Request for Proposal (REFRFP 18-1) to purchase renewable energy credits from large-scale renewable energy projects. The Project will consist of a 50-MW solar energy center and will be consistent with New York State's policies promoting renewable energy goals, including the 2015 New York State Energy Plan (SEP), and the Clean Energy Standard (CES) which seeks to achieve 50 percent of the State's electricity to be generated by renewables by 2030 (50 by 30 goal) and the recently enacted Climate Leadership and Community Protection Act requiring electricity consumed in New York to be generated by 70 percent carbon-free sources by 2030 and 200 percent by 2040.

2.2 Project Description

The Project will have a generating capacity of 50 MW of power and will be located on land leased from a private landowner located in the Town of Dix, Schuyler County, New York (see Figure 1). The Project will be adjacent to the Watkins Glen International racetrack known as "The Glen." Upon completion, The Glen will house the largest solar field to be located at a racetrack in the United States.

Project facilities will include commercial-scale solar arrays, access roads, buried (and possibly overhead) electric collection lines, a Project collection substation, and electrical interconnection facilities. Watkins Glen Solar Energy Center anticipates the interconnection facilities will include a 115 kilovolt (kV) Point of Interconnection (POI) switchyard, which will be transferred to New York State Electric & Gas (NYSEG) to own and operate. The proposed collection substation and interconnection facilities will be located on land south of the solar arrays within the Project Area, adjacent to the existing NYSEG Bath – Montour Falls 115 kV transmission line (see Figure 2).

The proposed Project will have positive socioeconomic impacts in the Project Area, in adjacent towns, and beyond through employment opportunities, specifically by generating temporary construction employment. Based on similar project experience elsewhere, Watkins Glen Solar Energy Center estimates that approximately 125 to 175 temporary construction jobs will be generated during the approximate 9 months of construction. Local construction employment will primarily benefit those in the construction trades, including equipment operators, truck drivers, laborers, and electricians. Watkins Glen Solar Energy Center encourages local hiring to the extent practicable. Workers from outside the area who fill specialized job functions will add to the regional economy by staying temporarily in area hotels, eating in local restaurants, and shopping in Schuyler County stores. Additionally, the Watkins Glen Solar Energy Center will require two to three permanent employment positions during the operational period.

Watkins Glen Solar Energy Center will be commencing discussions with the Town of Dix, the Schuyler County Industrial Development Agency, and other relevant participants concerning the structure and level of a Payment in Lieu of Tax Agreement (PILOT).

2.3 Project and Study Area

Figure 1 shows the Regional Project Location. The Project Area and the Study Area to be used for analysis are both shown on Figure 2. For purposes of this document, Watkins Glen Solar Energy Center is defining these areas as follows:

- The Project Area consists of the locations being evaluated for placement of permanent Project facilities, including the proposed collection substation and interconnection facilities. As shown on Figure 2 and Figure 3, the Project Area includes approximately 774 acres of land. Within the Project Area, it is anticipated that the proposed solar energy center would comprise an area of approximately 350 acres of land. Additional land area beyond what is required for the proposed solar energy center is included in the Project Area to provide setbacks from neighboring land uses and to minimize impacts to environmental resources to the maximum extent practicable. Figure 3 contains the currently proposed buildable areas, which are areas that are being considered preliminarily for placement of solar arrays.
- Consistent with 16 NYCRR § 1000.2(ar), the Study Area (as shown on Figure 2) encompasses areas within at least 2 miles of the property lines of the Project Area and includes approximately 15,651 acres of land (inclusive of the 774-acre Project Area). The Study Area includes the Town of Dix and the Town of Orange in Schuyler County. As a number of studies will be performed in support of the Application, some of the studies may use resource-specific study areas greater than the 2-mile radius from the Project Area boundaries, as will be discussed in this PSS.

For the purpose of this document the following definitions are provided for clarification: off-site and on-site are respectively defined as outside or within the Project Area. For archaeological resources, the APE is defined as where significant ground disturbances may occur, inclusive of access roads, workspaces, collection lines, any proposed collection substations and interconnection facilities, and other areas of significant ground-disturbing activities (such as grading). This standard terminology will be used throughout this PSS and the Application. Additionally, the Application will include a list of acronyms.

2.4 Summary of Pre-Application Activities

Prior to the filing of this PSS, Watkins Glen Solar Energy Center prepared a PIP Plan originally submitted to the New York State Department of Public Service (DPS) in September 2017. This document was submitted in accordance with 16 NYCRR § 1000.4. The Project was assigned Case No. 17-F-0595. Comments on the PIP Plan were received from the DPS on October 25, 2017. This document was updated, finalized, and filed on November 24, 2017. Paper copies of the PIP Plan were provided to the following locations for public review:

- Town of Dix Town Hall, 304 7th Street, Watkins Glen, NY 14891; and
- Watkins Glen Public Library, 610 South Decatur Street, Watkins Glen, NY 14891.

The PIP Plan can be accessed on the DPS online case record website maintained by the Siting Board (http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=17-F-0595&submit=Search) and on a Project-specific website created and maintained by Watkins Glen Solar Energy Center (www.watkinsglensolarenergycenter.com) by selecting the “Public Involvement” tab.

2.5 Organization of the Preliminary Scoping Statement

This PSS has been organized in accordance with 16 NYCRR § 1001, with all sub-sections in Part 3 directly corresponding with each Exhibit that will be included in the Application (set forth in 16 NYCRR § 1001). In order to ensure compliance with 16 NYCRR § 1000.5(l), a content matrix has been created and is included in the Summary and Conclusions section (Section 4.0) of this document. This matrix cross-references the different requirements of 16 NYCRR § 1000.5(l) with the sections applicable to this PSS.

The information presented in this PSS is preliminary in nature and presents information on the design of the Project as is reasonably available in its early stages of development. As the Project is advanced, the Application will clearly depict the proposed solar photovoltaic array locations, along with the locations of other Project components. The linear distances of collection lines and access roads will be presented in the Application based on the actual footprint that will be presented and analyzed. Furthermore, the Application will analyze potential impacts of the proposed Project, by conducting on-site and computer-based review of the Project Area and where applicable, the Project Study Area. Figures and Appendices are referenced in the text of this PSS and presented at the end of the document.

3.0 CONTENTS OF APPLICATION

3.01 General Requirements - Public Contact and Project Information (Exhibit 1)

The proposed Watkins Glen Solar Energy Center is located in Schuyler County, New York, within the Town of Dix, and is being developed by Watkins Glen Solar Energy Center, LLC.

Applicant: Watkins Glen Solar Energy Center, LLC
700 Universe Blvd., E5E
Juno Beach, FL 33408
Telephone: (800) 379-3841
Fax: (561) 304-5404
Email: info@watkinsglensolarenergycenter.com

Project Website: www.watkinsglensolarenergycenter.com

Public Contact and Designated Agent: Mr. Michael Dowling
700 Universe Blvd, E5E
Juno Beach, FL 33408
Telephone: (561) 304-5857
Fax: (561) 304-5404
Email: Michael.Dowling@nexteraenergy.com

Principal Officer: Mr. John DiDonato, Vice President
700 Universe Blvd, E5E
Juno Beach, FL 33408
Telephone: (561) 304-5857
Fax: (561) 304-5404
Email: info@watkinsglensolarenergycenter.com

Document service should be made to the Project's public contact (Mr. Michael Dowling). The Application will indicate if additional document service will be requested at that time for the Applicant's agent or counsel, and related contact information will be included.

Additional inquires related to the Project can be directed to info@watkinsglensolarenergycenter.com or at (800) 379-3841. The toll-free number established for the Project will be provided in the Application where public contact information is requested and will also be included on the Public Notice. The Project website can be found at www.watkinsglensolarenergycenter.com.

Watkins Glen Solar Energy Center, LLC is a limited liability company formed on August 25, 2017 in Delaware that will develop, own, operate, and maintain a wholesale solar-powered generating facility in Schuyler County, New York. Watkins Glen Solar Energy Center, LLC is a wholly-owned, indirect subsidiary of NEER. NEER is located at 700 Universe Blvd, Juno Beach, Florida 33408. A copy of the certificate or other documents of formation will be provided with the Application.

The following shall apply to each of the exhibits to the Application:

(a) The application for a certificate shall contain the exhibits described by Part 1001 as relevant to the Project technology and site, and such additional exhibits and information as the Applicant may consider relevant or as may be required by the Siting Board or the Presiding Examiner. Exhibits that are not relevant to the particular application have been omitted.

(b) Each exhibit shall contain a title page showing:

(1) The Applicant's name.

(2) The title of the exhibit.

(3) The proper designation of the exhibit.

(c) Formatting:

(1) Each exhibit consisting of 10 or more pages of text shall contain a table of contents citing by page and section number or subdivision the component elements or matters contained in the exhibit.

(2) Each exhibit which includes reference or supporting documents such as attachments or appendices shall contain a table of contents that indicates those supporting documents. The location of information within the Application (including exhibits, attachments and appendices, specifically addressing the relevant requirements of 16 NYCRR § 1001) will be clearly identified either in the table of contents or in the form of a matrix in order to ensure completeness and facilitate review. The Application will provide a list of acronyms as an appendix to the Table

of Contents. All reference citations within the body of any exhibit will be fully cited at the relevant list of reference documents.

(d) In collecting, compiling and reporting data required by 16 NYCRR Part 1001, the Applicant shall establish a basis for statistical comparison with data which shall subsequently be obtained under any program of post-construction monitoring. In addition, the Applicant will provide the NYSDEC and DPS, contemporaneously with the filing of the Application, shapefiles suitable for use in GIS software via ESRI's ArcGIS suite of software containing all applicable Project and survey components using NYSDEC's *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* (June 2016) as guidance. Applicable shapefiles will also be provided to accompany any applicable wildlife and habitat survey reports when they are ready to be submitted by the Applicant.

(e) If the same information is required for more than one exhibit, it may be supplied in a single exhibit and referenced in other exhibit(s) where it is also required.

(f) Exhibit 1 shall also contain:

(1) The name, address, telephone number, facsimile number and e-mail address of Watkins Glen Energy Center, LLC.

(2) The address of the website established by the Applicant to disseminate information to the public regarding the Application.

(3) The address, telephone number, facsimile number, and e-mail address of Michael Dowling who is the person that the public may contact for more information regarding the application.

(4) The business address, telephone number, facsimile number, and e-mail address of the principal officer of the Applicant, John DiDonato, Vice President.

(5) If the Applicant desires service of documents or other correspondence upon an agent, the name, business address, telephone number, facsimile number, and e-mail address of the agent.

(6) A brief explanation of Watkins Glen Energy Center, LLC, a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC ("NextEra"), including its date and location of formation and the name and address of its parent.

(7) A certified copy of the certificate of formation for Watkins Glen Energy Center, LLC, will be provided with the Application.

3.02 Overview and Public Involvement (Exhibit 2)

Description

The proposed Project consists of a solar photovoltaic energy generation facility located in the Town of Dix, Schuyler County, New York. The proposed Project Area boundary (see Figure 2) consists of approximately 774 acres of land, and the general landscape is a mix of agricultural and forest land. Within the Project Area, it is anticipated that the proposed solar energy center would comprise an area of approximately 350 acres of land.

The proposed Project will consist of a 50-MW solar energy center. Proposed components of the Project include commercial-scale solar arrays, access roads, fencing, inverters, buried (and possibly overhead) electric collection lines, a Project collection substation, and electrical interconnection facilities. A description of the solar array, as well as the proposed locations of arrays will be identified in the Application. Watkins Glen Solar Energy Center anticipates the interconnection facilities will include a 115-kV switchyard that will be transferred to NYSEG to own and operate. The proposed collection substation and interconnection facilities will be located on land south of the solar arrays within the Project Area, adjacent to the existing NYSEG Bath – Montour Falls 115 kV transmission line.

Application Content Summary

The Application will comply with all applicable sections of PSL Section 164 and 16 NYCRR § 1001 (Content of an Application). This PSS offers preliminary Project design information, as is reasonably available, with supporting figures and appendices. The Application will provide more detailed, conceptual design information, analyses, and content.

Pre-Application Public Involvement

The Applicant prepared a PIP Plan in accordance with the requirements of 16 NYCRR §1000.4. The PIP Plan was submitted to the DPS on September 25, 2017. Following the receipt of DPS comments on the PIP Plan, the PIP Plan was updated, finalized, and filed by the Applicant on November 24, 2017. The PIP Plan was created to identify and involve affected stakeholders, introduce the Project to the local community and other interested parties, explain the public outreach and involvement efforts that the Applicant will pursue throughout the development of this Project, and explain how these efforts comport with and satisfy New York's legal and

regulatory requirements. Watkins Glen Solar Energy Center has completed the pre-PSS consultations set forth in the PIP Plan's Appendix B and has held multiple stakeholder meetings. Meetings are summarized in the PIP Plan Meeting Log (Appendix A). The final PIP Plan is included herein as Appendix C.

Watkins Glen Solar Energy Center mailed informational flyers to over 500 addresses including host and adjacent property owners within the Project Study Area announcing a Project open house. The Project open house was held on July 23, 2019. Information was presented describing the proposed Project, Article 10 requirements, proposed studies, availability of intervenor funding, and the review process. Input from attendees was also received and documented. PIP activities are ongoing. Copies of filed and or public outreach documents are also available on the Project website at www.watkinsglensolarenergycenter.com. A second open house will be held on a date following submission of this PSS.

In addition to the open house, the Applicant presented to the Town Board and members of the public in attendance at a regularly scheduled meeting held on July 22, 2019. The presentation provided an overview of the Project, the Article 10 review process and the availability of intervenor funding.

Post-Application Public Involvement

After submission of the Application, Watkins Glen Solar Energy Center will continue to engage stakeholders by conducting outreach to encourage involvement and open communication.

Ongoing PIP Plan activities will continue to be tracked and filed in the Meeting Log which is attached as Appendix A, posted on the Project website, and will be submitted to the Secretary every 2 months (or as necessary).

PSS Distribution and Notification Efforts

Notification of filing of the PSS, as required by 6 NYCRR §1000.5 and §1000.6, is available on the Project website and was published in the following newspapers:

- The Watkins Glen Review & Express, a paid-subscription, weekly newspaper for Schuyler County, including the Host Municipality; and

- The Schuyler County Hi-Lites, a free, weekly advertising paper for Schuyler County.

In addition to the newspaper notices, the stakeholder list has been notified via email or mail (depending on their stated preference) of the PSS Filing. The Applicant has provided an updated stakeholder list with this filing (see Appendix D), which includes host and adjacent landowners (adjacent landowners are those landowners within 2,500 feet of the Project Area property boundaries) and other parties identified through the Applicant's outreach efforts, as well as proof that a mailing and newspaper publication has occurred. Copies of the PSS are also available at the following local repositories:

- Town of Dix Town Hall, 304 7th Street, Watkins Glen, NY 14891; and
- Watkins Glen Public Library 610 S. Decatur Street, Watkins Glen, NY 14891.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 2 of the Application (not to exceed 15 pages in accordance with §1001.2):

(a) A brief description of the major components of the proposed Project, including the commercial-scale solar arrays, access roads, electric collection lines, collection substation, and POI switchyard. The Application will provide any Project component dimensions given in meters by the equivalent value in feet.

(1) In the description of the solar array the Applicant will provide the manufacturer's specification sheets and will indicate whether the panels will be solar tracking, as applicable. To the extent the proposed panel has been selected the information will be provided in the Application. If the precise panel has not been selected, typical information for the proposed panel will be presented.

(b) A brief summary of the contents of the Application, except those Exhibits which do not apply to the proposed Project.

(c) A brief description of the PIP Plan conducted by the Applicant prior to submission of the Application and an identification of significant issues raised by the public and affected agencies during such program and the response of the Applicant to those issues including a summary of changes made to the proposal as a result of the implementation of the PIP Plan (i.e. resulting from outreach efforts). Additionally:

(1) Specific components of the PIP conducted to date and the topics addressed will be discussed, including: opportunities for public involvement; development and use of stakeholder list (including host and adjacent landowners); identification of any environmental justice areas; the use of document repositories; consultation with affected agencies and stakeholders, factsheets on the Article 10 process and intervenor funding and other outreach materials; use of meeting logs; and the establishment of a Project website (www.watkinsglensolarenergycenter.com), and local telephone number. Paper copies of major Project documents, except those subject to protective order, will be sent to the designated local repositories. The Project is not currently planned to have a local office.

(2) The description shall include public involvement activities regarding the filing of the Project Application. Notice of the Application submittal will be mailed in accordance with 16 NYCRR § 1000.5 (c). In addition, notice will be mailed to a Project mailing list consisting of the updated stakeholders list, including host and adjacent landowners, and additional addresses received through public outreach. The notice will include information on the Project generally and the Article 10 Application specifically. A copy of the mailing list and documentation indicating the dates and mailings that were made will be provided to the Secretary. The Application will include the updated stakeholder list.

(3) In addition to newspaper publication as required under 16 NYCRR 1000.7(a) the Applicant will publish notice about the Application in at least one free local community newspaper circulated in the Project and Study Area (as defined in the PSS), if available.

(4) Regarding the open house held on July 23, 1019, additional details will be listed, including when the informational flyers were mailed, when notification was placed

in the newspaper and how many people attended. Information on the types of comments that were received and whether the Applicant took any follow-up actions will be included in the Application. The same information will be provided for the Applicant's second open house.

(5) The Application will provide a summary of questions asked at outreach events and meetings. The Applicant will indicate how it addressed or plans to address the questions. Any further public involvement activities will be included in the Project's PIP meeting log that can be found on the Project website and the DPS DMM website. Further information will be provided in the Application.

(d) A brief description of the PIP Plan to be conducted by the Applicant after submission of the Application.

(e) A brief, clearly and concisely written analysis in plain language that presents the relevant and material facts regarding the proposed Project which the Applicant believes the Siting Board should use as the basis for its decision. The analysis shall be analytical and not encyclopedic and shall specifically address each required finding, determination and consideration the Siting Board must make or consider in its decision pursuant to Section 168 of the PSL, and explain why the Applicant believes the requested Certificate should be granted.

(f) Paper copies of major Project documents, except those subject to protective order, will be sent to the designated local repositories.

3.03 Location of Facilities (Exhibit 3)

Figure 1 shows the general region in which the Project is located. Figure 2 shows the boundary of the area in which Project facilities are currently proposed (Project Area) and the corresponding Study Area that encompasses 2 miles adjacent to the Project Area. The Application will include detailed topographic mapping based on a 2016 (or most recent) version of the United States Geologic Survey (USGS) 1:24,000 edition Beaver Dams topographic quadrangle, which will include contours, roads, railways, utility corridors, streams, waterbodies, and other features of interest. The scale of the figures will allow for detailed location information, indication of local roads, and clear identification of Project facility components.

The proposed locations of Project facilities will be identified on topographic base maps (USGS), as well as aerial photos (Environmental Systems Research Institute (Esri), to provide a clear understanding of the Project layout in relation to existing resources and features. Municipal boundaries (county, city, town, and village) will be obtained from the New York State Geographic Information Systems (NYS GIS) Clearinghouse and Esri and provided on appropriate mapping. Base map sources, formats, layout sizes and scales for the Application will be identified. In addition, the Applicant will provide GIS shapefiles of project locational information to the DPS staff as part of the Application.

A written Project description, accompanied by representative mapping, will identify and describe the locations of Project components based upon reasonably available information, including:

- Commercial-scale solar arrays,
- Inverters,
- Access roads,
- Fencing,
- Collection lines (mostly buried and possibly some overhead),
- Laydown/staging areas,
- Collection substation, and
- POI facilities.

The Project does not include any ancillary features located outside the Project Area.

The Project, including all related facilities, will be sited on privately owned land within the Project Area obtained through a lease agreement with the landowner.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 3 of the Application in accordance with §1001.3:

(a) The most recent USGS maps (1:24,000 topographic edition) reproduced at original scale showing:

(1) The proposed location of the major electric generating facility (i.e., Project) and locations of all Project components including commercial scale solar arrays, access roads, collection lines, on site laydown/staging areas, collection substation, and POI switchyard and interconnection. Mapping will include the locations of roads, substations, and similar facilities, as applicable. There is no Operation & Maintenance (O&M) building included as part of the Project. List of proposed locations to be indicated on maps will include perimeter fencing (around solar panel arrays, substation, switchyard); employee operational parking; and locations of proposed landscape berms, fences, and other features, as applicable. The Applicant will specify the location of the collection substation and POI switchyard and will provide a map detailing the location of access roads from public roadways to be utilized for construction and operation of these facilities.

(2) The proposed location of any interconnections, water supply lines, communications lines, stormwater drainage lines, and appurtenances thereto, to be installed in New York State connecting to and servicing the site of the Project that are not subject to the Commission's jurisdiction under PSL Article VII.

(3) The location of all proposed ancillary features not located in the Project Area, if applicable, such as roads, railroads, switchyards, fuel or energy storage or regulation facilities, solid waste disposal areas, waste treatment and disposal facilities, and similar facilities, that are not subject to the Siting Board's jurisdiction under PSL Article 10. At this time, no such facilities are proposed.

(4) There are no proposed electric transmission line or fuel gas transmission line interconnections that are subject to review under Article VII of the PSL proposed as part of the Project; therefore, this information is not required to be included as part of the Application.

(5) The Study Area for the Project generally related to the nature of the technology and the setting of the proposed Project Area. Based on the scale of the Project and the Project setting, the Application will include the evaluation of a two-mile Study Area from all Project Area property boundaries unless stated otherwise in the Application for resource-specific surveys. The proposed Project is not located in areas of significant resource concerns that would justify expanding the Study Area.

(b) Maps clearly showing the location of the proposed Project Area. Mapping will also show the interconnections, including electric collection lines, collection substation, and the POI switchyard in relation to municipal boundaries, taxing jurisdictions, designated neighborhoods or community districts, at a scale sufficient to determine and demonstrate relation of facilities to those geographic and political features.

(c) Written descriptions explaining the relation of the location of the proposed Project Area, the interconnections, including electric collection lines, collection substation, and POI switchyard in relation to affected municipalities, taxing jurisdictions, designated neighborhoods or community districts.

3.04 Existing Land Use and Project Planning (Exhibit 4)

A map of the existing land uses for the Project Area has been prepared (see Figure 4) using publicly available data from the Schuyler County Planning Department and the classification codes of the New York State Office of Real Property Services (NYSORPS). The following classifications are used to identify the different land use types: Agricultural; Residential; Vacant Land; Commercial; Recreation and Entertainment; Community Services; Industrial; Public Services; and Wild, Forested, or Conservation Lands and Public Parks. For the Application, the land use will be further described and mapped based on site-specific investigations and documentation. To further define land uses on land classified by the NYSORPS as Vacant Land, the Applicant will inquire about current uses of vacant land through coordination with the participating landowner. A map of the existing vegetated cover showing crop lands, forested lands, and other cover types is helpful in providing land use context as well (see Figure 5).

The Project Area is located in Schuyler County Agricultural District 2. Existing agricultural uses within the Project Area consist of a mix of pasture, hay fields, and cultivated crops (primarily consisting of corn and soy beans). A review of the Natural Resources Conservation Service (NRCS) Web Soil Survey mapping indicates that of the 14 soil units mapped within the Project Area, 1 is designated as *Prime Farmland If Drained*, 8 are designated as *Farmland of Statewide Importance*, 1 is designated as *All Areas Are Prime Farmland* and the remaining units are designated as *Not Prime Farmland*. Mapping of these NRCS farmland designations will be included in Exhibit 21 Geology, Seismology and Soils of the Application.

The Application will include mapping of the Project Area with the various farmland classifications listed above and of mapped Agricultural Districts (see Figure 6) within the Project Study Area. The Application will also include a discussion describing how the siting, construction, and operation of the Project will avoid or otherwise minimize impacts, to the maximum extent practicable, to Prime Farmland, including a description of the proposed methods for soil stripping, storage and replacement upon the completion of construction, where disturbance to such areas cannot be avoided.

In addition to land use and agricultural maps, mapping of existing transmission facilities (e.g., electric, gas, or telecommunications) within the Study Area, based upon publicly available

information, consultations with the Host Municipality, local utilities, and DPS staff will be provided in the Application.

Maps showing special designation areas such as mapped flood prone zones (see Figure 7), critical environmental areas and recreational/sensitive areas will be prepared using up-to-date databases, such as the NYS GIS Clearinghouse and agency sources, and included in the Application. The Application will also include reference information for each source.

Parcels where Project components will be located, and those properties adjoining them, will be mapped to detail current land use, tax parcel number, and record of ownership. Additionally, any publicly known proposed land use plans for any of these parcels, will be mapped using data from the Schuyler County Planning Department.

Mapping of parcels located within the Study Area will be shown on aerial photography in the Application. Aerial photography will also be overlaid with proposed Project facilities, access roads and maintenance roads, and limits of clearing, to show the relationship with existing structures and vegetation cover types. Aerial photography dates and sources will be included in the Application.

A review of the municipalities in which the Project Area is located was conducted to identify those with comprehensive plans. The Town of Dix and Schuyler County both have Comprehensive Plans, which were drafted in 2001 and 2014 (amended 2015), respectively.

As further described in Section 3.31, a qualitative assessment of the Project's compatibility with existing, proposed and allowed land uses, including the Town and County Comprehensive Plans, will be presented in the Application. This assessment will include evaluation of the compatibility of the Project's aboveground structures, as well as any underground interconnections, with surrounding land uses.

The Application will also include a description of the community character in the Study Area, an analysis of impacts from the construction and operation of the Project on that community character, and proposed avoidance or mitigation measures that will minimize potential impacts on community character, should any be identified.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 4 of the Application in accordance with §1001.4:

(a) A scaled map showing Project facilities in relation to existing land uses within the Study Area (area within a two-mile radius from the Project Area boundaries) using publicly available GIS data from Schuyler County. The "Schuyler County Parcel Data" data set, derived from the Property Class attribute, will be utilized to produce the scaled map. The Study Area includes approximately 15,651 acres of land (inclusive of the 774-acre Project Area).

(1) Land use classifications codes of the NYSORPS will be used to inventory existing land uses within the Study Area. For the Application, the land use will be further discussed and mapped based on site-specific investigations and documentation. Land use types will be identified as:

- 100 – Agricultural;
- 200 – Residential;
- 300 – Vacant Land (Vacant Land that is identified for Project facility locations and directly adjacent properties will be further broken down by usage [i.e. timber, pasturing, hunting, etc.] based on input received from the participating landowner);
- 400 – Commercial;
- 500 – Recreation and Entertainment;
- 600 – Community Services;
- 700 – Industrial;
- 800 – Public Services; and
- 900 – Wild, Forested, or Conservation Lands and Public Parks.

(b) In addition to land use maps, communications towers and existing overhead or underground lines for electric, gas or telecommunications companies will be mapped within the Study Area.

(c) A scaled map of all properties upon which any component of the Project or the related facilities would be located, and all properties adjoining such properties that shows the current land use, tax parcel number and owner of record of each property, and any publicly known proposed land use plans for any of these parcels. The land use will be described and mapped based on site-specific investigations and documentation. To further define land uses on land classified by the NYSORPS as Vacant Land within the Project Area, the Applicant will inquire about current land uses of current vacant land through coordination with the participating landowner.

(d) A scaled map of existing and proposed zoning districts within the Study Area will be created by data obtained from local governments including a description of the permitted and prohibited uses within each zone.

(e) A discussion of the Project's consistency with the Town of Dix and Schuyler County Comprehensive Plans dated 2001, and 2014 (amended in 2015), respectively. The Town of Dix's comprehensive plan is posted on the Town's website and the Exhibit will contain the address of the internet site where the plan is posted.

(f) A map of all publicly known proposed land uses within the Study Area, gleaned from interviews with state and local planning officials, from the public involvement process, or from other sources.

(g) Maps showing designated agricultural districts, current agricultural use, flood-prone zones and recreational/sensitive areas. Agricultural districts will be specified, as designated by New York State Department of Agricultural and Markets (NYSDAM) regulations. The Agricultural District discussion in the Application will indicate date of current Agricultural District enrollment and expiration/renewal date pending for each applicable parcel. Additional discussion of agricultural land will be included in Exhibit 22. Flood hazard areas will be specified according to data from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. There are no designated inland waterways, coastal areas, local waterfront revitalization program areas, State Environmental Quality Review Act (SEQRA) designated critical environmental areas, or groundwater management zones within the Study Area of the Project.

(h) Scaled maps showing: (i) recreational and other land uses within the Study Area that might be affected by the sight, sound or odor of the construction or operation of the Facility, interconnections and related facilities, including any wild, scenic and recreational river corridors, open space and any known archaeological, geologic, historical or scenic area, park, designated wilderness, forest preserve lands, scenic vistas, conservation easement lands, scenic byways designated by the federal or state governments, nature preserves, designated trails, and public-access fishing areas; (ii) major communication and utility uses and infrastructure; (iii) institutional, community and municipal uses and facilities; and (iv) a statement, including a summary, describing the nature of the probable environmental impacts and of construction and operation of the Project on such uses, including an identification of how such impacts are avoided or, if unavoidable, minimized or mitigated. Given the provisions of § 304 of the National Historic Preservation Act (NHPA), 9 NYCRR § 427.8, and § 15 of the PSL, information about the location, character, or ownership of a cultural resource shall not be disclosed to the public, and shall only be disclosed to the parties to a proceeding pursuant to an appropriate protective order if a determination is made that disclosure may (1) cause a significant invasion of privacy, (2) risk harm to the affected cultural resource, or (3) impede the use of a traditional religious site by practitioners.

(i) A qualitative assessment of the compatibility of the Project and any interconnection, with existing, proposed and allowed land uses, and local and regional land use plans within a one-mile radius of the Facility site and any interconnection route. The qualitative assessment shall include an evaluation of the short- and long-term effects of facility-generated noise, odor, traffic and visual impacts on the use and enjoyment of areas within one mile of Project facilities. The assessment will specifically address impacts to nearby land uses that may be of particular concern to the community, such as residential areas, schools, civic facilities, recreational facilities, and commercial areas. If any known offsite staging and/or storage areas will be used for Project construction, a qualitative assessment of the compatibility of the proposed offsite staging and/or storage areas with existing, proposed and allowed land-uses will also be provided. Final locations of any offsite staging areas will be confirmed in the Compliance Filing.

(j) A qualitative assessment of the compatibility of proposed aboveground interconnections and related facilities with existing, potential, and proposed land uses within the Study Area.

(k) A qualitative assessment of the compatibility of underground interconnections and related facilities with existing, potential, and proposed land uses within 300 feet from the centerline of such interconnections or related facilities.

(l) The Project is not within a designated coastal area or in direct proximity of a designated inland waterway. Therefore, a demonstration of conformance with the Coastal Zone Management Act (CZMA) is not applicable and will not be included in the Application.

(m) Aerial photographs will reflect the current situation and specify the source and date of the photography. To the extent that any material changes in land use have occurred since those photos were taken, the Applicant shall identify those changes in this Exhibit.

(n) Overlays on aerial photographs which clearly identify the Project Area with all proposed Project facilities, access roads and limits of clearing, in order to show the relationships with existing structures and vegetation cover types.

(o) Aerial photographs of all properties within the Study Area of such scale to provide detail, discrimination and identification of natural and cultural features. All aerial photographs shall indicate the photographer and the date photographs were taken.

(p) A description of community character within the Study Area, an analysis of impacts of Facility construction and operation on community character, and identification of avoidance or mitigation measures that will minimize adverse impacts on community character to the maximum extent practicable. For the purposes of this paragraph, community character includes defining features and interactions of the natural, built and social environment, and how those features are used and appreciated in the community based on the Town of Dix and Schuyler County Comprehensive Plans, and the Schuyler County Farmland and Agricultural Protection Plan, and the Erie Canal National Heritage Corridor, as well as information obtained through PIP Plan activities. PIP Plan activities will continue after submission of the Application.

(q) Photographic representations of the Project Area and the two-mile Study Area, as applicable, for the Project, will be included to depict existing characteristics of the Project and surrounding area setting.

(r) The Erie Canal National Heritage Area Corridor will be addressed in the Application, as applicable, and a map will be included showing the extent of the Erie Canal National Heritage Area Corridor in relation to the Study Area.

(s) Mapping of the Project Area with farmland classifications (e.g., All Areas of Prime Farmland, Prime Farmland if Drained, Farmland of Statewide Importance, etc.). Also, a discussion of how the Project will avoid or minimize, or mitigate, to the maximum extent practicable, impacts to agricultural soils with the "Prime Farmland" classification will be included. An analysis of the Prime Farmland, Prime Farmland if Drained, and Farmland of Statewide Importance to be occupied by solar components and the effects it would have on use of that land for future farming operations will also be included, as applicable.

(t) Identification of farmland classifications located within the Project's proposed limits of disturbance.

(u) The Application will include a map of all publicly known proposed land uses within the Study Area, for which required permit applications have been filed with the appropriate permitting authority, from interviews with state and local planning officials, from the public involvement process, or from other sources. The potential cumulative impact of these identified publicly known proposed land uses within the Study Area along with the Project on farmland will be discussed, as will farmland conversion trends over the past 20 years within the Study Area.

(v) Agricultural impacts will be discussed relative to the goals of the Schuyler County Farmland and Agricultural Protection Plan, the duration of the Project, and agricultural viability in the Project's Study Area.

(w) The Application will include a discussion describing how the Facility layout, and construction and operation of the Project will avoid or otherwise minimize impacts, to the maximum extent practicable, to natural resources and existing land uses, including,

without limitation, to Prime Farmland, including a discussion as to why it was not possible to avoid the Prime Farmland designated areas, a description of the proposed methods for soil stripping, storage and replacement upon the completion of construction, where disturbance to such areas cannot be avoided, as applicable.

3.05 Electric Systems Effects (Exhibit 5)

A System Reliability Impact Study (SRIS) has been prepared for the Watkins Glen Solar Energy Center by the New York Independent System Operator (NYISO). The SRIS evaluates a number of power flow base cases, as provided by the NYISO, including expected flows on the system under normal, peak, and emergency conditions to evaluate the effects on stability of the interconnection. Additionally, technical analyses of thermal, voltage, short circuit, and stability are being performed to evaluate the impact of interconnection. The SRIS will be included with the Article 10 Application but will be filed separately with a request for confidentiality as it contains Critical Energy Infrastructure Information and in accordance with NYISO requirements.

The Application will describe the impact of the proposed Facility on transmission system reliability in the State in greater detail.

Applicable Engineering Codes and Standards, Guidelines, and Practices

The Facility and interconnection will be designed in accordance with applicable standards, codes, and guidelines. Such standards may include but are not limited to:

- RUS Bulletin 1724E-200,
- American National Standards Institute (ANSI),
- American Society of Civil Engineers (ASCE),
- American Society for Testing and Materials (ASTM),
- Building Code of New York,
- Institute of Electrical and Electronic Engineers (IEEE),
- National Electric Code (NEC),
- North American Electric Reliability Council (NERC),
- National Electrical Safety Code (NESC),
- National Fire Protection Association (NFPA),
- Northeast Power Coordinating Council, Inc. (NPCC),
- New York State Reliability Council (NYSRC),
- Occupational Safety and Health Administrator (OSHA), and
- Underwriters Laboratories (UL).

The Application will describe which codes and standards are applicable to the Project, including interconnection components. The Applicant will also provide a description of the criteria, plans, and protocols for Facility design, construction, commissioning, and operation.

Maintenance, Management, and Procedures

Project commissioning will occur once the solar arrays and Project interconnections are fully constructed and the NYISO is ready to accept transmission of power to the New York grid. The commissioning activities are comprised of testing and inspecting the electrical, mechanical, and communications systems associated with the Project.

Operation and Maintenance (O&M) of the Facility will follow industry standard practices. The Project will have an on-call local technician who can respond quickly if required. If an event outside the normal operating range of the Facility occurs, the equipment will immediately and automatically shut down. A report will then be generated and received by the Applicant's Renewables Operations & Control Center (ROCC)/Fleet Performance and Diagnostic Center (FPDC) which is responsible for the Project critical controls, responding to alarms, and other functions for the safe and reliable operation of the Project. The responsibilities of the ROCC/FPDC are described further below. The Project's O&M procedures will include facility maintenance and management plans, procedures and criteria addressing vegetation management, and facility inspection and maintenance. The Facility's preliminary O&M procedures will be submitted with the Application.

Watkins Glen Solar Energy Center O&M procedures will include monitoring of solar components and ancillary structures, environmental monitoring, quality control and assurance, technical training and inspection of access/service road conditions. In addition to routine maintenance activities, additional tasks and/or unscheduled maintenance associated with solar arrays, electrical components, access/service roads, ancillary structures, the collection substation, and the Project interconnection facilities will be completed as needed.

O&M personnel will complete routine inspections of the solar arrays, access roads, revegetated areas, collection lines and the collection substation to document facility conditions, certificate conditions compliance, and identify any potential maintenance or improvement actions that may be needed. As previously mentioned, the interconnection facilities will include a 115-kV

switchyard that will be transferred to NYSEG to own and operate. During the Applicant's inspections, environmental conditions throughout the Project Area will also be observed and recorded for evaluation of the effectiveness of restoration activities until site restoration has been completed. The Applicant will also perform periodic environmental audits to ensure compliance with all regulatory and permit conditions, generally every three years. Any findings are immediately resolved by on-site staff and any positive operating procedures are also recorded and disseminated to other operating solar facilities.

In addition to inspections, an O&M schedule will be developed for inspections of all solar arrays. As part of these routine activities, the solar array components will be inspected and the results recorded. All other existing solar structures and ancillary structures will also be inspected along with revegetated areas.

Specific schedules and frequency of routine O&M activities, facility inspections and anticipated preventative maintenance and/or additional periodic activities required for the safe, reliable and efficient operation of the Project are being developed. Plans, specifications, maintenance recommendations, performance curves, and any other manuals or documentation available for the selected solar arrays will be obtained from the manufacturer and maintained by O&M personnel for reference and troubleshooting.

In addition to on-site O&M, as described above, Watkins Glen Solar Energy Center will use a continuous (24-hours-a-day, seven-days-a-week) ROCC/FPDC that will be responsible for:

- Monitoring the solar facility;
- Deploying technicians based on projected environmental conditions to optimize the Project; and
- Coordination with a local system operator, as required.

The ROCC/FPDC also provides performance and reliability optimization through remote solar array operation and fault reset capability, the use of advanced real-time equipment performance statistical modeling for advanced diagnostics, benchmarking among similar components and replication of best practices across the fleet. The ROCC/FPDC is supported by technical subject matter experts in the equipment and technology.

It is anticipated that all collection systems will be buried underground. In the event that overhead collection lines are required, vegetation control will be conducted in accordance with best management practices (BMPs), consistent with those adopted in past cases by the Siting Board and/or the Public Service Commission (PSC), to provide safe operation and prevent damage to the line. The Application will provide the vegetation clearance requirements for the collection lines and the Project's Vegetation Management Plan will be submitted with the Application. This plan will describe the vegetation management practices for the array locations, collection lines, and the collection substation, including inspection and treatment schedules, and environmental controls to avoid off-site effects.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 5 of the Application in accordance with §1001.5:

(a) An SRIS, performed in accordance with the open access transmission tariff of the NYISO approved by the Federal Energy Regulatory Commission (FERC), that shows expected flows on the system under normal, peak and emergency conditions and effects on stability of the interconnected system, including the necessary technical analyses (Thermal, Voltage, Short Circuit and Stability) to evaluate the impact of the interconnection. The study shall include proposed collection substation and interconnection facilities, as well as any other system upgrades required.

(b) An evaluation of the potential significant impacts of the Project and its interconnection to transmission system reliability at a level of detail that reflects the magnitude of the impacts.

(c) A discussion of the benefits and detriments of the Project on ancillary services and the electric transmission system, including impacts associated with reinforcements and new construction necessary as a result of the Facility.

(d) An analysis of any reasonable alternatives that would mitigate adverse reliability impacts and maintain voltage, stability, thermal limitations, and short circuit capability at adequate levels.

(e) An estimate of the increase or decrease in the total transfer capacity across each affected interface, and if a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, an evaluation of reasonable corrective measures that could be employed to mitigate or eliminate said reduction.

(f) A description of criteria, plans, and protocols for generation and ancillary facilities design, construction, commissioning, and operation, including as appropriate to generation technology:

(1) Engineering codes, standards, guidelines and practices that apply;
(2) Generation facility type certification;
(3) Procedures and controls for facility inspection, testing and commissioning;
(4) Maintenance and management plans, procedures and criteria, including information on maintaining/mowing grasses under and between the panels and invasive species control measures. See Exhibits 15 and 22 for discussions on herbicide use.

(g) The Project will not have a thermal component, and therefore, heat balance diagrams are not applicable and will not be included in the Application.

(h) As part of the Project, the POI switchyard will be transferred to NYSEG to own, maintain and operate. Therefore, the Application will include:

(1) A statement concerning POI switchyard ownership. At this time, the Applicant anticipates the POI switchyard will be transferred to NYSEG to own, maintain, and operate. NYSEG, the transmission owner, will control the operational and maintenance responsibilities of the POI switchyard;
(2) A statement that the substation-interconnection design will meet the transmission owner's requirements;
(3) A statement that the operational and maintenance responsibilities for the POI switchyard will be performed by NYSEG.

(i) Facility maintenance and management plans, procedures and criteria, specifically addressing the following topics:

(1) Solar photovoltaic panel maintenance, safety inspections, and racking and mounting post integrity;

(2) The proposed collection substation, line inspections, maintenance, and repairs, including:

(i) vegetation clearance requirements;
(ii) vegetation management plans and procedures;
(iii) inspection and maintenance schedules;
(iv) notification and public relations for work in public right-of-way (ROW); and
(v) minimization of interference with electric and communications distribution systems.

(j) Vegetation management practices for the Project facilities, including collection lines and the collection substation, will be included in the Application, including management practices for danger trees (i.e., trees that, due to location and condition, are a particular threat to fall on and damage electrical equipment) around the collection substation, specifications for clearances, inspection and treatment schedules, and environmental controls to avoid off-site effects.

(k) A list of the criteria and procedures by which proposals for sharing above ground facilities with other utilities will be reviewed, if applicable.

(l) A status report on equipment availability and expected delivery dates for major components including solar arrays, collection lines, collection substation, transformers, and related major equipment.

(m) Solar energy generation facilities do not have blackstart capabilities.

(n) An identification and demonstration of the degree of compliance with all relevant applicable reliability criteria of the Northeast Power Coordinating Council Inc., New York State Reliability Council, and the local interconnecting transmission utility. These

appropriate criteria will be identified in the SRIS or through consultation with DPS, NYISO, and the local transmission owner.

(o) A log form indicating the proposed maintenance and inspection schedule for the proposed collection substation will be included in the Application to the extent available at the time the Application is filed.

3.06 Wind Power Facilities (Exhibit 6)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there are no wind power facilities included in the proposed Project.

3.07 Natural Gas Power Facilities (Exhibit 7)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there are no natural gas power facilities included in the proposed Project.

3.08 Electric System Production Modeling (Exhibit 8)

The analyses presented in this Exhibit of the Application will be developed using computer-based modeling tools (GEMAPS, PROMOD or similar). Watkins Glen Solar Energy Center will consult with DPS Staff and the New York State Department of Environmental Conservation (NYSDEC) to develop acceptable input data for the simulation analyses. This data includes modeling for the proposed Watkins Glen Solar Energy Center's output that will be used in calculating the projected emissions predicted to be displaced by the Project from other operating power generation facilities.

The Application will expand upon the fact that solar arrays generate electricity without combusting fuel or releasing pollutants into the atmosphere and estimate the levels of sulfur dioxide (SO_2), nitrogen oxides (NOx), and carbon dioxide (CO_2) emissions in the region with and without the proposed Facility.

In addition to calculations of approximated regional air emission levels with and without the proposed Facility, the Application will estimate the annual prices representative of NYISO Zones within the Control Area of New York State with and without the proposed Facility.

Additionally, the Application will provide the estimated capacity factor for the proposed Facility, the estimated monthly, on peak, shoulder, and off-peak MW output capability factors, and the estimated average annual and monthly production output for the Facility in megawatt-hours (MWh) for the proposed Facility. An estimated production curve and estimated production duration curve over an average year will be estimated and the effects of this Facility will be estimated for the energy dispatch of existing resources and co-generation facilities.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 8 of the Application in accordance with §1001.8:

(a) The following analyses will be developed using GEMAPS, PROMOD or a similar computer-based modeling tool:

(1) Estimated statewide and regional levels of SO_2, NO_x and CO_2 emissions, both with and without the proposed Project.

(2) Estimated minimum, maximum, and average annual spot prices representative of all NYISO Zones within the New York Control Area, both with and without the proposed Project.

(3) An estimated capacity factor for the Project.

(4) Estimated annual and monthly, on-peak, shoulder and off-peak MW output capability factors for the Project.

(5) Estimated average annual and monthly production output for the Project in MWhs.

(6) An estimated production curve for the Project over an average year.

(7) An estimated production duration curve for the Project over an average year.

(8) Estimated effects of the proposed Project on the energy dispatch of existing must-run resources, defined for this purpose as existing wind, hydroelectric and nuclear facilities, as well as co-generation facilities to the extent they are obligated to output their available energy because of their steam hosts.

(b) The Application will include digital copies of the inputs used in the simulations required in subdivision (a) of this Exhibit. The Applicant will seek the requisite protections for confidential information provided in this Exhibit as necessary.

3.09 Applicable, Reasonable and Available Alternatives (Exhibit 9)

Watkins Glen Solar Energy Center will design the Project to maximize solar output and to efficiently interconnect to the existing power transmission system in Schuyler County, New York. The Project Area's key features, including existing open space, availability of land for lease, and proximity to existing electric transmission infrastructure with capacity available to deliver energy generated from the Project, positions it to best assist New York State in addressing its SEP, CES, the Climate Leadership and Community Protection Act and other policies directed at meeting climate change goals and advancing the integration of renewable energy. Watkins Glen Solar Energy Center, in accordance with 16 NYCRR § 1001.9, will include an identification, if any, of applicable, reasonable, and available alternative location sites for the proposed Project. The alternatives analysis will be limited to property under the Applicant's control (i.e., option, lease or ownership) in accordance with 16 NYCRR § 1001.9(a).

The Project has executed a contract with NYSERDA to sell RECs generated by a 50-MW solar facility at the proposed Site. Therefore, the objective of the Project is to construct a solar energy generating facility that can produce 50 MW of renewable energy at the proposed Site.

The location selected for the Project Area is a suitable area in New York for commercial-scale solar energy production. Preliminary selection of solar energy center locations is driven by many essential operational factors, both technical and economical. Watkins Glen Solar Energy Center selected the proposed Project Area based on availability of the solar resource, available land from a willing landowner, the relative ease of accessing the Project Area (thus limiting unnecessary impacts), the relative ease of connecting to the existing electric transmission grid, and sufficient available capacity on the grid. Additional factors are compatible land use, topography, and avoidance of areas considered of high statewide significance or environmental sensitivity.

In addition, Project layouts are currently being evaluated by the Applicant and will continue to be refined throughout the Article 10 process with input from Project stakeholders and based upon the results of key resource studies and environmental impacts assessments. A proposed Project layout will be presented in the Application along with a discussion of reasonable alternative layouts considered. The Application will include discussions of the following other reasonable, and available alternatives, as applicable:

- General arrangement and design,
- Other solar technology,
- Scale or magnitude, and
- No Build Alternative.

Alternative generating technologies such as wind and natural gas, or other sources such as transmission or demand reducing alternatives, are not reasonable due to the award of the REC contract by NYSERDA to the Applicant for the construction and operation of a 50-MW solar facility at the proposed Site.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 9 of the Application in accordance with §1001.9:

(a) Given that the Applicant proposes to operate a private facility, the identification and description of applicable, reasonable and available alternative location sites for the proposed Project, if any, will be limited to sites under option to the Applicant for the solar energy Project, as authorized by 16 NYCRR § 1001.9(a).

(b) For each applicable, reasonable, and available alternative location identified, if any, the Applicant will provide an evaluation of the comparative advantages and disadvantages of the proposed and alternative locations at a level of detail sufficient to permit a comparative assessment of the alternatives discussed considering:

1) The environmental setting;
2) The recreational, cultural and other concurrent uses that the site may serve;
3) Engineering feasibility and interconnections;
4) Reliability and electric system effects;
5) Environmental impacts, including an assessment of climate change impacts (whether proposed energy use contributes to global temperature increase);
6) Economic considerations;
7) Environmental justice considerations;
8) Security, public safety and emergency planning considerations;
9) Public health considerations;

10) The site's vulnerability to potential seismic disturbances and current and anticipated climate change impacts, such as sea-level rise, precipitation changes, and extreme weather events; and
11) The objectives and capabilities of the Applicant.
12) Agricultural use of land.

(c) A description and evaluation of reasonable alternatives to the proposed Facility at the primary proposed location including applicable, reasonable, and available alternatives regarding:

1) General arrangement and design;
    i. consideration of arrangements/design options that would enable some continued agricultural use of the Project Area;
    ii. consideration of alternative sites, designs or arrangements that would avoid or minimize impacts to wildlife and wildlife habitat, to the maximum extent practicable, including but not limited to habitat fragmentation, disturbance and loss, and the displacement of wildlife from preferred habitat;
    iii. arrangements that would avoid or minimize impacts to waterbodies, wetlands, and streams, to the maximum extent practicable;
    iv. arrangement of inverters away from site property lines;
    v. consideration of alternative perimeter fencing designs that would minimize contrasts with adjacent land uses and visual character;

2) Technology;
3) Scale or magnitude;
4) As the Project does not involve wind power facilities, alternative turbine layouts are not applicable to the Project.
5) Timing of the proposed in-service date for the Project in relation to other planned additions, withdrawals, or other capacity, transmission or demand reduction changes to the electric system.

(d) A statement of the reasons why the proposed Project location is best suited, among other applicable, reasonable, and available alternative locations, if any, and measures

to be submitted as part of the Application, to promote public health and welfare, including recreational, cultural and other concurrent uses which the site and affected areas may serve.

(e) A statement of the advantages and disadvantages of the applicable, reasonable, and available alternatives and the reasons why the primary proposed design technology, scale or magnitude, and timing are best suited, among the applicable, reasonable, and available alternatives, to promote public health and welfare, including recreational, cultural and other concurrent uses that the site may serve.

(f) A description and evaluation of the no action/no build alternative at the proposed Project location, including the reason why the proposed Project is better suited to promote public health and welfare, including recreational, cultural and other concurrent uses that the site may serve.

(g) An identification and description of reasonable alternate energy supplies will be limited to those that are feasible based on the objectives and capabilities of the Applicant (i.e., solar powered electric generation). Accordingly, other fuel sources will not be addressed in the Application.

(h) Due to the private nature of the Facility, and the objectives and capabilities of the Applicant, (i.e., solar powered electric generation), transmission and demand-reducing alternatives will not be evaluated in the Application.

(i) A statement of the reasons why the proposed Project is best suited, among the applicable, reasonable and available alternatives to promote public health and welfare, including the recreational, cultural, and other concurrent uses which the site and affected areas may serve.

(j) A discussion of potential impacts to vegetation associated with alternative arrangements considered, and information regarding why proposed alternative arrangements were not selected. Vegetation to include, but not necessarily limited to, trees (saplings to mature), food and livestock feed producing crops, graze lands, and soil erosion prevention cover, as applicable.

3.10 Consistency with State Energy Planning Objectives (Exhibit 10)

New York Energy Law § 6-104 requires the State Energy Planning Board to adopt an SEP. The latest iteration of the New York SEP was announced on June 25, 2015. The 2015 SEP contains a series of policy objectives and coordinates with New York's Reforming Energy Vision (REV) initiative and its objectives to significantly reduce greenhouse gas emissions while stabilizing energy costs. As stated by the PSC in its 2015 REV Order, "A significant increase in the penetration of renewable resources is essential to meeting our objectives, state goals and proposed federal requirements."

REV, as a core initiative of the SEP, is guided by a set of five Guiding Principles, each of which is supported by the Watkins Glen Solar Energy Center:

1. ***Market Transformation***: With each new large renewable energy project, the local and regional supply chain is strengthened and expanded. The Project will help stimulate the local economy through direct and indirect spending and the demand for trained solar technicians.
2. ***Community Engagement:*** Watkins Glen Solar Energy Center has been, and will continue to be, fully engaged with local and state stakeholders (as described in the PIP Plan).
3. ***Private Sector Investment:*** The Applicant is making a considerable capital investment to develop the Project.
4. ***Innovation and Technology:*** The Project will utilize state-of-the-art solar photovoltaic technology that has been developed to increase efficiency.
5. ***Customer Value and Choice:*** By increasing the amount of solar generated power available, the Project will allow customers greater choices in the types of electricity and the pricing they choose to utilize (NYSEPB, 2015).

The SEP builds on the principles above with additional initiatives, goals, and targets. By adding 50 MW of clean, renewable solar power into the New York State energy market, the Project is consistent with the SEP and the CES adopted by the PSC pursuant to the SEP.

As noted above, the CES was adopted pursuant to and is consistent with the goals and objectives of the current SEP. As part of the implementation of the CES, NYSERDA conducts competitive solicitations for renewable projects. This Project has executed a contract with NYSERDA for the

purchase of its RECs in a recent solicitation. Accordingly, the construction and operation of the Project is consistent with the Commission's CES and the SEP.

Importantly, the Climate Leadership and Community Protection Act was recently enacted in New York State. For the electric generation sector, it codified Governor Cuomo's goal of 70% of the electricity consumed in the State must be from carbon-free generating sources by 2030 and 100% by 2040. The Project squarely promotes achieving these requirements.

The Project will also increase fuel diversity within New York State by increasing the amount of electricity produced by solar generation facilities. The New York electric utility system relies on supply from numerous fuel sources, including natural gas, hydroelectric, nuclear, wind, solar, oil, and coal, as well as interconnections with neighboring states and demand-response resources. The Project is consistent with the SEP and other associated State policies, which are designed to encourage the development of renewable energy projects and contribute to the transition of New York's energy markets. Immediate benefits from the Project would include economic development, jobs for the community, greater stability in consumer energy bills and, cleaner air, all consistent with the SEP.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 10 of the Application in accordance with §1001.10:

(a) A statement demonstrating the degree of consistency of the construction and operation of the Project with the energy policies and long-range energy planning objectives and strategies contained in the most recent state energy plan, and any publicly available draft new state energy plan including consideration of the information required by subdivisions (b) through (i) of §1001.10.

(b) A description of the impact the proposed Project would have on reliability in the state based upon the results of the SRIS; provided, however, this description may be submitted when the SRIS (being prepared as part of the Exhibit 5) is submitted.

(c) A description of the impact the proposed Project would have on fuel diversity in the State.

(d) A description of the impact the proposed Project would have on regional requirements for capacity.

(e) A description of the impact the proposed Project would have on electric transmission constraints.

(f) The proposed Project will generate electricity without the use of fuel. Therefore, there will be no adverse fuel delivery impacts and this topic will not be addressed in the Application.

(g) A description of the impact the proposed Project would have in relation to any other energy policy or long-range energy planning objective or strategy contained in the most recent State Energy Plan.

(h) An analysis of the comparative advantages and disadvantages of applicable, reasonable and available alternative locations or properties identified, if any, of which analysis will be limited to sites under option to the Applicant for the solar energy Project, as authorized by 16 NYCRR § 1001.9(a).

(i) A statement of the reasons why the proposed Project location and source is best suited, among the applicable, reasonable, and available alternatives identified, if any, to promote public health and welfare, including minimizing the public health and environmental impacts related to climate change.

3.11 Preliminary Design Drawings (Exhibit 11)

Drawings developed in support of the Application will be prepared using computer software, such as AutoCAD or MicroStation, under the direction of a professional engineer, landscape architect, or architect who is licensed and registered in the State of New York and whose name will be clearly printed on the drawings. These drawings will be labeled "preliminary" and/or "not for construction purposes." The Project will use common engineering scales for plotting full-size drawings, as required, and the corresponding common engineering scales for half-size sets. Watkins Glen Solar Energy Center will provide DPS with the appropriately sized copies, in accordance with the Article 10 regulations, as well as AutoCAD files of the engineering drawings.

As part of the Application, the Applicant will prepare a site plan, construction operations plan, grading and erosion control plans, a landscaping plan, and a lighting plan as specified in § 1001.11. The Application will include typical design details of underground facilities and overhead facilities, as applicable. The Project will also obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002; or SPDES General Permit in effect at the time of construction) and will comply with all requirements therein.

Lighting will only be required at the proposed collection substation and interconnection facilities; no lighting will be proposed throughout the solar arrays. A lighting plan for these facilities will detail any Project-safety lighting, as well as the type, location, and height of proposed exterior lighting fixtures, and an indication of the measures to be taken to prevent unnecessary light trespass beyond the Project Area boundaries. The Application will also include manufacturer cut sheets of proposed light fixtures. The numbers and intensity of lighting will be kept to the minimum level necessary for worker safety and measures, such as down-shielding of fixtures to focus the lighting on work areas, will be used to minimize unnecessary light impacts beyond the immediate work area and Project Area. Manually activated lighting will also be used during maintenance activities.

The Application will also include a detailed list of engineering codes, standards, guidelines, and practices that Watkins Glen Solar Energy Center intends to conform to during the planning, designing, construction, and operation of the Project. The following is provided as a representative list of applicable codes and standards, which will be updated as needed in support of the Application:

- ANSI
- IEEE
- Insulated Cable Engineers Association (ICEA)
- American Society of Mechanical Engineers (ASME)
- NEC
- NESC
- National Electric Manufacturers Association (NEMA)
- NFPA
- Uniform Building Code (UBC)
- Underwriters Laboratories (UL)
- American Iron and Steel Institute
- American Institute of Steel Construction
- International Building Code (IBC) 2006
- AASHTO Standard for Aggregates
- ASCE 7-10 Minimum Design Loads for Buildings and Other Structures
- Federal OSHA 1910.269 Training
- American Concrete Institute (ACI)
- Building Code of New York State

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 11 of the Application in accordance with §1001.11:

(a) A site plan showing all structures, driveways, parking areas, emergency access lanes, access ways and other improvements at the Project Area, depicting the proposed site in relation to adjoining properties, and depicting the layout of onsite facilities and ancillary features, as applicable. Additional drawings shall be included depicting the layout of all offsite facilities and ancillary features, if applicable. There are currently no buildings, offsite facilities, or sidewalks proposed. Four full size copies of the preliminary design drawing set (utilizing a common engineering scale) will be provided to DPS at the time of Application submittal, as applicable. Additionally, the Applicant will provide a Flash Drive Memory Stick containing AutoCAD drawing files, as applicable. The

following specific features will be included on the Project Site plans and will be submitted with the Application:

(1) Proposed solar panels and associated mounting features (any concrete pads, foundations, etc.) and inverters and any meteorological stations;
(2) Access road travel lanes;
(3) Proposed grading (temporary grading for construction purposes and permanent contours for final grading);
(4) Electric collection lines and number of circuits per proposed electric cable route; overhead and underground cable routes will be differentiated with specific line-types;
(5) Approximate limits of disturbance for all Facility components (panels, access roads, buildings, electric lines, substations, etc.);
(6) Clearing limits for all Project components (panels, substation, POI, access roads, buildings, electric lines, etc.);
(7) Indication of off-site permanent ROW and road crossings for all electric cable installations;
(8) Outline of collection and interconnection switchyard/substations, including access driveway, setbacks and fence line;
(9) Proposed locations of electric cable installations for crossing of streams, waterbodies, roads, etc. and, where proposed, any proposed locations of such crossings that will utilize trenchless methods of installation, including the approximate laydown area (outline of approximate work space needed) and approximate trenchless installation distances;
(10) Laydown, staging, and equipment storage areas including designated parking areas;
(11) O&M facilities (if applicable) including access, parking areas, site maintenance shops or equipment storage areas, and the location of any proposed water supply and septic system(s);
(12) Fencing and gates, including clearing associated with fencing;
(13) Property lines and zoning setbacks;
(14) Existing utility equipment locations and easement limits of those existing locations, including electric transmission and distribution lines, cable and telecommunication lines, and other features as applicable;

(15) Site security features, including perimeter fencing.

(b) A construction operations plan indicating all on-site materials lay-down areas, construction preparation areas, major excavation and soil storage areas, as applicable, and construction equipment and worker parking areas.

(c) Grading and erosion control plans indicating soil types, depth to bedrock, general areas of cut and fill, retaining walls, initial and proposed contours, and permanent stormwater retention areas, as applicable (will address both construction-phase and permanent installations).

(d) A landscaping plan indicating areas of trees to be retained, removed, or restored; berms, walls, fences and other landscaping improvements, and areas for snow removal storage.

(e) A lighting plan detailing the type, number and location of exterior lighting fixtures and indicating measures to be taken to prevent unnecessary light trespass beyond the Project property line.

(f) Architectural drawings, as applicable, including structure arrangements and exterior elevations for all structures (including collection substation and POI switchyard and interconnection equipment, and site security features, such as CCTV or other monitoring equipment support structures, as well as any O&M or other operational support buildings and structures, including retaining walls, and fences , indicating the length, width, height, material of construction, color, and finish of all buildings, structures, and fixed equipment and the type(s) of site perimeter fencing to be installed extensively around the Facility.

(g) Typical design detail drawings of all underground facilities indicating proposed depth and level of cover, and all overhead facilities indicating height above grade, including descriptions and specifications of all major components.

(1) Plan and sections for all proposed layout schemes concerning underground collection line installations, as applicable, including:

i. Single and multiple-circuit layouts;

ii. Co-located installations with dimensions of proposed depth and level of cover;
iii. Separation requirements between circuits;
iv. Clearing width limits for construction; and
v. Operation of the facility, limits of disturbance, and required permanent ROW.

(2) If overhead collection lines are deemed necessary, the following applicable information will be included on site plan drawings submitted with the Application:
i. Elevation plans for overhead facilities (collection and transmission lines) including height above grade, structure layouts, clearing width limits for construction and operation of the facility, and permanent ROW widths;
ii. Average span lengths for each proposed layout; and
iii. Structure separation requirements (for installations containing more than one pole, etc.) for all single and multiple-circuit layouts.

(3) Foundations (piers, etc., including dimensions) to be used for solar panel installations;

(4) A circuit map indicating overhead and underground installations, and number of required circuits proposed per collection line run;

(5) Typical details associated with trenchless installations, including typical staging areas, construction machinery arrangements, and bore pits; and

(6) Technical data sheets associated with solar panels to be used for this Facility.

(h) For interconnection facilities, the plans and drawings required by subsections (a) through (g) for the proposed collection substation and POI switchyard and a profile of the centerline of the interconnection facilities at exaggerated vertical scale.

(i) A list of engineering codes, standards (including the National Electrical Safety Code (NESC)), guidelines and practices with which the Applicant intends to conform with when planning, designing, constructing, operating and maintaining the Project, electric collection system, collection substation, POI switchyard, and associated structures, as applicable. These standards will include those of the American Concrete Institute (ACI) and the Building Code of New York State applicable to the Project.

(j) All wetland boundaries will be included in the Application on maps, site plans, and shapefiles. Interpolated and adjacent area boundaries will be differentiated from field-delineated boundaries when displayed on maps, site plans, and shapefiles.

(k) Site plan drawings, at a scale of 1":100' (or similar) will depict all Facility components; proposed grade changes; the limits of ground disturbance and vegetative clearing; and all field-delineated wetlands, predicted wetland boundaries and NYS regulated 100-foot adjacent areas and NYS regulated wetlands located within 500 feet of all areas to be disturbed by construction.

3.12 Construction (Exhibit 12)

A preliminary Quality Assurance and Control Plan will be included in the Application. This plan will detail staffing positions and qualifications necessary to hold such positions and demonstrate the monitoring process for the Project. The Application will also include a statement from the Applicant confirming that requirements for the protection of underground facilities contained in the PSL § 119-b, as implemented by 16 NYCRR Part 753, as well as pole numbering and marking requirements implemented by 16 NYCRR Part 217 (if determined to be required), will be met.

Construction Activities

Several activities must be completed prior to the proposed commercial operation date. The majority of the activity relates to equipment ordering lead-time, as well as design and construction of the Project facility. Below is a preliminary list of activities necessary to develop the Project. Pre-construction, construction, and post-construction activities for the proposed Project include but are not limited to:

- Ordering of necessary components including solar photovoltaic panels, racking, mounting posts, and transformers;
- Complete surveys of properties, locations of structures and roadways;
- Soil borings, testing, and analysis for proper foundation design and materials;
- Installation of erosion and soil management measures required pursuant to the SPDES General Permit;
- Complete construction of access roads, to be used for construction and maintenance;
- Construction of collection lines (mostly underground, and if necessary, above ground);
- Design and construction of the collection substation;
- Installation of solar array mounting posts;
- Solar panel placement and setting;
- Acceptance testing of facility; and
- Commencement of commercial operation.

For construction, access roads are typically built to allow for the delivery of components. The access roads will consist of aggregate surface and will be adequate to support the size and weight of maintenance vehicles. The specific solar array placement will determine the amount of access roads that will be constructed for the Project. During the construction phase, several types of light,

medium, and heavy-duty construction vehicles will travel to and from the Project Area, as well as private vehicles used by construction personnel. The general area in which access roads will be required, to be located in a manner that mitigates environmental impacts to the maximum extent practicable, will be presented in the Application. Detailed design and engineering information about final access roads will be presented in the Compliance Filing once Certificate Conditions are known and accepted.

Construction Management

While a yet-to-be-determined Engineering, Procurement, and Construction (EPC) contractor(s) will be tasked with constructing the Project, Watkins Glen Solar Energy Center's construction managers will be on-site overseeing the EPC contractor(s) and will ultimately be responsible for managing and constructing the Project. The EPC contractor(s) will undertake the following activities:

- Purchase of some materials and equipment;
- Schedule execution of construction activities; and
- Obtain construction labor.

The contractor(s) also serves as key contact and interface for subcontractor coordination. The EPC contractor(s) will oversee the installation of collection lines as well as the proposed collection substation and interconnection facilities. The contractor(s) will also install solar arrays, access roads, and the proposed collection substation and 115 kV switchyard foundations, as well as the coordination of materials receiving, inventory, and distribution. The Project will be constructed under the direct supervision of an on-site construction manager.

The construction team will be on site to handle materials purchasing, construction, quality control, testing, and start-up. Throughout the construction phase, ongoing coordination will occur between the project development and construction teams. The on-site construction manager will help to coordinate all aspects of the proposed Project, including ongoing communication with local officials.

The Project construction sequence will include specific details relating to the implementation of the Certificate requirements, including any approved BMPs and the requirements of the SPDES GP-0-15-002 (or the general permit in effect at time of construction) to avoid and/or mitigate

impacts, to the maximum extent practicable, to sensitive natural resources, including wetlands, waterbodies, and flood zones. Details and descriptions of proposed BMPs and other avoidance/mitigation measures will be provided in the Application.

Even before the Project becomes fully operational, the O&M personnel will be integrated into the construction phase. The construction manager, the construction environmental compliance manager, and the O&M personnel manager will work together continuously to ensure a smooth transition from construction through solar array commissioning and, finally, operations.

Civil Works

Completion of the Project will require various types of civil works and physical improvements to the land. These civil works may include the following:

- Clearing and grading for solar array installations, if determined necessary;
- Installation of underground (and, if required, overhead) collection lines for connecting the solar arrays to the Project collection substation;
- Installation of any Project Area fencing and security; and
- Restoration and re-vegetation of disturbed land when construction activities are completed.

Additionally, the Application will include preliminary plans and descriptions indicating avoidance of interference with existing utilities, including gas, electric and communications infrastructure. Two natural gas transmission pipelines (Columbia Gas Transmission and Empire Pipeline, Inc.) traverse the western portion of the Project Area in a north-south direction. Project-specific mapping of these facilities will be included in the Application. The Applicant has consulted with the owners of the pipelines to request specific information such as: crossing requirements and protective features to be placed at crossings; required offsets/separation for permanent facilities adjacent to the pipelines; and communication and coordination requirements of the pipeline's owner for construction within the pipeline ROW. The information received will also be presented in the Application.

Commissioning

The Project will be commissioned after completion of the construction phase. The Project will undergo detailed inspection and testing procedures prior to final commissioning. Inspection and

testing will occur for each component of the system, as well as the communication system, high voltage collection system, and the supervisory control and data acquisition (SCADA) system.

Complaint Resolution

Throughout the construction process and operations, Watkins Glen Solar Energy Center will remain committed to addressing any comments, concerns, or complaints brought forth by the public. If issues are identified by the public, they will be addressed through one formal Complaint Resolution Procedure, which will be included as an appendix to the Application. The procedures will provide details on how complaints will be received, when these methods will be communicated to the public, the timeframe in which complaints will be responded to, steps to take when the complaints cannot be resolved by the Applicant, and how complaints will be recorded and tracked. The Applicant shall make the Complaint Resolution Procedure available to the public. The Applicant will make reasonable efforts to respond to complaints from residents and businesses quickly and resolve complaints in a timely manner.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 12 of the Application in accordance with §1001.12:

(a) Preliminary quality assurance and control procedures, including staffing positions and qualifications necessary and demonstrating how the Applicant will monitor and assure conformance of facility installation with all applicable design, engineering and installation standards and criteria.

(b) A statement from a responsible company official that:

  (1) The Applicant and its contractor(s) will conform to the requirements for protection of underground facilities contained in PSL §119-b, as implemented by 16 NYCRR Part 753.
  (2) The Applicant will comply with pole numbering and marking requirements, as implemented by 16 NYCRR Part 217 (if determined to be required).

(c) Preliminary plans and descriptions indicating design, location and construction controls to avoid interference with existing utility transmission and distribution systems, indicating

locations and typical separations of proposed facilities from existing electric, gas infrastructure (production or storage wells, pipelines, and related components), and communications infrastructure and measures to minimize interferences where avoidances cannot be reasonably achieved. The Applicant will consult with the owner of the existing pipelines that traverse the Project Area to request specific information, and the following will be provided:

(1) A review of publicly recorded easements associated with the pipelines;
(2) An indication of any publicly recorded restrictions associated with the easement for crossing and setbacks;
(3) Results of consultations with the owners of the pipelines requesting specific information regarding crossings of or Facility component installations nearby the existing utility;
(4) To the extent provided upon written request of the Applicant, utility owner criteria for installations of Facility components near the existing pipelines;
(5) Descriptions of any potential studies required or recommended by the pipeline owners (along with an indication of timing of the studies);
(6) Specific separation requirements or recommendations regarding specific Facility components (collection lines, panels, etc.) in relation to the existing pipelines;
(7) Descriptions and typical details of any required or recommended protective features to be placed at crossings of or nearby the existing pipelines; and
(8) Communications and coordination requirements of the pipelines facility owner-operators for construction within the pipeline right-of-way.

(d) Specification of commitments for addressing public complaints, and procedures for dispute resolution during facility construction and operation. The Complaint Resolution Plan shall identify and include any procedures or protocols that may be unique to each phase of the Project (e.g., construction, operation, decommissioning) or complaint type (e.g., noise). The Application will include a plan for maintaining a complaint log listing all complaints and resolutions during construction and operations of the Project and will include a procedure for review and transmittal of the complaint log to DPS staff.

(E) A statement regarding how and when the Applicant will communicate with stakeholders about construction activities, schedule and applicable safety and security measures.

3.13 Real Property (Exhibit 13)

Watkins Glen Solar Energy Center has entered into option-to-lease agreements for the parcels where Project components will be sited. Appropriate documentation supporting these actions, as available, will be included in the Application and redacted as necessary to protect confidential information. A statement demonstrating that the Applicant has or will obtain any rights deemed to be necessary to proceed with the Project will be provided in the Application.

A map of the Project facilities showing all property boundaries, owner and tax map information, easements, public and private roads, and zoning and related designations will be included in the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 13 of the Application in accordance with §1001.13:

(a) A survey of the Project Area showing property boundaries with tax map sheet, block and lot numbers; the owner of record of all parcels included in the Project Area and for all adjacent properties; land rights, easements, grants and related encumbrances on the Project Area parcels; public and private roads on or adjoining or planned for use as access to the Project Area; zoning and related designations applicable to the Project Area and adjoining properties.

(b) A property/ROW map of all proposed interconnection facilities and off-property/ROW access drives and construction lay-down or preparation areas for such interconnections, as applicable.

(c) A demonstration that the Applicant has obtained title to or a leasehold interest in the Project Area, including ingress and egress access to a public street, or is under binding contract or option to obtain such title or leasehold interest, or can obtain such title or leasehold interest.

(d) A statement that the Applicant has obtained, or can obtain, such deeds, easements, leases, licenses, or other real property rights or privileges as are necessary for all interconnections for the Project.

(e) There are currently no improvement district extensions necessary for the Project. Therefore, this will not be included in the Application.

3.14 Cost of Facilities (Exhibit 14)

The Application will provide an estimate of total capital costs associated with the Project for review by the Siting Board subject to applicable Article 10 regulations; however, certain information is considered proprietary and will be provided under separate cover and requested to be treated as trade secret under applicable regulations.

Costs identified will be estimates and will include the costs associated with development and permitting, solar arrays, the balance of Project equipment and engineering, and other costs necessary for interconnecting the Project to the New York bulk transmission system. Sources for these costs will be determined based on relevant industry experience building solar energy projects and estimated third-party vendor pricing.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 14 of the Application in accordance with §1001.14:

(a) A detailed estimate, as explained in (b) below, of the total capital costs of the proposed Project, including the costs associated with development and permitting, solar arrays, the balance of Project equipment and engineering, and other costs necessary for interconnecting the Project to the New York grid. However, this information is proprietary. Therefore, the Applicant will seek the requisite trade secret protection for this information pursuant to POL Section 87(2) (d) and 16 NYCRR § 6-1.3.

(b) The cost estimate provided in subdivision (a) above will be based on the Applicant's experience in building solar energy projects in the United States and estimated prices from third-party vendors associated with the various solar components.

(c) Upon the demand of any party or of the DPS, the Applicant shall supply the work papers from which the estimates required by subdivision (a) were made, provided that demand is made in the form of a written request. However, this information is proprietary and typically treated as trade secret. Therefore, the Applicant will seek the requisite trade secret protection for this information pursuant to POL Section 87(2) (d) and 16 NYCRR § 6-1.3.

3.15 Public Health and Safety (Exhibit 15)

The Project will not cause public health or safety concerns. Solar energy is considered to be one of the cleanest forms of electricity production. One of the greatest advantages of solar energy production is the maintenance of air quality and no water consumption or wastewater discharges. Solar energy generates electricity without emitting pollutants. Solar energy technology allows for production of electricity without creating any gaseous, liquid, or solid wastes, and therefore, eliminates the need to treat, collect, transport, and dispose such waste in any significant amount. As described earlier, and will be in the Application, the Project is consistent with the SEP and the CES.

The Project will not result in negative impacts to air quality. Depending upon the location of existing fossil fuel units, the Project may displace air pollutant emissions from existing generators. Any air emissions are limited to very minor levels during construction activities due to construction equipment and vehicles. The only waste generated by the Project will be minimal amounts of solid waste generated during the construction phase. These materials include plastic, wood, cardboard, and metal-packing materials, construction scrap, waste concrete truck washout, and general refuse, which will be properly recycled or disposed of at a nearby landfill facility in accordance with applicable regulations. The handling of wood waste from site-clearing activities will also be addressed. In addition, small amounts of waste may be generated during routine maintenance activities (e.g., cardboard, cleaning rags, and general refuse). Exhibit 15 of the Application will address how the waste materials will be properly recycled or disposed at a nearby landfill facility and will also address the specific local solid waste collection services, landfills, or transfer stations within the Project Area.

In accordance with the requirements of 16 NYCRR §1001.15, the Application will include a summary of the review performed to evaluate potential significant impacts on the environment, public health and safety associated with the Project. Although not anticipated, the Application will present a plan for mitigation and monitoring activities to be employed should any potential impacts be identified.

The Project is not expected to have any negative impacts to public or private water supplies. There will be no water withdrawal involved with operation of the Project. BMPs, such as erosion control measures (e.g., silt fence, hay bales), will be used during construction to avoid stormwater

runoff to wetlands or waterbodies. The Application will include a proposed Stormwater Pollution Prevention Plan (SWPPP) describing these BMPs.

The Application will include maps, contacts, and analysis showing the relation of the proposed Project Area to community emergency response resources and facilities including police, fire, and emergency medical response facilities and plans and hospitals. Community emergency response services for the Project Area and larger Study Area include:

- Watkins Glen Fire Department,
- Schuyler County Sheriff's Department,
- Village of Watkins Glen Police Department,
- New York State Police, Troop E,
- Schuyler County Emergency Management Services, and
- NYS Division of Homeland Security and Emergency Services.

The Project is not anticipated to have adverse impacts on any of the topics listed in 16 NYCRR §1001.15(f), as will be documented in the Application. Mapping of the Study Area and analysis based upon publicly available information will be provided in the Application showing the relation of the Project Area to public water supply resources; designated evacuation routes; existing known hazard risks including flood hazard zones, storm surge zones, areas of coastal erosion hazard, landslide hazard areas, areas of geologic, geomorphic or hydrologic hazard; dams, bridges, and related infrastructure; explosive or flammable materials transportation or storage facilities; contaminated sites; and other local risk factors, should any be identified.

Proposed Studies

The Applicant will prepare a statement and evaluation in the Application that identifies, describes, and discusses potential significant adverse impacts of the construction and operation of the Project and related facilities on the environmental, public health, and safety, at a level of detail that reflects the severity of the impacts and the reasonable likelihood of their occurrence and identifies the current applicable statutory and regulatory framework.

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 15 of the Application in accordance with §1001.15:

(a) The anticipated gaseous, liquid and solid wastes to be produced at the Project during construction and under representative operating conditions of the Project, including their source, anticipated volumes, composition and temperature, and such meteorological, hydrological and other information needed to support such estimates and any studies, identifying the author and date thereof, used in the analysis. This will also include consideration of wood waste generated during site clearing, including stumps and slash, and proposed methods to manage these materials.

(b) The anticipated volumes of such wastes to be released to the environment during construction and under an operating condition of the Project. Thin-film solar cells technology is not being proposed. A manufacturer's specification sheet for the typical type of crystalline silicon solar panel to be used will be provided.

(c) The treatment process to eliminate or minimize wastes to be released to the environment.

(d) The manner of collection, handling, storage, transport and disposal for wastes retained and not released at the site, or to be disposed of.

(e) Impacts specific to wind-powered facilities will not be addressed in the Application as they are not applicable to the Project.

(f) Maps of the Study Area and analysis showing relation of the proposed Project Area to public water supply resources; community emergency response resources and facilities including police, fire and emergency medical response facilities and plans; emergency communications facilities; hospitals and emergency medical facilities; designated evacuation routes; existing known hazard risks including flood hazard zones, storm surge zones, areas of coastal erosion hazard, landslide hazard areas, areas of geologic, geomorphic or hydrologic hazard; dams, bridges and related infrastructure; explosive or flammable materials transportation or storage facilities; contaminated sites; and other local risk factors, should any be identified.

(g) All significant impacts on the environment, public health, and safety associated with the information required to be identified pursuant to subdivisions (a) through (f) above, including all reasonably related short-term and long-term effects.

(h) Any adverse impact on the environment, public health, and safety that cannot be avoided should the proposed Project be constructed and operated and measured for monitoring and measuring of such impacts, if applicable.

(i) Any irreversible and irretrievable commitment of resources that would be involved in the construction and operation of the Project, if applicable.

(j) Any measures proposed by the Applicant to minimize such impacts, as applicable.

(k) Any measures proposed by the Applicant to mitigate or offset such impacts, if applicable.

(l) Any monitoring of such impacts proposed by the Applicant, if applicable.

(m) Should the Applicant choose to employ the use of herbicides or fertilizers, they will be approved for the intended use by applicable governmental agency and information will be provided in the Application identifying typical types utilized and the reasoning for their use. The Applicant will also present the applicable governmental analysis of such use on humans, livestock, food crops, and ecological resources. The Application will include:

(1) If herbicide application is planned for the Project, the Applicant will address its potential impacts to soil, groundwater, livestock, food crops, and identified water supply wells.
(2) To the extent they are used, chemicals or salt products to be used for snow removal will be listed and any potential soil, groundwater, livestock, food crops, and water supply well contamination from their usage will be addressed in the Application.

(n) In addition to the requirements outlined in subdivisions (a) through (l) above, the Applicant will perform receptor surveys using publicly available information and field visits to determine full-time and part-time residences in the vicinity of the Project Area property boundaries to document whether there will be operational sound impacts to such residences as a result of the Project that exceed any applicable state or local standards.

(o) A glare analysis will be prepared in accordance with Stipulation 24 (a)(9).

3.16 Pollution Control Facilities (Exhibit 16)

The Project will not generate pollutants on any ongoing basis, nor require any pollution control facilities. Additionally, the Project will not use an emergency generator. Therefore, this requirement is not applicable to the Watkins Glen Solar Energy Center Project.

3.17 Air Emissions (Exhibit 17)

Solar energy centers generate electricity without combusting fuel or releasing pollutants into the atmosphere. Once operational, the Project will produce electricity without emitting greenhouse gases, or other air pollutants. The Project will also not require the use of an emergency generator.

Compliance with Applicable Federal, State, and Local Regulatory Requirements

Solar facilities generate electricity without releasing pollutants into the atmosphere; therefore, the Project is not subject to the Environmental Protection Agency (EPA) New Source Performance Standards, which regulate emissions of air pollutants from new stationary sources and will not require air pollution control permits under the Clean Air Act or New York State law or regulation.

Additionally, the Project will generate electricity without releasing SO_2 or NOx. As such, the Project is not subject to the requirements under the 1984 State Acid Deposition Control Act, which requires the reduction of SO_2 emissions from existing sources and NOx emission controls on new sources in New York State. SO_2 and NOx in the atmosphere are the primary causes of acid rain.

Emissions by Combustion Sources Table

The table required by 16 NYCRR §1001.17(c) summarizing the rate and amount of emissions by combustion sources is not applicable to the Project and will not be included in the Application. This exclusion is because solar generation facilities generate electricity without combusting fuel or releasing pollutants into the atmosphere.

Potential Impacts to Ambient Air Quality

The operation of the Project is anticipated to have a positive impact on air quality by producing electricity with zero emissions. The operation of the Facility is expected to offset air emissions from other sources of electrical generation such as fossil fuel powered generation plants. Because solar facilities generate electricity without combusting fuel or releasing pollutants into the atmosphere, the specific requirements of §1001.17(d) pertaining to pollutant emissions are not applicable to the proposed Project and will not be included in the Application.

Potential temporary impacts to ambient air quality resulting from the construction of the Project, typical of a commercial construction project, will be discussed in the Application. Such impacts could occur as a result of emissions from engine exhaust and from the generation of fugitive dust

during earth-moving activities and/or travel on unpaved roads. The increased dust and emissions will not be of a magnitude or duration that will significantly impact local air quality during the approximately 9 months of Project construction. These impacts will be mitigated to the maximum extent practicable using BMPs such as:

- Use of ultra-low sulfur diesel fuel in all diesel engines;
- Proper maintenance of manufacturer-supplied air pollution control equipment on engines;
- Minimization of diesel idling time whenever possible; and
- Use of dust and erosion control measures consistent with NYSDEC's New York State Standards and Specifications for Erosion and Sediment Control, such as spraying access roads with water as necessary (NYSDEC, 2016).

Offsite Consequence Analysis for Ammonia Stored Onsite

No ammonia will be stored on site during Facility construction or operation. Therefore, the off-site consequence analysis required by 1001.17(e) is not applicable to the Project and will not be included in the Application.

Proposed Studies

Exhibit 17 of the Application will contain a discussion on potential temporary impacts to ambient air quality resulting from the construction of the Project, typical of a commercial construction project. Such impacts could occur as a result of emissions from engine exhaust and from the generation of fugitive dust during earth-moving activities and travel on unpaved roads. There will be no back-up generator installed for operation of the Project. An identification of appropriate control and mitigation measures to minimize potential adverse impacts will be provided.

3.18 Safety and Security (Exhibit 18)

To ensure security and safety, an early-development safety plan with a safety tailboard form, construction safety plan, and an operations safety plan will be provided in the Application to help identify the precautions that will be taken in regard to safety relative to the survey design, layout, construction, and operations of the Project. In addition, safety measures are currently employed for developmental site-related activities, such as environmental and cultural surveys, land surveys, micro-siting, etc.

The construction contractor will be required to provide a site security plan for Project construction, which will be developed by the contractor selected to lead the construction of the Facility (i.e., EPC contractor) after a Certificate for the Project has been granted. Preparation of the site security plan will initiate following selection of the EPC contractor and will be provided to the Siting Board as part of the Compliance Filing. Measures to ensure safety and security during construction may include (but not be limited to) fencing of the construction laydown yard, locking gates to the yard during off-work hours, and posting signs notifying the public of active construction sites. A series of traffic-related signs and road safety measures will also be put in place to help ensure safe driving conditions for the public and Project construction workers. This traffic management plan will be developed for the Project in consultation with local officials and submitted in the Compliance Filing. The Applicant will communicate with stakeholders within the Project Area (and surrounding Study Area) to ensure their awareness of construction activities and the applicable safety and security measures.

Most construction will take place on private property, reducing access to general public traffic. Primary access controls for ensuring public safety during both construction and operation include design setbacks, security fencing and locked access to the Project Area, and proposed collection substation and interconnection facilities that function as a way to restrict public access to the facilities.

Exhibit 18 of the Application will describe the purposes, equipment, and planned usage for the various lighting that will be necessary for Project construction and operation. During construction this includes security lighting, which will both ensure safe on-site worker activity, and also minimize trespassing. Security lighting will be focused downward to minimize impacts to wildlife or visual receptors. Manually activated lighting will also be used while maintenance activities are

occurring. In general, lighting used will be the minimum levels needed to accomplish the purpose and will not be used when unnecessary. Certain electronic security controls and surveillance systems may also be implemented.

With regards to cybersecurity of the Project's digital networks and communication systems, the Applicant will comply with the North American Electric Corporation (NERC) Critical Infrastructure Protection (CIP) standards. The Applicant will use a facility that is compliant with the necessary NERC CIP standards. Firewalls and servers are monitored 24 hours a day, 7 days a week by a Security Operations Center and employees are required to complete training in information security awareness.

In addition to these preliminary plans, Watkins Glen Solar Energy Center will implement an Emergency Response Plan (ERP). This plan will outline the contingencies that would constitute a safety or security emergency, the appropriate response measures to be taken as a result of this emergency, any evacuation control measures that may be necessary, and the means by which the community will be notified of the emergency and any procedures that shall be followed. In addition, any on-site equipment and system information will be provided to the appropriate emergency response agencies, including the local fire and police departments. The local entities, all on-site equipment, and any on-site safety control measures *(*e.g., fire extinguishers and their locations) will be included in the Draft ERP, which will be submitted with the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 18 of the Application in accordance with §1001.18:

(a) A preliminary plan for site security of the proposed Project during construction of such facility, including site plans and descriptions of the following site security features (if circumstances dictate their use):

(1) Access controls including fences, gates, bollards and other structural limitations;

(2) Electronic security and surveillance facilities;

(3) Security lighting, including specifications for lighting and controls to address work-site safety requirements and to avoid off-site light trespass; and

(4) Setback considerations for Project components which may present hazards to public safety.

(b) A preliminary plan for site security of the proposed Project during operation of such facility, including site plans and descriptions of the following site security features (if circumstances dictate their use):

(1) Access controls including fences, gates, bollards and other structural limitations;

(2) Electronic security and surveillance facilities;

(3) Security lighting, including specifications for lighting and controls to address work-site safety requirements and to avoid off-site light trespass;

(4) Lighting of facility components to ensure aircraft safety;

(5) Setback considerations for Project components which may present hazards to public safety; Setback considerations with respect to wildlife and habitats are presented in Exhibit 22; and

(6) A description of a cyber-security program for the protection of digital computer and communication systems and networks that support the Facility demonstrating compliance with current standards issued by a standards setting body generally recognized in the information technology industry, including, but not limited to, the Federal Department of Commerce's National Institute of Standards and Technology, the NERC, or the International Organization for Standardization (ISO), and providing for periodic validation of compliance with the applicable standard by an independent auditor.

(c) A preliminary response plan to ensure the safety and security of the local community, including:

(1) An identification of contingencies that would constitute a safety or security emergency;

(2) Emergency response measures by contingency;

(3) Evacuation control measures by contingency; and

(4) Community notification procedures by contingency. These procedures will include a detailed description of the stakeholders included in the communication/notification efforts, the timeframes for notification, and the planned communication methods (e.g., letter, doorhangers, telephone calls, etc.). Mandatory plans for how these communications will be tracked and reported in a log to DPS Staff will be identified and discussed.

(d) A statement that the Applicant will provide a copy of the plans required in subdivisions (a), (b), and (c) of this Exhibit to, and request review of such plans and comment by, the New York State Division of Homeland Security and Emergency Services (DHSES).

(e) This facility is not located within any part of a city with a population over one million, therefore this section of the Exhibit 18 regulation is not applicable.

(f) A description of all on-site equipment and systems to be provided to prevent or handle fire emergencies and hazardous substance incidents.

(g) A description of all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance incident will be addressed in the Application. Relevant on-site equipment and system information will be provided to the appropriate emergency response agencies, including the local fire and police departments. The local entities, all on-site equipment, and any on-site safety control measures (i.e., fire extinguishers and their locations) will be included in the ERP, which will be submitted with the Application. The Watkins Glen local Fire Department, Schuyler County Emergency Management (Public Safety Facility), Schuyler County Sheriff's Department, New York State Police, Troop E – Zone 3 Station and NYS Division of Homeland Security and Emergency Services will be consulted to review the draft ERP and preliminary plans, and their input will be solicited.

(h) A statement that the Applicant will consult with Schuyler County Emergency Management Department and local emergency first responders during the development of the Emergency Response Plan (ERP). The Applicant will provide a copy of the final plans required in subdivision (c) of this Exhibit to, and request review of such plans and comment by, local emergency first responders serving the Project Area and a review by the Applicant of any responses received.

(i) The ERP will outline the contingencies that would constitute a safety or security emergency, the appropriate response measures to be taken as a result of this emergency, any evacuation control measures that may be necessary, and the means by which the community will be notified of the emergency and any procedures that shall be followed.

(j) The Applicant will identify the first responders/emergency services that will be consulted during the development of the ERP and those identified will receive copies of the final site plan.

(k) The Application will address how the Applicant will provide information and training to the local emergency response organizations, including the Schuyler County Emergency Management Department, to instruct such entities on how to respond to emergencies that occur on, near, or as a result of the operation of the solar facility.

3.19 Noise and Vibration (Exhibit 19)

A benefit of solar energy centers is that they generate electricity without the use of major sound emitting sources. Sound emitting sources associated with the operation of the Project are limited to the inverters and the transformer(s) associated with the proposed collection substation and interconnection facilities. The inverters are used to convert locally generated direct current (DC) current into alternating current (AC) power that is then routed to the collection substation through underground collector cables. Inverters are generally considered a low-level source of noise and will be located among the arrays, away from the boundary of the Project Area. Additionally, they only produce sound while converting DC current into AC power and, therefore, the minimal sound emitted from the inverters will only occur during daylight hours. Additionally, the proposed collection substation and interconnection facilities will be sited away from sensitive sound receptors to the maximum extent practicable to avoid potential sound impacts from transformers.

In accordance with the requirements of § 1001.19, a noise impact assessment (NIA) will be conducted to determine existing environmental sound levels within the Project Area, what the expected operational sound levels from the Project are likely to be, and how they compare to pre-construction levels and applicable local or state noise standards. Components of the assessment include the mapping of potentially sensitive noise receptors, field measurements of current sound levels, an analysis of construction sound levels, the modeling of operational sound emissions and the determination of the various statistical quantities detailed in 16 NYCRR § 1001.19(f).

The field work and subsequent analyses will be carried out by a reputable acoustical engineering firm that has specialized in noise assessments for power generation projects. The acoustical engineering firm's qualifications and relevant experience will be included in the Application.

Two surveys of existing background sound levels will be undertaken to evaluate the possibility of seasonal/vegetation variation, one with leaf-on (i.e., summertime) and one with leaf-off (i.e., wintertime) conditions. Exhibit 19 will include a report summarizing the noise expert's assessment of the ambient noise environment, using the sound data collected on site during the leaf-on and leaf-off monitoring periods. Ambient pre-construction noise monitoring locations were determined based upon proximity of residences to solar arrays, variation in existing noise sources, and site access.

A map of the Project Area showing the location of sensitive sound receptors in relation to the Project, including the proposed collection substation and interconnection facilities will be included in the Application. A desktop analysis using aerial imagery and field verification will be used to preliminarily identify and classify sensitive sound receptors within the Project Area. If access for field verification is not possible and aerial imagery cannot provide an obvious classification of a structure (i.e., residential vs. non-residential), the structure will be assumed to be a sensitive sound receptor. The sensitive sound receptors shown will include residences, outdoor public facilities and areas, hospitals, places of worship, and schools.

Construction and Operation Noise

Project construction will require the operation of heavy equipment for activities such as clearing, access road construction, material and component delivery, installation of electrical interconnect, solar array construction, and site restoration. It is expected that Project-related construction noise will be similar to that of typical road or utility construction projects. Construction noise may be audible on a temporary basis at residences close to solar array locations, trenching operations, or access road building activities. These temporary impacts are likely to go unnoticed in many areas because of the remote location of many construction activities due to required setbacks from roads and residences. An analysis will be performed to quantify the construction-related sound levels.

Impacts during operations from low-frequency noise or tones are not expected to be significant as part of the Project. As part of the Application, analyses will be carried out to tabulate the A-weighted broadband and low frequency whole octave band (31.5 Hz, 63 Hz, and 125 Hz) sound levels at all Project receptors. Sound-level impacts from the Project at frequencies below 31.5 Hz may be calculated at the most potentially impacted and representative sensitive receptors if sound level data is available.

As described above, both leaf-on (i.e., summertime) and leaf-off (i.e., wintertime) surveys of existing environmental sound levels will be conducted. The specified statistical parameters for background noise (L_{90}, $L_{50,}$ and L_{eq}) will be measured in both surveys and compared with model predictions of Project noise associated with the proposed Project layout, once defined. At least three 1/3 octave band frequency analyzers will be used as sound monitors to record the frequency spectrum of the existing sound levels. At least five total measurement positions, distributed over

the Project Area, will be used to evaluate potential geographic variability in sound level within the Project Area.

Construction and Operation Noise

Throughout the construction process and operations, Watkins Glen Solar Energy Center will remain committed to addressing comments, concerns, or complaints brought forth by the public. If issues are identified by the public, they will be addressed through the Applicant's formal Complaint Resolution Plan, which will be included as an appendix to the Application. The procedures will provide details on how complaints will be received, when these methods will be communicated to the public, the timeframe in which complaints will be responded to, steps to take when the complaints cannot be resolved by the Applicant, and how complaints will be recorded and tracked. The Applicant shall make the Complaint Resolution Plan available to the public. The Applicant will make reasonable efforts to respond to complaints from residents and businesses quickly and resolve complaints in a timely manner.

Avoidance and Minimization Measures

Planned measures to avoid or mitigate, to the maximum extent practical, the noise impacts from the Project include the following:

- Limiting construction activities to certain days (Monday through Saturday) and hours, unless otherwise granted the applicable approval; and
- Optimizing the overall layout to maximize, to the extent practicable, distances from potentially sensitive receptors.

Proposed Studies

Exhibit 19 of the Application shall contain a study of the potential noise impacts of the construction and operation of the Project. The study will include the solar arrays, related facilities, and ancillary equipment, including the proposed collection substation and interconnection facilities. The name and qualifications to perform such analyses of the preparer of the study shall be stated. If the results of the study are certified in any manner by a member of a relevant professional society, the details of such certification shall be stated. If any noise assessment methodology standards are applied in the preparation of the study, an identification and description of such standards shall be stated. The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 19 of the Application in accordance with § 1001.19:

a) A map of the study area in digital format showing the location of sensitive receptors within 0.25-mile of the Project Area, in relation to the proposed Project, related proposed facilities, ancillary equipment, collection substation and POI switchyard. The sensitive receptors shown shall include residences (including participating, non-participating, full-time, and seasonal), outdoor public facilities and areas, State Forest Lands, places of worship, hospitals, schools, cemeteries, campsites, summer camps, Public Parks, Federal and NY State Lands and other noise-sensitive receptors, if identified. Seasonal receptors will include, at a minimum, cabins and hunting camps, identified by property tax codes and any other seasonal residences with septic systems/running water.

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

    1) *Will include A-weighted/dBA sound levels and prominent discrete (pure) tones,* at representative potentially impacted noise receptors using actual measurement data recorded in winter and summer and during day and night as a function of time and frequency (A-Weighted data will include 1/3 octave bands from 20 Hertz [Hz] up to 10,000 Hz) using a suitable and suitably calibrated sound level meter (SLM) and octave band frequency spectrum analyzer or similar equipment.

    2) The ambient pre-construction baseline sound level will be filtered to exclude seasonal and intermittent noise.

    3) The pre-construction ambient sound levels will be evaluated in accordance with the requirements of these Exhibits and applicable portions of ANSI Standards S12.100-2014 and S12.9 Part 2-1992 R-2013. These methods and standards will be described in the NIA and summarized in Exhibit 19 of the Application.

    4) Graphical timelines for the A-weighted Leq and the L90 broadband noise levels for each pre-construction sound measurement location will be included in the Application.

    5) Figures for the un-weighted Leq and the L90 full-octave band noise levels (after exclusions, starting at the 16 Hz full octave band or 12.5 1/3 octave band) for each pre-construction measurement location will also be included.

    6) The Application will describe how the pre-construction ambient surveys were

conducted including specifications for sound instrumentation and weather meters, calibration, settings, positions that were tested, noise descriptors collected, range of sound frequencies evaluated, weather conditions, testing conditions to be excluded, schedules and time frames, testing methodologies and procedures, provisions for evaluation of existing tones and sounds with strong low frequency noise content, if any.

7) Measurement locations will include GPS coordinates of the sound microphones and annual average daily traffic (AADT) information of the nearest road, to the extent the data is available from the County and/or New York State Department of Transportation (NYSDOT). The Application will include a justification for location selection and specify whether selected locations are representative of potentially impacted receptors.

8) The seasonal noise will be filtered by using the process specified in ANSI/ASA S12.100-2014. The intermittent noise will be filtered by reporting the L90. Each sound collection will be conducted for a minimum of 7 consecutive days.

9) The sound instrumentation for ambient sound surveys will comply with the following standards: ANSI S1.43-1997 (R March 16, 2007). Specifications for Integrating-Averaging Sound Level Meters; ANSI S1.11-2004 (R June 15, 2009) Specification for Octave-Band Analog and Digital Filters, and ANSI S1.40-2006 (R October 27, 2011) (Revision of ANSI 1.40-1984) Specifications and Verification Procedures for Sound Calibrators.

10) The sound instrumentation for ambient sound surveys will comply with the following standards: ANSI S1.43-1997 (R March 16, 2007). Specifications for Integrating-Averaging Sound Level Meters; ANSI S1.11-2004 (R June 15, 2009) Specification for Octave-Band Analog and Digital Filters, and ANSI S1.40-2006 (R October 27, 2011) (Revision of ANSI 1.40-1984) Specifications and Verification Procedures for Sound Calibrators.

11) Data collected out of the range of operation of the sound instrumentation will be excluded. Sound data collected at wind speed exceeding 5 meters per second (11 miles per hour) at the sound microphone or portable weather station heights will also be excluded. Pre-construction sound level data collected during periods of rain, thunderstorms and snowstorms will also not be used in the calculation of

background sound levels. These exclusions will be indicated on the graphs specified in this section. New York State Mesonet data from the most representative station may be used to supplement the weather dataset for sound monitoring periods.

c) An evaluation of future noise levels during construction of the proposed Project, proposed related facilities and proposed ancillary equipment, including predicted A-weighted sound levels at various distances and at proximate potentially impacted and representative sensitive receptors will be performed using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM), or a 3-D computer propagation model or similar. Information will include predicted sound levels at the nearest sensitive receptor(s) around the collection substation, including the loudest pieces of equipment for the different phases of construction. By its very nature, construction equipment typically moves around the site. For construction sound level impacts, a "table of sound levels vs. distances" will be presented. The construction analysis will include a table indicating the actual distances from expected construction activity to residences around the Project Area. This will provide construction sound levels at residences that will be compared to measured existing sound levels. This section will include a discussion of time frames for construction activities indicating seasons of the year, days of the week, hours of the day, and whether construction activities will be performed during evening time (6:00 p.m. to 10 p.m.), nighttime (after 10:00 p.m. or before 7:00 a.m.), weekends or national holidays.

d) Future sound levels from the Project will be calculated with the Cadna/A computer software or similar software that uses the ISO 9613-2 standard.

    1) For the purposes of this Exhibit the term "ISO-9613-2" will refer to the ISO 9613-2:1996 Standard or equivalently the ANSI/ASA S12.62-2012/ISO 9613-2:1996 (Modified) Standard with no meteorological correction (Cmet) or equivalently with the meteorological correction Cmet equaled to a value of zero.

    2) The Cadna/A model performs calculations for full octave bands from 31.5 Hertz (Hz) to 8,000 Hz.

    3) Computer noise modelling will be performed at a minimum for the Project equipment with the highest Broadband A-weighted sound power level (Maximum

dBA sound power level).

4) The Application will include a discussion and justification for ground absorption "G" values that will be used for sound propagation over land.

5) The predicted sound levels from ISO 9613-2 will be reported for sensitive receptors in tabular format and shown at sensitive receptors and external property boundaries through graphical isolines of A-weighted decibels. Contours will start at 30 dBA and shown in 1-dBA increments. Noise contours representing sound levels in multiples of 5 dB will be differentiated.

6) Participating, developed, and, undeveloped (vacant) non-participating properties will be differentiated. Only properties that have a signed contract with the Applicant as of the date of filing the Application will be identified as "participating".

7) A temperature of 10 degrees Celsius and 70 percent relative humidity will be used to calculate atmospheric absorption for the ISO 9613-2 model. These conditions result in the smallest reduction in sound levels caused by air absorption at the key frequencies for A-weighted sound levels.

8) The Application will include a brief discussion about the accuracy of selected outdoor propagation models, methodologies, ground absorption values, assumptions and the correlation between measurements and predictions for documented cases as compared to other alternatives, as available.

9) The model will also include relevant noise sources from the proposed collection substation and interconnection facilities location and proposed ancillary equipment. No emergency generators are proposed for the Project.

10) A ground absorption factor, G, of zero (G=0) will be used to represent waterbodies.

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

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

2) A discussion of whether a tonal condition is possible from the substation or inverters. The "prominent discrete tone" constant level differences (Kt) in ANSI S12.9-2013/Part 3 Annex B, Section B.1, will be used to evaluate tones at the

nearest 10 potentially impacted and representative noise receptors using spreadsheet calculations if 1/3 octave band data information are available.

3) Amplitude modulation is not an issue with solar projects and will not be included in the Application.

4) Infrasound and low-frequency sounds:
   i) Low frequency sounds for the full-octave bands equal to and greater than 31.5 Hz will be evaluated at all the sensitive receptors as listed in Section (a) of this Exhibit. The number of receptors with SPL's equal to and greater than 65 dB will be reported.
   ii) Infrasound is not an issue for solar projects and will not be included in the Application.

f) The A-weighted/dBA sound levels, in tabular form for each sensitive location and in graphical form at external property boundary lines, will be calculated. The tables will include the following:

1) The daytime ambient noise level will be calculated from leaf on (i.e., summertime) and leaf off (i.e., wintertime) background sound level monitoring data. This will be equal to the L90 of sound levels measured during the daytime at each of the monitoring locations. Daytime will be 15 hours (7 a.m. – 10 p.m.).

2) The leaf on (i.e., summertime) nighttime ambient noise level will be calculated from summer background sound level monitoring data. This will be equal to the L90 of sound levels measured at night, during leaf on conditions at each of the monitoring locations. Nighttime will be 9 hours (10 p.m. – 7 a.m.).

3) The leaf off (i.e., wintertime) nighttime ambient noise level will be calculated from background sound level monitoring data. This will be equal to the L90 of sound levels measured at night, during leaf off conditions at each of the monitoring locations. Nighttime will be 9 hours (10 p.m. – 7 a.m.).

4) The worst case future noise level during the daytime period will be determined for each sensitive receptor listed in Section (a) of this Exhibit by logarithmically adding the most representative daytime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound

level monitoring in Section (f)(1), to the modeled upper tenth percentile sound level (L10) of the Project. The L10 statistical noise descriptor corresponds to the highest short-term daytime sound level. Daytime will be 15 hours (7 a.m. – 10 p.m.).

5) The worst case future noise level during the leaf on (i.e., summertime) nighttime period will be determined for each sensitive receptor listed in Section (a) of this Exhibit by logarithmically adding the most representative leaf on nighttime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound level monitoring in Section (f)(2), to the modeled upper tenth percentile sound level (L10) of the Project at each evaluated receptor. The L10 statistical noise descriptor for the leaf on nighttime period will consist of only the substation operating. Nighttime will be 9 hours (10 p.m. – 7 a.m.).

6) The worst case future noise level during the leaf off (i.e., wintertime) nighttime period will be determined for each sensitive receptor listed in Section (a) of this Exhibit by logarithmically adding the most representative leaf off nighttime ambient sound level (L90) as related to the use and soundscape of the location being evaluated, calculated from background sound level monitoring in Section (f)(3), to the modeled upper tenth percentile sound level (L10) the Project at each evaluated receptor. The L10 statistical noise descriptor for the leaf off nighttime period will consist of only the substation operating. Nighttime will be 9 hours (10 p.m. – 7 a.m.).

7) The daytime ambient average noise level will be calculated by logarithmically averaging sound pressure levels (Leq) (after exclusions) from the background sound level measurements over the daytime period at each monitoring location. These calculations will include both leaf on (i.e., summertime) and leaf off (i.e., wintertime) data. Daytime will be 15 hours (7 a.m. – 10 p.m.).

8) Typical facility noise levels for each sensitive receptor listed in Section (a) of this Exhibit will be calculated as the median sound pressure level emitted by the Project at each evaluated receptor. The median sound pressure level will be assumed to be similar to the highest short-term daytime sound level.

9) Typical facility daytime noise levels for each sensitive receptor listed in Section (a) of this Exhibit will be calculated as the most representative daytime equivalent average sound level (Leq) that was calculated from background sound level

monitoring in Section (f)(7), as related to the use and soundscape of the location being evaluated, logarithmically added to the median facility sound pressure level (L50) at each evaluated receptor. The L50 statistical noise descriptor will correspond to the daytime value calculated in Section (f)(8). Daytime will be 15 hours (7 a.m. – 10 p.m.).

g) A description of the noise standards applicable to the facility, including any local substantive requirements, and noise design goals for the facility at representative potentially impacted noise receptors, including residences, outdoor public facilities and areas, hospitals, schools, other noise-sensitive receptors, and at representative external property boundary lines of the facility and related facilities and ancillary equipment sites.

h) A table outlining regulations, ordinances, noise standards, guidelines and goals applicable to the Project. The Applicant will review applicable local codes and will provide a summary of applicable substantive noise standards from these codes. In addition, the Applicant will include a summary of noise-modeling results from the NIA for all sensitive receptors as listed in Section (a) of this Exhibit in relation to applicable noise ordinances, standards, guidelines, goals and identified criteria by using the specific requirements as related to noise descriptors (e.g., Leq, L10), weighting scales, and time frame of determination (e.g., minutes/hour, 1-hour, 1-year). The number of receptors exceeding any identified limit, threshold, goal, guideline, or recommendation will be included in the Application (in terms of absolute and relative numbers). For ease of identification and comparison the sound study prepared for Exhibit 19 of the Application will use the same definition of “sensitive receptor” and will employ a common receptor labelling system. Noise levels for participant and non-participant lot boundary lines will be represented as specified in Section (d).

i) Identification and evaluation of reasonable noise abatement measures for construction activities will be provided, including a description of the Complaint Resolution Plan that shall be provided during the construction period. The Application will include an assessment of reasonable noise abatement measures during construction (i.e., implementing BMPs, Complaint Resolution Plan, etc.).

j) An identification and evaluation of reasonable noise abatement measures for the final design and operation of the Project including the use of alternative technologies, alternative

designs, and alternative Project arrangements.

k) The Complaint Resolution Plan will include information on how and when the process to file a complaint (i.e., written, electronic, and oral) will be communicated to the public. An identification of any procedures or protocols that may be unique to each phase of the Project (e.g., construction, operation, decommissioning) or complaint type (e.g., noise) will also be included. The Applicant will maintain a complaint log listing all complaints and resolutions during construction and operations of the Project and the Plan will include a procedure for review and transmittal of the complaint log to DPS Staff. The Town Clerk will be notified when a complaint is filed.

l) An evaluation of the following potential community noise impacts:

1) The potential for the Project to result in hearing damage will be addressed using OSHA standards, EPA "Levels" document (1974), and the World Health Organization (WHO, 1999).

2) Indoor and outdoor speech interference will be addressed using the EPA "Levels" document (1974) and WHO (1999) Guideline Levels.

3) Potential for annoyance and complaints will include a review of peer-reviewed and/or government-sponsored literature, studies, and/or publications, specific to the relationship between solar project noise and annoyance/complaints.

4) Information regarding construction activities will be included in the Construction Operations Plan, the Preliminary Blasting Plan (if any blasting is determined to be necessary), and the Preliminary Geotechnical Report. Potential for some construction activities (such as blasting, pile driving, excavation, horizontal directional drilling [HDD] or rock hammering, if any) to produce any cracks, settlements or structural damage on any existing proximal buildings, including any residences, historical buildings or infrastructure will be analyzed in this section and included in the Application.

5) Potential for air-borne or ground-borne transmitted vibrations from the operation of the Facility to reach a sensitive receptor including any sensitive technological, industrial, or medical activities and cause vibrations on the floors or on building

envelope elements that may be perceived at the receptor will be evaluated through a review of peer-reviewed and/or government sponsored literature, studies, and/or publications.

m) A description of the proposed post-construction evaluation studies and a plan for post-construction evaluations to determine conformance with operational noise design goals.

n) An identification of practicable post-construction operational controls and other mitigation measures that will be available to address reasonable complaints, including a description of a complaint resolution plan that shall be provided during periods of construction and operation.

o) Specific modeling input parameters, assumptions, and any associated data used in sound propagation modeling and calculations will be included as an appendix to the NIA and shall fairly match the unique operational noise characteristics of the particular equipment proposed for the Project. Application GIS files will include noise source locations, ground elevations, evaluated participating and non-participating receptor locations; participant and non-participant boundary lines; grading and topography. These will be delivered directly to DPS Staff by electronic means.

3.20 Cultural Resources (Exhibit 20)

Introduction and Record of Consultation

Consistent with 16 NYCRR § 1001.20, the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and the New York Archaeological Council (NYAC) Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State (1994), the Applicant is initiating consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to develop a scope and methodology for cultural resources studies for the proposed Project.

To date, a desktop review of cultural resources surveys, reports, recorded site locations, historic areas/buildings, and archaeological sensitivity has been conducted using the OPRHP's Cultural Resources Information System (CRIS). A study of the impacts of construction and operation of the Facility on cultural resources will be conducted and detailed in the Application with Phase IA and Phase IB (if required) archaeological survey reports and a historic architectural survey report included in the appropriate appendix.

As no field surveys have been conducted to date, the following summarizes the results of a preliminary desktop search and provides an overall approach to the Phase IA and IB (if required) surveys and the reconnaissance-level historic architectural survey. The Application will contain an analysis of the impacts of construction and operation of the proposed Project on cultural resources identified, as well as the results of both the consultation with the OPRHP, the Phase IA and Phase IB studies, and the reconnaissance-level architectural survey. An Unanticipated Discovery Plan will be provided in the Application that identifies the actions to be taken in the event that resources of cultural, historical, or archaeological importance are encountered during construction activities.

The Project will consist of solar arrays, access roads, buried (and possibly overhead) electric collection lines, a proposed collection substation and interconnection facilities. These elements of the Project will require ground disturbance activities during their installation. It is anticipated that archaeological investigations would be required only for areas of significant ground disturbance. Based on a recent solar project in New York State, the OPRHP has determined that certain installation methods of solar arrays and fencing (such as with pile-drivers) do not constitute significant ground disturbance and would in most cases not require archaeological investigation.

Similarly, installation of buried cables via narrow cable plow may not constitute a significant ground disturbance (EDR 2017), thereby precluding the need for archaeological survey.

Phase IA and Phase IB Archaeological Survey

Phase IA Archaeological Research

As part of the preliminary Project review, an initial search of OPRHP records was conducted and identified no previously recorded off-site archaeological sites (New York State Museum [NYSM] and New York State Historic Preservation Office [SHPO] sites) within a 1-mile radius of the Project Area. There are no previously recorded archaeological sites within the Project Area. No archaeological surveys have been conducted within a 1-mile radius. Two consultation projects have been conducted within a 1-mile radius, including a sewer and water ROW (project number 18PR04270) approximately 0.9 miles to the southeast and a barn repair (project number 18PR03929) located immediately north of the Project Area across County Road 16.

Phase IA background research will continue the review of site files and archives of the OPRHP, online CRIS, and will examine resources of the New York State Library, and NYSM in Albany. This research will obtain information on recorded sites and previous cultural surveys in the surrounding area. Local histories, cartographic data, and other relevant information on the precontact period and historic archaeological sites in the area will also be reviewed. Evaluation of archaeological and historical data from nearby sites will assist in developing a context for the cultural history of the area. A historical assessment of the Project Area will include a review of historical maps, a literature search, and a review of county historical documents located at the New York State and County repositories. Web-based resources of the National Park Service (NPS) and U.S. Department of Agriculture (USDA) will also be consulted. For this research soil maps, aerial photographs, archaeological site maps, state archaeological site files, and National Register listings will also be examined.

Archaeological Probability

The results of background research, project mapping, and USGS topographic maps will be examined to determine the archaeological probability of the Project Area. The probability of an area to yield archaeological resources is determined based on environmental factors, potential for disturbed soils, proximity to historic features (roads, bridges, canals, structures, etc.), and the presence or absence of previously recorded archaeological sites. Environmental attributes used

to identify precontact period land use patterns include landform type, relative age, distance to a permanent water source, soil type, elevation, slope, and distance to potential resource procurement areas, such as lithic outcrops for stone tool manufacturing.

Based on this review, the Project Area will be divided into areas of High, Moderate, and Low Probability. Areas of High Probability typically include areas in close proximity to previously recorded cultural resources or historic features, floodplains, stream confluences, areas adjacent to water sources (within 100 meters), headwater zones, prominent knolls, ridge fingers, benches, wetland edges, and rock overhangs. Areas of Moderate Probability typically include relatively level uplands displaced from perennial water sources (greater than 100 meters), and Low Probability areas typically include moderate sloping surfaces and areas of existing ground disturbance.

Phase IA Report

Following completion of Phase IA research, a Phase IA report following the OPRHP Guidelines will be prepared. The report will contain an environmental overview, precontact period and historic cultural contexts, summaries of previous cultural studies, listings of archaeological and historic sites in the surrounding area, research methods, a discussion of the site probability model and recommendations for Phase IB survey, as needed. The results and research designs of the nearby studies will be reviewed to gain an understanding of acceptable survey methods for projects in similar settings. In support of the text, historical maps and figures will be prepared to illustrate findings, including the development of probability maps. As necessary, the report will provide recommendations for Phase IB survey methods for review and acceptance by the OPRHP.

Site Avoidance

The Applicant will seek to avoid impacts, to the maximum extent practicable, to archaeological sites identified within the Project Area, and as such, development of the proposed Project would present a relatively minimal risk to archaeological resources. A Phase IB archaeological survey will be conducted, as needed, and archaeological resources identified through Phase IB fieldwork will be summarized, along with potential impacts to such resources and proposed avoidance/mitigation measures, in the Application.

Phase IB Archaeological Survey

Based on the Phase IA research, a field methodology for examining the Project Area of Potential Effects (APE) during a Phase IB survey will be proposed, if determined to be necessary. For archaeological resources, the APE is defined as where significant ground disturbances may occur, inclusive of access roads, workspaces, collection lines, any proposed collection substations and interconnection facilities, and other areas of significant ground-disturbing activities. The Phase IB field methods will consist of both pedestrian and shovel test pit (STP) survey to locate all archaeological resources within the Project APE. In areas of High and Moderate Probability, the Applicant will excavate STPs at 15-meter intervals along survey transects in proposed construction impact areas. To help ascertain the viability of the probability-defined field methods, the Applicant will examine between 5 and 10 percent of the areas identified as High and Moderate Probability with a 5-meter STP interval. The size selection of the subset will be determined by individual parcel configuration. The locations of the smaller subset of close interval testing in High and Moderate Probability areas will be based on suitable areas as determined in the field.

In areas of Low Probability, which consist predominantly of areas of steep slope, a combination of pedestrian survey and judgmental STP excavation will be conducted. A pedestrian survey will be conducted in lieu of shovel testing where steep slope, exposed bedrock, wetlands, and/or ground disturbance precludes the utility of shovel testing. Judgmental STPs will be excavated in areas of micro-topography, such as small level benches on steep slope, possible rockshelter locations, and narrow, ephemeral stream crossings.

Per the OPRHP Guidelines, all STPs will measure approximately 30-50 centimeters (12-20 inches) in diameter and will be excavated to sterile subsoil. All excavated soil will be screened through ¼-inch hardware cloth over tarps or plastic sheeting. Soil strata within each shovel test will be recorded on standardized forms describing Munsell color and USDA soil types. Recovered artifacts will be bagged, labeled, and sent to the laboratory for processing and analysis. STPs will be backfilled after completion. All positive STPs will be recorded using a *Trimble* sub-meter accurate global-positioning system (GPS) unit and plotted on aerial photographs and Project maps.

Additional STP (radials) will be excavated around positive tests in a radial pattern in order to define Isolated Finds. Per OPRHP Guidelines, when artifacts are discovered in an isolated shovel test context, a minimum of eight additional shovel tests at 1-meter (3.3 feet) and 3-meter (10 feet) intervals will be excavated. Radial tests will not be excavated when artifacts are found in two or more adjacent or nearby STPs because this technique is appropriate only for isolated finds and not for archaeological sites. Work will be conducted inside the Project APE. Archaeological surveys are not anticipated in areas where there will be no proposed disturbance, unless field conditions or construction feasibility warrant a change in design resulting in potential ground disturbance in those areas.

Laboratory Analysis and Curation

Recovered artifacts, photographs, field form records, field notes, and maps will be returned to the field investigator's office for processing. Data analysis and survey results will be prepared for inclusion in a Technical Report. Artifacts will be cleaned, catalogued, and analyzed according to the NYAC Standards. Analyses will be conducted according to the OPRHP Guidelines, and the Secretary of the Interior's Standards and Guidelines for Curation (36 CFR Part 79). Lab work will determine the age, function, cultural affiliation, and significance of the identified sites. Deeds of gift will be obtained for collections derived from this investigation prior to submittal to the NYSM or other identified repository for permanent curation at a state-approved facility (to be identified via consultation with the OPRHP).

Phase IA/IB Report

Following the completion of the Phase IA/IB survey, a Phase IA/IB Technical Report will be prepared following the OPRHP Guidelines. The report will contain a brief environmental overview, prehistoric and historic cultural contexts, summaries of previous cultural studies, listings of archaeological and historic sites in the surrounding area, fieldwork methods and results, and recommendations. In support of the text, historical maps and photographs will be prepared to illustrate findings. Tables including artifact inventory and shovel test results will be appended as needed. If archaeological sites are identified, the report will provide recommendations on whether the sites are eligible or ineligible for inclusion on the NRHP, or if additional Phase II studies would be required to determine site eligibility. It is anticipated the report would be filed with the Application. Final documents will be filed with the Compliance Filing.

Phase II Study

Should an archaeological site be identified during the Phase I study that cannot be avoided, a Phase II site investigation will be conducted in consultation with the OPRHP. Should a Phase II study be conducted, it would serve to provide an NRHP eligibility determination of the site and define the site boundaries.

Unanticipated Discovery Plan

The Application will include an Unanticipated Discovery Plan that will identify the actions to be taken in the unexpected event that resources of cultural, historical, or archaeological importance are encountered during Project construction. This Unanticipated Discovery Plan presents the approach that would be employed to address such emergency discoveries to ensure that any potentially significant archaeological resources discovered are dealt with in full accordance with State and Federal requirements, including the most recent Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State. This approach would also ensure that procedures and lines of communication with the appropriate government authorities are clearly established prior to the start of construction so that discoveries can be addressed in a timely manner, minimizing the impacts to the construction schedule to the extent possible.

Both the environmental inspectors and construction personnel will be provided with a preconstruction briefing regarding potential cultural resources indicators. These indicators would include items such as recognizable quantities of bone, unusual stone deposits and ash deposits, or black-stained earth that could be evident in spoil piles or trench walls during construction. In the event that potentially significant cultural resources or human remains are discovered during construction, the environmental monitors and construction personnel would be instructed to follow the specific requirements and notification procedures outlined below. Cultural resource discoveries that require reporting and notification include any human remains and any recognizable, potentially significant concentrations of artifacts or evidence of human occupation.

If cultural resources indicators are found by construction personnel, the construction supervisor would be notified immediately. The supervisor, in turn, would notify the environmental inspector, who would notify a designated archaeologist, who would be available to respond to this type of find. Based on the information provided, the archaeologist would determine if a visit to the area is

required and, if so, would inform the construction crews. No construction work at the immediate discovery site that could affect the artifacts or site would be performed until the archaeologist reviews the site. The site would be flagged as being off-limits for work but would not be identified as an archaeological site per se in order to protect the resources. The archaeologist would conduct a review of the site and would test the site as necessary. The archaeologist would determine, based on the artifacts found and on the cultural sensitivity of the area in general, whether the site is potentially significant and would consult with the OPRHP regarding site eligibility.

Discovery of Human Remains

If Native American human remains are encountered, procedures for such discoveries would be followed in accordance with state regulations. This will involve consultation with the SHPO or Tribal Historic Preservation Office (THPO) and appropriate interested parties in an effort to identify and notify next of kin, closest lineal descendant, or the Indian tribes who may be culturally affiliated with the remains, and to determine appropriate treatment and disposition of the remains.

If human remains are encountered, work in the near vicinity of the remains would cease and reasonable efforts made to avoid and protect the remains from additional impact. In cases of inclement weather, the human remains would be protected with tarpaulins. The county medical examiner would be notified of the discovery. If the remains are found to be other than human, construction will be cleared to proceed. If the remains are human, and are less than 75 years old, the local medical examiner and local law enforcement officials will assume jurisdiction.

If the remains are found to be human and older than 75 years, the OPRHP will be notified and may assume jurisdiction of the remains. If jurisdiction is assumed by the OPRHP, they will a) determine whether the human remains represent a significant archaeological resource, and b) make a reasonable effort to identify and locate persons who can establish direct kinship, tribal community, or ethnic relationship with the remains. If such a relationship cannot be established, then the OPRHP may consult with a committee to determine the proper disposition of the remains. This committee shall consist of a human skeletal analyst, Native American members of current State tribes recommended by the Governor's Council on Indian Affairs, and "an individual who has special knowledge or expertise regarding the particular type of the unmarked human burial."

A plan for the avoidance of any further impact to the human remains and/or mitigative excavation, re-interment, or a combination of these treatments will be developed in consultation with the OPRHP and if applicable, appropriate Native American tribes or closest lineal descendants. Parties will be expected to respond with advice and guidance in an efficient time frame. Once the plan is agreed to by all parties, the plan will be implemented.

The plan will include a provision for work stoppage in the immediate site of the find upon the discovery of possible archaeological or human remains. Evaluation of such discoveries, if warranted, will be conducted by a professional archaeologist, qualified according to the NYAC Standards. The Unanticipated Discovery Plan will specify the degree to which the methodology used to assess any discoveries follows the NYAC Standards.

Historic Architectural Survey

In compliance with Section 106 of the NHPA and Article 10 regulatory requirements, the Applicant will conduct a reconnaissance-level historic architectural survey for the Project. The goal of the survey is to document architectural resources 50 years or older within the Project APE and evaluate their eligibility for listing on the NRHP. For those properties that are listed or recommended as eligible for listing on the NRHP, the Applicant will further investigate properties for potential visual effects.

Agency Consultation and Definition of APE

The Applicant will consult with the OPRHP concerning the definition of the APE for direct and indirect effects, and its proposed survey methodology. The APE for aboveground structures is defined as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. For assessment of effects to historic architectural resources, the APE is determined in relation to the nature and scale of new construction, improvements, or demolitions to be made as a result of the continuing O&M of the solar facility.

For assessment of direct effects, the APE is defined as the area of construction. The Project is expected to have no physical impacts to aboveground resources. The APE for indirect (i.e., visual, atmospheric, or audible) effects includes those areas removed in distance, where Project components will be visible and where there is a potential for a significant visual effect. Per the

requirements set forth in 16 NYCRR § 1000.2 (ar), the Study Area to be used for analysis of major electric generating facilities is defined as:

> *(ar) Study Area: an area generally related to the nature of the technology and the setting of the proposed site. In highly urbanized areas, the study area may be limited to a one-mile radius from the property boundaries of the facility site, interconnections, and alternate location sites. For large facilities or wind power facilities with components spread across a rural landscape, the study area shall generally include the area within a radius of at least five miles from all generating facility components, interconnections and related facilities and alternative location sites. For facilities in areas of significant resource concerns, the size of a study area shall be configured to address specific features or resource issues.*

Considering the Project's relatively low profile compared to wind power facilities, a 5-mile APE is likely inappropriate. Consistent with the viewshed analysis described in Exhibit 24, the Applicant is proposing a 2- to 5-mile APE radius to identify specific historic resources. The historic resource APE for indirect effects likely comprises those areas within 2 to 5 miles of the proposed Project and which fall within the potential viewshed of the Project (i.e., those areas from which the Project is potentially visible). The 2- to 5-mile-radius Study Area for the Project includes parts of the Towns of Orange, Dix, Montour, and Reading, and the Village of Montour Falls in Schuyler County and the Town of Catlin in Chemung County.

Background Research

The Applicant has conducted a desktop analysis for previously surveyed and NRHP-listed/eligible historic properties using the OPRHP's CRIS and NRHP online database. No architectural resources are located within the Project Area (APE for direct effects). Previously recorded historic resources located within 5 miles of the Project Area include:

- 70 individual resources listed on the NRHP;
- 2 historic districts listed on the NRHP;
- 24 individual resources that have been determined eligible for listing in the NRHP;
- 1 historic district that has been determined eligible for listing in the NRHP; and
- 157 previously recorded but unevaluated resources.

Architectural Field Survey

The Applicant will conduct an architectural field survey of the proposed APE. The architectural field survey will revisit the previously recorded resources and document newly identified architectural resources 50 years old or older that fall within the Project APE. A field survey will include systematically driving on public roads within the APE to identify resources present. Resources will be assessed from the public ROW. Based on previous consultation with OPRHP for a previous large-scale solar energy project (EDR 2017), buildings that are not sufficiently old (less than 50 years), clearly lack architectural integrity, or are otherwise evaluated by the architectural historian as lacking historic or architectural significance will not be included in or documented during the survey.

Previously identified NRHP-listed and eligible historic properties will be checked and photographed to record existing conditions and reassess their current NRHP status. Each previously identified but unevaluated resource and each newly identified resource will be documented via photography, its location will be recorded on field maps, and field notes taken describing the style, physical characteristics, materials, condition, integrity, and other noteworthy characteristics of each resource. The NRHP evaluation of historic resources will apply the two-part test of historic significance integrity to determine eligibility.

Reporting

Upon completion of the field survey, the surveyed architectural resources will be analyzed in accordance with the NRHP Criteria in 36 CFR § 60.4. A Historic Architectural Survey letter report will be produced for submittal to the OPRHP and as part of the Application. The report will include a project description, statement of methodology, historic context, summary of surveyed resource types, and field results. Survey results will include recommendations of NRHP eligibility/non-eligibility and a preliminary assessment of project effects, as well as any necessary recommendations for further work. The report will also include maps showing the location of previously recorded and newly recorded architectural resources in the APE. Surveyed resources will also be entered individually into CRIS with the report and GIS shapefiles for the Project.

Proposed Studies

Consistent with 16 NYCRR § 1001.20, the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and the NYAC's Standards for Cultural Resource

Investigations and the Curation of Archaeological Collections in New York State (1994), the Applicant initiated consultation with the New York State OPRHP via the CRIS system on January 28, 2019 to develop the scope and methodology for cultural resources studies for the Project. The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 20 of the Application in accordance with §1001.20:

(a) A study of the impacts of the construction and operation of the Project, interconnections and related facilities on archaeological resources, including:

(1) Consultation with the Town Historian (Daniel Teed) and the Town Supervisor to identify locally significant archaeological/cultural resources;

(2) A summary of the nature of the probable impact on any archaeological/cultural resources identified addressing how those impacts shall be avoided or minimized;

(3) A Phase IA archaeological/cultural resources study for the APE for the Project Area, including a description of the methodology used for such study;

(4) A Phase IB study, if required, as determined in consultation with OPRHP;

(5) Phase II archaeological studies, in consultation with OPRHP and DPS, if warranted based on Phase I study results;

(6) A Phase III Data Recovery Plan, following completion of a Phase II archaeological study, if any identified archaeological site cannot be avoided through modification of Project design. The Phase III Data Recovery Plan will be prepared by the Applicant in consultation with the NYS OPRHP and submitted as part of the Compliance Filing. The Phase III Data Recovery would be conducted in advance of any ground-disturbing activities and would serve to mitigate impacts caused by Project development to any NRHP-eligible archaeological site(s).

(7) A complete list of all recovered artifacts; and

(8) An Unanticipated Discovery Plan that shall identify the actions to be taken in the unexpected event that resources of cultural, historical or archaeological importance are encountered during the excavation process. The Plan shall

include a provision for work stoppage upon the discovery of possible archaeological or human remains. In addition, the Plan shall specify the degree to which the methodology used to assess any discoveries follows the most recent Standards for Cultural Resource Investigation and Curation of Archaeological Collections in New York State. Such an assessment, if warranted shall be conducted by a professional archaeologist, qualified according to the standards of the NYAC.

(b) A study of the impacts of the construction and operation of the Project and the interconnections and related facilities on historic resources, including the results of field inspections and consultation with local historic preservation groups to identify sites or structures listed or eligible for listing on the State or NRHP within the viewshed of the Project and within the Study Area, including an analysis of potential impact on any standing structures which appear to be at least 50 years old and potentially eligible for listing in the State or NRHP, based on an assessment by a person qualified pursuant to federal regulation (36 C.F.R. 61). Mitigation measures, such as local improvement projects, will be discussed should there be any unavoidable impacts to cultural resources. Audible or visual impacts, if any, will also be addressed.

i. The Applicant will consult with OPRHP and DPS to obtain input concerning appropriate criteria for Historic Architectural studies, including defining the Area of Potential Effect (APE). The Study Area shall be 5 miles from the boundaries of the Project Area. The applicant proposes an APE of 5 miles as well.

(c) Based on the Project's geographical location and guidance from the NYS OPRHP and the Indian Nations of New York State, the Applicant will consult with the following Federally Recognized Tribes: Seneca Nation of Indians, and the Tonawanda Band of Seneca. The Tribal consultation procedures will include preparing correspondence to each Tribal Historic Preservation Office (THPO) that describes the Project's location and design. The Applicant will request comments from each THPO on any potential effects from the Project on Tribal resources or Tribal lands. Documentation of these consultations will be included in the Application and reflected in the Meeting Log.

(d) Installation methods used for collection lines and potential impacts on cultural resources will be included in the Application.

3.21 Geology, Seismology, and Soils (Exhibit 21)

The Project will not result in significant impacts to geology, topography, and soils. Only temporary, minor impacts to topography are expected as a result of construction activities. For example, where arrays and access road are not located on completely level terrain, some minor cut and fill or addition of fill may be required.

A preliminary investigation of the geology, seismology, and soils specific to the Project Area has been conducted via desktop review to provide an overview of the general conditions anticipated for the Project. Additionally, observations about localized geologic topographic conditions are based upon preliminary reconnaissance level field surveys that were conducted in 2017.

Exhibit 21 of the Application will include a study of the geology, seismology, and soils within the Project Area. Each study will consist of the identification and mapping of existing conditions, an impact analysis, and proposed impact avoidance and mitigation measures. Also, an evaluation of the constructability and suitability of equipment foundations will be addressed based upon site specific conditions. Analysis of the site-specific conditions, engineering characteristics, anticipated impacts and proposed avoidance and mitigation measures will be provided in the Application. At this time, the Applicant anticipates that the solar array racking systems will be supported by posts driven into the ground and will not require foundations. Therefore, the only foundations proposed will be those necessary for the proposed collection substation and POI switchyard.

A map delineating existing slopes (0 to 3 percent, 3 to 8 percent, 8 to 15 percent, 15 to 25 percent, 25 to 35 percent, and 35 percent and over) within the drainage area potentially impacted by the Project has been prepared using the USGS National Elevation Dataset (see Figure 8). Esri ArcGIS® Software will be used to identify drainage areas and develop detailed slope mapping for the Project Area. The Applicant will include potential receptor areas of stormwater runoff and an identification of sensitive environmental, agricultural, and human health and safety receptors for potential hazards associated with construction on slopes greater than 25 percent, if necessary.

The Application will include the proposed conceptual site plan, which will show existing and proposed contours at 2-foot intervals, the solar array locations, access roads, laydown and staging areas, proposed collection substation, and interconnection facilities. The Applicant

proposes to use 2-foot contours constructed from publicly available digital elevation models (DEM) or site-specific topographic surveys as a basis for the calculation of earth disturbance calculations.

The Application will generally describe the typical scenarios that would result in cut and fill necessary to construct the Project, such as constructing an access road on a side slope. Watkins Glen Solar Energy Center will provide preliminary calculations of the quantities of cut and fill required to support the construction of all structures and access roads as part of the Project using the assembled 2-foot contours. Separate approximations for topsoil, sub-soil, and rock will be provided. These summaries will be based upon publicly available datasets and compared to the preliminary site design.

The Application will include the preliminary estimates of fill, gravel, asphalt, and surface treatment materials that are anticipated to be required for solar arrays, access roads, staging areas, and other associated Project facilities. The Application will describe the anticipated amount and characteristics of fill materials expected to be imported to the Project Area, should any be required. No material is expected to be removed from the Project Area. General on-site locations for the storage of cut and fill material during the construction phase of the Project will be identified and provided in the Preliminary Design Drawings.

Construction of the Project will involve typical excavation techniques as would be used for similar work and access road clearing activities. The primary areas of ground disturbance will include the construction of access roads and buried collector cable routes. Commonly used excavation equipment such as backhoes and/or bulldozers are expected to perform much of the work. Collector cable embedment is likely to use a cable trencher, plow, or blade where possible. A specific description of the processes determining excavation locations will be provided in the Application. Factors used to determine the use of excavation will include but are not limited to soil corrosivity, depth to bedrock, bedrock competence, and other subsurface constraints. Minimal disturbance will be required for the solar array racking system as they will be supported on posts driven into the ground and, therefore, will not require excavation.

The discussion of suitability for construction of buried cables included in the Application will consider the potential for dewatering, soil resistivity, and mechanical protection of the cables. It is

anticipated that the contractor for this Project can excavate buried cable trenches with relatively little difficulty using a rock saw, cable trencher, or plow. In the event that bedrock is encountered, it is anticipated to be rippable due to its content, and will thus be excavated using large excavators, rock rippers, or chipping hammers.

Within the Project Area, there is one main geologic unit present. This is the Beers Hill, Dunn Hill, Millport, and Moreland Shales; and Grimes Siltstone group. This unit was formed in the upper Devonian and is composed of predominately shalerock types. Most of the rock types are composed of soft fragments and do not pose any obstacle to excavation.

The Applicant will identify locations where trenchless excavation methods (e.g., HDD), may be proposed if determined necessary. Specifically, the prospective use of HDD methods will be focused on navigating facilities around streams, wetlands, and/or significant natural resources indicated by state and federal agencies and when deemed pertinent to the Project. Specific locations will be determined using appropriate siting methods including appropriate setbacks from water resources and investigations into local bedrock/sub-soil characteristics. Erosion control measures and inadvertent return plans used during the operation will also be provided.

The use of blasting techniques is not anticipated, so the Applicant intends to provide a general statement in the Application indicating that blasting is not likely to be required. This statement will reference the results and data obtained from a preliminary geotechnical investigation and indicate that a preliminary blasting plan need not be provided, an assessment of potential impacts is not required, and mitigation efforts as a result of blasting is not necessary. However, in the event that a unique situation is encountered and blasting is required, a blasting plan will be prepared and included in the Application. The plan will address all blasting operations and logistics necessary to mitigate risks associated with the operation such as safe transportation, coordination with local safety officials, assessment of potential adverse impacts, and the evaluation of reasonable mitigation measures resulting from blasting impacts.

A desktop review of the USDA NRCS Web Soil Survey was used to collect soil data within the Project Area (see Figure 9). The USDA NRCS Web Soil Survey indicated that eight of the soils found in the Project Area are soils of Statewide Importance for Farmland. The NRCS soil data is categorized by mapping unit, land area coverage of the Project Area (acreage), percent land

coverage of the Project Area (percentage), slope, drainage class, hydrological soil groups (HSG), and farmland classification. The soils included below represent the soils that are the most commonly found within the Project Area. These soils are described in more detail below in order to provide a general understanding of the soils within the Project Area. The Soil Survey of Schuyler County, New York indicates that the Project Area predominantly consists of silty loams, ranging from poorly drained to well-drained soils. In addition, the soils established on site were classified by their farmland importance and were classified as "Farmland of Statewide Importance," "All Areas are Prime Farmland," "Prime Farmland if Drained," or "Not Prime Farmland."

General descriptions of the primary USDA NRCS soils series found within the Project Area are provided below.

Soil Descriptions

Burdett silt loam, 3 to 8 percent slopes (BuB) –

Consists of somewhat poorly drained soils that occur on drumlinoid ridges, hills, and till plains. These soils are derived from a thin mantle overlying till that is strongly influenced by shale. Its typical profile is 0 to 64 inches thick.

Chippewa silt loam, 0 to 3 percent slopes (Cp) –

Consists of poorly drained soils that occur on toeslopes and base slopes of depressions. These soils are developed in loamy till dominated by siltstone, sandstone, and shale fragments, and its typical profile is 0 to 72 inches thick.

Fremont silt loam, 3 to 8 percent slopes (FrB) –

Consists of somewhat poorly drained soils that occur on footslopes, summits, backslopes, and interfluve of hills. These soils are developed in till with a typical profile of 0 to 72 inches thick.

Lordstown channery silt loam, 8 to 15 percent slopes (LoC) –

Consists of loamy till derived from sandstone and siltstone that are well drained. These soils are commonly found on shoulders, backslopes, mountaintops, rests, and nose slopes of hills and mountains. Its typical profile is 0 to 40 inches thick.

Mardin channery silt loam, 3 to 8 percent slopes (MrB) –

These soils consist of loamy till which is moderately well drained. These soils are commonly found on summits and shoulders of mountains and hills. Its typical profile is 0 to 72 inches thick.

Mardin channery silt loam, 8 to 15 percent slopes (MrC) –

These soils consist of loamy till which is moderately well drained. These soils are commonly found on shoulders and backslopes of mountains and hills. Its typical profile is 0 to 72 inches thick.

Mardin channery silt loam, 15 to 25 percent slopes (MrD) –

These soils consist of loamy till which is moderately well drained. These soils are commonly found on backslopes and side slopes of mountains and hills. Its typical profile is 0 to 72 inches thick.

Tuller channery silt loam, 3 to 8 percent slopes (TuB) –

Consists of somewhat poorly drained soils that occur on hills, ridges, and benches. These soils form from loamy till derived mainly from acid sandstone, siltstone, and shale, and its typical profile is 0 to 22 inches thick.

Tuller channery silt loam, 8 to 15 percent slopes (TuC) –

Consists of somewhat poorly drained soils that occur on hills, ridges, and benches. These soils form from loamy till derived mainly from acid sandstone, siltstone, and shale, and its typical profile is 0 to 22 inches thick.

Valois gravelly silt loam, 3 to 8 percent slopes (VaB) –

Consists of well-drained soils that occur on summits and crests of end moraines, valley sides, and lateral moraines. These soils are developed in loamy till derived mainly from sandstone, siltstone, and shale, and its typical profile is 0 to 60 inches thick.

Valois gravelly silt loam, 15 to 25 percent slopes (VaD) –

Consists of well-drained soils that occur on the backslopes and sideslopes of end moraines, valley sides, and lateral moraines. These soils are developed in loamy till derived mainly from sandstone, siltstone, and shale, and its typical profile is 0 to 60 inches thick.

Volusia channery silt loam, 3 to 8 percent slopes (VoB) –

Consists of somewhat poorly drained soils that occur on footslopes and base slopes of hills or mountains. These soils are developed in loamy till derived from interbedded sedimentary rock, and its typical profile is 0 to 72 inches thick.

Volusia channery silt loam, 8 to 15 percent slopes (VoC) –

> Consists of somewhat poorly drained soils that occur on footslopes and side slopes of hills or mountains. These soils are developed in loamy till derived from interbedded sedimentary rock, and its typical profile is 0 to 72 inches thick.

Volusia channery silt loam, 15 to 25 percent slopes (VoD) –

> Consists of somewhat poorly drained soils that occur on backslopes, footslopes, and side slopes of hills or mountains. These soils are developed in loamy till derived from interbedded sedimentary rock, and its typical profile is 0 to 72 inches thick.

Maps, figures, and analyses will be prepared using information obtained from the USGS Online Spatial Geology Data, the USDA NRCS Web Soil Survey, and the preliminary geotechnical investigation conducted for the Project. These data sets will be used to discuss the suitability of the location for the Project in relation to variable soil types and conditions as well as addressing local bedrock characteristics. Analyses will include descriptions of soil structure, texture, and percentage of organic matter. Infiltration capacity and rate of recharge of the local soils will be discussed in order to address any proposed stormwater management measures and/or any dewatering operations, which may be necessary during the construction of the Project. Studies will also include discussion on depth to bedrock and underlying bedrock types, including vertical profiles showing soils, bedrock, water table, and seasonal high groundwater. These characteristics will be depicted in relation to foundation depths for the proposed collection substation and interconnection facilities, and areas to be disturbed for the construction of access roads, and interconnection facilities, and any area to be disturbed for the construction of access roads, and all interconnections required to serve the Project.

The overall suitability of the soil conditions for construction will be analyzed based on the results of the preliminary geotechnical investigation. This investigation will include test borings at a subset of proposed solar array and substation locations and reviews of publicly available surface and subsurface soils, bedrock, and groundwater data.

The results of the preliminary geotechnical investigation will be explained in Exhibit 21 of the Application and will provide a description of regional geology, tectonic settings, seismology, and include any known areas of karst geology within or adjacent to the Project Area. It will also analyze and address any perceived impacts to the regional geology as a result of construction and operation of the Project. This report will also address the construction of the Project facilities within

or adjacent to steep slopes, as applicable, and define methodologies to avoid severe erosion during extreme precipitation events and the sedimentation of water resources downstream. Data used in this report will be based on a Project-specific site visit conducted by a geotechnical expert and their review of publicly available data including the Surficial Geologic Map of New York, Geologic (Bedrock) Map of New York, Soil Survey of Schuyler County, Geology of Schuyler County, Aquifers of New York State, and Geology of New York among other resources, coupled with the analysis of the test borings to be completed at a subset of solar array/substation locations.

In addition to the preliminary geotechnical results, Exhibit 21 of the Application will include a preliminary engineering assessment on the foundation designs expected to be needed for the proposed collection substation and interconnection facilities equipment. A foundation evaluation will be undertaken to address the on-site geologic conditions for determination of the preferred specifications of proposed foundations.

The seismology of Schuyler County was analyzed based on the New York 2014 Seismic Hazard Map (see Figure 10). Based on the mapping, Schuyler County is located in an area with a 2 percent probability over 50 years of peak acceleration exceeding 10 percent to 14 percent of the force of gravity. This indicates relative low probability for seismic activity and bedrock shift in the vicinity of the Project Area.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 21 of the Application in accordance with §1001.21. Exhibit 21 shall contain a study of the geology, seismology, and soil impacts of the Project consisting of the identification and mapping of existing conditions, an impact analysis, and proposed impact avoidance and mitigation measures, including:

(a) A map delineating existing slopes (0-3%, 3-8%, 8-15%, 15-25%, 25-35%, 35% and over) on and within the drainage area potentially influenced by the Project Area and interconnections using the USGS National Elevation Dataset and Esri ArcGIS® software.

(b) Information describing methods considered and proposed to avoid disturbance, erosion and/or sedimentation of steep slopes (i.e., slopes steeper than 3:1 (h:v), and/or greater than 15%), as applicable.

(c) A proposed site plan showing existing and proposed contours at two-foot intervals, for the Project Area and interconnections, at a scale sufficient to show all proposed structures, paved and vegetative areas, and construction areas. No buildings are proposed.

(d) Preliminary cut and fill calculations based on publicly available contour data. Separate calculations for topsoil, sub-soil and rock will be roughly approximated based on publicly available data from the Schuyler County Soil Survey. Exhibit 22 will describe a plan to identify the potential presence of invasive species in spoil material and to prevent the introduction and/or spread of invasive species by the transport of fill material to or from the site of the facility or interconnections. Separate estimates for materials that may need to be imported to the Project Area for access road construction, structural base for foundations, and compacted fill for placement of buried electric lines will be provided as applicable.

(e) A description and preliminary calculation of the amount of fill, gravel, asphalt, and surface treatment material to be brought in to the Project Area. The Application will describe the anticipated amount and characteristics of all fill materials expected to be imported into the Project Area. For comparative context, the anticipated amount of fill materials imported will be presented in both cubic yards, and the equivalent number of truck loads.

(f) No fill, gravel, asphalt, or surface treatment materials will be removed from the Project Area. The Application will confirm that existing soils are suitable for reuse as backfill with reference to the results of the Preliminary Geotechnical Investigations and existing soils mapping and data, and will indicate why it is not necessary to remove material from the Project Area.

(g) A description of construction methodologies and activities associated with the Project, including anticipated excavation techniques, based on site-specific Preliminary

Geotechnical Investigations, and a preliminary identification of where each type of excavation will be employed. If HDD or other trenchless methods are anticipated, an inadvertent return plan will be included in the Application.

(1) If HDD is proposed for stream/wetland crossings, road crossings, or other locations, the Application will include:

(i) A description of HDD operations and locations

(ii) Maps identifying the proposed HDD locations

(iii) Identify stream/wetland crossing techniques, including a typical HDD equipment layout diagram

(iv) A HDD feasibility analysis and frac-out risk evaluation based on known and suspected soil and bedrock conditions.

(h) A delineation of temporary cut or fill storage areas to be employed.

(i) A description of the characteristics and suitability for construction purposes of the material excavated for the Project and of the deposits found at foundation level, including factors such as soil corrosivity, bedrock competence, and subsurface hydrologic characteristics.

(j) Blasting is not anticipated as part of the Project and the Applicant intends to provide a general statement in the Application indicating such. If blasting is determined to be required, a preliminary blasting plan, an assessment of potential blasting impacts, and a blasting impact mitigation measures plan will be provided. The evaluation of reasonable mitigation measures regarding blasting impacts will include recommendations for setbacks from existing wells, including all identified water supply wells, livestock, residences and other structures, and plans for pre- and post-blasting inspections of existing structures. In order to protect structures from damage, blasting shall be designed and controlled to meet the limits for ground vibration set forth in United States Bureau of Mines Report of Investigation 8507 Figure B-1 and air overpressure shall be under the limits set forth in the Conclusion section in United States Bureau of Mines Report of Investigation 8485 (USBM RI 8507 and USBM RI 8485).

(k) An assessment of potential impacts of blasting to environmental features, aboveground structures and belowground structures such as pipelines, wells, and drain tiles, if applicable.

(l) An identification and evaluation of reasonable mitigation measures regarding blasting impacts, including the use of alternative technologies and/or location of structures, and including a plan for securing compensation for damages that may occur due to blasting, if applicable.

(m) A description of the regional geology, tectonic setting and seismology of the Project Area. (1) The Application will include a site-specific karst conditions assessment that will provide the following: (i) identification of manner(s) in which construction activities will minimize excavations in karst-prone areas where excavations may facilitate subsurface erosion; (ii) risks and impacts to karst features and aquifers from directional drilling frac-outs and soil and bedrock displacement during excavations, boring operations, and pile driving will be addressed; (iii) although blasting is not anticipated, if blasting is proposed, a description of potential impacts to karst features from blasting operations.

(n) An analysis of the expected impacts of construction and operation of the Project with respect to regional geology, if such can be determined.

(o) An analysis of the impacts of typical seismic activity experienced in the Project Area based on current seismic hazards maps, on the location and operation of the Project identifying potential receptors in the event of failure, and if the Project is proposed to be located near a young fault or a fault that has had displacement in Holocene time, demonstration of a suitable setback from such fault;

(p) A map delineating soil types within the Project Area and the various USDA NRCS farmland classifications as identified on the most current publicly available mapping.

(q) A description of the characteristics and suitability for construction purposes of each soil type identified above, including a description of the soil structure, texture, percentage of organic matter, and recharge/infiltration capacity of each soil type and a discussion of any de-watering that may be necessary during construction and whether the Project shall contain any facilities below grade that would require continuous de-watering.

(r) Maps, figures, and analyses delineating depth to bedrock and underlying bedrock types, including vertical profiles showing soils, bedrock, water table, seasonal high groundwater, and typical foundation depths on the Project Area, and any area to be disturbed for roadways to be constructed and all off-site interconnections required to serve the Project, including an evaluation for potential impacts due to Project construction and operation, including any on-site wastewater disposal system, and closed public landfills, if applicable, based on information to be obtained from available published maps and scientific literature, review of technical studies conducted on and in the vicinity of the Facility, and on-site field observations, test pits and/or borings as available.

(s) An evaluation to determine suitable proposed collection substation and POI switchyard foundations, including:

(1) A preliminary engineering assessment to determine the types and locations of foundations to be employed. The assessment shall investigate the suitability of such foundation types as spread footings, caissons, or piles, including a statement that all such techniques conform to applicable building codes or industry standards.

(2) If piles are to be used, a description and preliminary calculation of the number and length of piles to be driven, the daily and overall total number of hours of pile driving work to be undertaken to construct the Project, and an assessment of pile driving impacts surrounding properties and structures due to vibration.

(3) Identification of mitigation measures regarding pile driving impacts, if applicable, including a plan for securing compensation for damages that may occur due to pile driving.

(4) A description of methods for minimizing construction-related vibrational impacts on nearby infrastructure, to the maximum extent practicable, will be included in the Application, along with a description and justification of any proposed pile-driving setback distances.

(t) An evaluation of the vulnerability of the Project Area and the operation of the Project to an earthquake event. Because of the Project's distance from any large body of water, the Application will not address tsunami vulnerability.

(u) A discussion of consistency, to the maximum extent practicable, with the New York State Department of Agriculture and Markets guidance document entitled *Guidelines for Agricultural Mitigation for Solar Energy Projects* (most recent version at time of Application filing).

(v) As applicable, an evaluation of the risk of damage or displacement to foundations and underground cables from frost action and soil shrink/swell (if applicable based on the soils types within the Project Area). If existing soils are proposed for re-use as structural and/or compacted fill, the Application will assess the suitability of existing soils specifically for those purposes and describe screening measures to remove materials that do not meet the fill composition characteristics recommended by the Applicant's geotechnical expert.

3.22 Terrestrial Ecology and Wetlands (Exhibit 22)

Exhibit 22 of the Application will summarize the ecological communities within the Project Area as identified through a desktop resource review and on-site field surveys. Plant, wildlife, and sensitive terrestrial communities will be identified through desktop research and review and reconnaissance-level field observations, including on-site wetland delineations. Preliminary on-site ecological surveys were conducted during the 2017 growing season and species-specific surveys were conducted in the 2018 breeding bird season and 2018-2019 winter raptor season. The work plan for these surveys incorporated comments NYSDEC provided for other NEER solar projects. Based on a preliminary desktop review, the main terrestrial and wetland ecological communities mapped within the Project Area are summarized in the sections below.

Regional

The Project Area is within the Northern Appalachian Plateau and Uplands ecological region (ecoregion), as defined by Bryce et al. (2010). This ecoregion, which is assigned the map unit "60," includes rural landscapes with rolling hills and fertile stream valleys. The underlaying bedrock is primarily shale and sandstone. Deposits of glacial outwash consisting of sand and gravel are common in valley floors.

More specifically, the Project Area is within the NYSDEC's Glaciated Low Allegheny Plateau (map unit 60a) and the Finger Lakes Uplands and Gorges (map unit 60d) ecoregions. The Glaciated Low Allegheny Plateau is a broad, smoothly glaciated region defined by rolling hills and wide stream valleys. The Finger Lakes Uplands and Gorges ecoregion is a transitional ecoregion between the Northern Allegheny Plateau and the Ontario Lowlands (map unit 83c) containing several glaciated "U"-shaped valleys that hold the Finger Lakes (Bryce et al., 2010).

Per the classification system developed by the USDA, the Project Area is within Major Land Resource Area (MLRA) 140 (Glaciated Allegheny Plateau and Catskill Mountains) of Land Resource Region R (Northeastern Forage and Forest Region) (USDA-NRCS 2006). This MLRA supports forest vegetation, particularly hardwoods such as beech-birch-maple and elm-ash-red maple forests. Other tree species associated with wetter soils in this MLRA include aspen, hemlock, northern white cedar, and black ash (USDA NRCS, 2006).

Local

Land cover in the Project Area was determined spatially using aerial orthoimagery interpretation and preliminary on-site ecological surveys. Based on these reviews, the vegetative cover type within the Project Area consists primarily of active agricultural land (46.19 percent) and forestland (39.98 percent), along with lesser amounts of successional shrubland (3.95 percent), disturbed-developed (0.78 percent), successional old-field (9.01 percent), and open water (0.09 percent). The Project Area's plant communities will be further described in the Application based on data collected during supplemental ecological resource surveys. Additionally, the Application will include a discussion of potential impacts on agricultural resources, including calculations and an assessment of the areal extent of temporary and permanent impacts, per 16 NYCRR §1001.22(q). An evaluation of agricultural restoration due to temporary disturbance during construction in on-site laydown areas will be presented in the Application.

Wetland Mapping and Designated Functions and Values

Wetland biologists will assess each wetland identified within the Project Area with respect to functions and values and include the assessment in the Application. Functions are self-sustaining properties of a wetland ecosystem that exist in the absence of society. Functions result from both living and non-living components of a specific wetland. These include the processes necessary for the self-maintenance of the wetland ecosystem such as primary production and nutrient cycling. Therefore, functions relate to the ecological significance of wetland properties without regard to subjective human values (USACE, 1999).

Values are benefits that derive from either one or more functions and the physical characteristics associated with a wetland. Most wetlands have corresponding societal value. The value of a particular wetland function, or combination thereof, is based on human judgment of the worth, merit, quality, or importance attributed to those functions (USACE, 1999). The assessment of wetland values will be included in the Application.

The eight wetland functions typically assessed are:

- Groundwater Recharge/Discharge;
- Floodflow Alteration;
- Fish and Shellfish Habitat;

- Sediment/Toxicant/Pathogen Retention;
- Nutrient Removal/Retention/Transformation;
- Production Export (nutrient);
- Sediment/Shoreline Stabilization; and
- Wildlife Habitat.

The five wetland values typically assessed are:

- Recreation (consumptive and non-consumptive);
- Educational/Scientific Value;
- Uniqueness/Heritage;
- Visual Quality/Aesthetics; and
- Threatened or Endangered Species Habitat.

Per the United States Army Corps of Engineers (USACE), these are not necessarily the only wetland functions and values possible, nor are they so precisely defined as to be unalterable. Wetland scientists use best professional judgment to determine the functions and values that are assessed for each project, the results of which will be included in the Application.

Avoidance/Mitigation Measures

The Project is being designed to avoid and/or mitigate impacts to wetland and waterbody resources to the maximum extent practicable, and the Applicant will implement the following BMPs to further reduce the risk for impacts to water resources:

- Siting solar arrays, access roads, the proposed collection substation, and interconnection facilities to avoid wetlands to the maximum extent practicable;
- Adherence to a practice of avoiding trenching or use of heavy equipment in waterbodies;
- Restoration of temporarily impacted wetlands and waterbodies to pre-construction conditions;
- Implementation of a SWPPP to minimize impacts to wetlands during construction; and
- Implementation of a spill prevention, control and countermeasure plan (SPCC) and using a buffer system around wetlands.

The Application will discuss measures to be implemented during construction to avoid and/or mitigate impacts to the maximum extent practicable to wetland and waterbody resources.

Wildlife

Amphibians and Reptiles

Amphibian and reptile distribution information for the Project Area was accessed through the NYSDEC "Amphibian and Reptile Atlas Project" (Herp Atlas Project) website. The Herp Atlas Project is a 10-year survey from 1990 to 1999 designed to document the distribution of the approximately 70 species of amphibians and reptiles found in New York State.[1] The standard "unit of measurement" used to map the distribution of amphibians and reptiles is the USGS 7.5-minute series quadrangle. The Project Area is located on the Beaver Dams, NY 7.5-minute series quadrangle, and based on the Herp Atlas Project distribution maps, the reptiles and amphibians documented on these quadrangles include those listed in Table 3-1 below.

Table 3-1. Reptiles and Amphibians within Project Area

Scientific Name	Common Name	7.5 Minute Quadrangle
Amphibians		
Ambystoma maculatum	Spotted salamander	Beaver Dam
Bufo a. americanus	American toad	Beaver Dam
Desmognathus	Allegheny dusky salamander	Beaver Dam
Eurycea bislineata	Northern two-lined salamander	Beaver Dam
Notophthalmus v.	Red-spotted newt	Beaver Dam
Plethodon c. cinereus	Northern red-back salamander	Beaver Dam
Desmognathus fuscus	Northern dusky salamander	Beaver Dam
Pseudacris crucifer	Spring peeper	Beaver Dam
Lithobates (Rana)	American bullfrog	Beaver Dam
Lithobates (Rana)	Green frog	Beaver Dam
Lithobates (Rana)	Wood frog	Beaver Dam
Reptiles		
Chelydra s. serpentina	Common snapping turtle	Beaver Dam
Chrysemys picta	Painted turtle	Beaver Dam
Glyptemys insculpta	Wood turtle	Beaver Dam
Nerodia s. sipedon	Northern water snake	Beaver Dam
Thamnophis sirtalis	Common garter snake	Beaver Dam

[1]The Herp Atlas Project is commencing a new 10-year survey in 2018.

The Application will discuss potential direct and indirect impacts to reptiles and amphibians, including any potential mitigation and avoidance measures to be undertaken to avoid significant impacts.

Mammals

The Project Area plant habitats typically support mammals such as whitetail deer, black bear, coyote, red fox, gray fox, striped skunk, raccoon, Virginia opossum, eastern cottontail, woodchuck, eastern chipmunk, gray squirrel, red squirrel, and several species of bat, mouse, vole, shrew, and mole.

The Application will describe potential direct and indirect impacts to mammal species reasonably likely to occur on or in the vicinity of the Project Area, including any potential mitigation and avoidance measures that will be undertaken, as required or appropriate.

Avian

The Project Area habitats are typical of those that support many common species of songbird, American crow, turkey vulture, red-tailed hawk, and American kestrel. Farm ponds, typical of the surrounding area, may provide habitat for common waterfowl such as mallard.

The Application will include descriptions of potential direct and indirect impacts to avian species reasonably likely to occur on or in the vicinity of the Project Area, including any potential mitigation and avoidance measures that will be undertaken, as required or appropriate.

Natural Communities or Habitats of Special Concern

An online review of the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS), and the NYSDEC Environmental Resource Mapper (ERM) indicated that there are no known significant natural communities or habitats of special concern located within the Project Area. As such, the Applicant does not anticipate adverse impacts to any federal or state-listed significant natural community, habitat of special concern, U.S. National Wilderness Area, or USFWS Critical Wildlife Habitat.

Threatened and Endangered Species

Federally Listed Threatened and Endangered Species

Initial contact has been made with the USFWS to discuss conservation measures and evaluate potential impacts to species identified within the Project Area. The USFWS Information for Planning and Conservation (IPaC) resource was used to determine the potential for federally listed threatened or endangered species, critical habitats, migratory birds or other natural resources in the vicinity of the Project Area (see Appendix E).

The USFWS IPaC Official Species List identified one species, the northern long-eared bat (*Myotis septentrionalis*), as potentially occurring within the Project Area vicinity. The northern long-eared bat is listed as a threatened species at the state and federal levels. The northern long-eared bat is a small bat, measuring an average of approximately 3 inches in total length. Adults weigh between 5 and 8 grams.

During the spring and summer months, northern long-eared bats spend the day roosting in trees or artificial structures, switching to a new roost every other day on average. Roost trees are defined as any tree with over three inches diameter at breast height. More specifically, typical roost trees also contain cracks, crevices, or hollows that enable the bat to roost during the day. Most roost trees are either dead, desiccated, or contain deep furrows, hollows, or peeling bark to allow for effective roosting. In the fall, northern long-eared bats migrate to caves to hibernate over the winter months. This species typically hibernates together with much larger numbers of bats of other species, although hibernating groups of northern long-eared bats still number in the hundreds. Due to the spread of white-nose syndrome within hibernacula and this species sharing hibernacula, northern long-eared bats (from hibernacula counts) have declined by up to 99 percent in the northeast, causing it to be listed federally as a threatened species (USFWS, 2016).

State-Listed Threatened and Endangered Species

The NYSDEC's online ERM tool was accessed for information on state-listed protected species or significant natural communities within the Project Area vicinity. The results of the ERM review indicated no known occurrences of "Rare Plants and Rare Animals" or significant natural communities in the vicinity of the Project. Initial contact has been made with the New York Natural Heritage Program (NYNHP) and NYSDEC to discuss conservation measures and evaluate potential impacts to state-listed species potentially located within the Project Area.

Grassland Breeding Birds and Winter Raptors

As the Project Area includes areas of grasslands, in May 2018, the Applicant developed a Grassland Breeding Bird Survey Site-Specific Work Plan to describe the approach for determining presence and site use by state-listed threatened/endangered and rare grassland bird species during the breeding season (see Appendix F). Field surveys were conducted weekly from May 20 to July 20, 2018. The results of these surveys are currently being assessed and a final report summarizing the findings will be submitted to NYSDEC, subject to any required confidentiality protections, and will be included in the Application.

Additionally, the Applicant developed a Winter Raptor Survey Site-Specific Work Plan to describe the approach for determining presence and site use by state-listed threatened/endangered and rare winter raptor species. Field surveys were conducted weekly from November 15, 2018 through March 31, 2019. The results of these surveys are currently being assessed and a final report summarizing the findings will be submitted to NYSDEC, subject to any required confidentiality protections, and will be included in the Application.

Invasive Species Management

The Application will include a comprehensive list of the invasive plant species that were observed within the anticipated limits of disturbance during the field investigations. Invasive species are known to spread through vectors such as construction vehicles and equipment. In order to mitigate this potential, the Application will incorporate an Invasive Species Control Plan (ISCP), which will include measures to educate workers, mitigate the risk of imported fill introducing invasive species, clean equipment effectively, develop site grading plans and erosion and sediment control plans designed to mitigate the chance of spreading invasive species, and also establish a monitoring regime for invasive species spread post-construction.

Currently, the Applicant does not plan to conduct large-scale transportation of fill material to, from, or within the Project Area. As such, the potential to spread invasive species by this mechanism is presumed to be negligible for this Project. If transported fill is deemed necessary, the Applicant will require contractors to assure that imported fill is free of invasive species prior to use. Furthermore, it is currently anticipated that fill will not need to be transported off the Project Area. Remnant stockpiled materials are planned to be spread as part of restoration.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 22 of the Application in accordance with §1001.22:

(a) A list including identification and description of the type of plant communities (including food crops and livestock feed crops and livestock grazing areas) present on the Project Area, the interconnections, and adjacent properties, based upon field observations, desktop review of literature, and data collection, consistent with the nature of the site and access control to adjacent properties. This will be based upon field investigations and observations, desktop review of literature, and data collection, consistent with the nature of the site and access control to adjacent properties. The observation date for each species will be included as part of the plant community descriptions. The Application will also include maps and shapefiles depicting plant communities identified within the Project Area, electric interconnection lines, and adjacent properties (based upon roadside surveys).

1. The list will include specific information on, and a detailed description of, all communities found within parcels that will host facility components based on communities described in the Ecological Communities of New York State (Edinger et al., 2014). For each community identified, Heritage Program Element Ranks will be provided.
2. Maps of the Project Area at a scale of 1:6,000 (1”=500’) , based on aerial photography, and National Land Cover Data (NLCD) information showing approximate locations and extent of identified plant communities as classified according to Ecological Communities of New York State (Edinger et al., 2014).
3. Maps at a scale of 1:1,200 (1”=100’) showing approximate locations and extent of identified plant communities as classified according to Ecological Communities of New York State (Edinger et al., 2014) for Project Areas within 500 feet of disturbance. Plant communities for parcels outside the Project Area on which the Applicant does not have control will be determined as identified through the National Land Cover Database (NLCD), and observations made from publicly accessible roads, as feasible.

(b) An analysis of the temporary and permanent impact of the construction and operation of the Project and the interconnections on the vegetation identified, including a mapped depiction of the vegetation areas showing the areas to be removed or disturbed, and including a plan to identify the presence of invasive species and to prevent the introduction and/or spread of invasive species.

1. Proposed temporary and permanent impacts to plant communities shall be calculated and discussed including:
    i. A discussion of specific assumptions associated with approximate limit of vegetation clearing for each type of Facility component as identified in the Preliminary Design Drawings associated with Exhibit 11;
    ii. A table listing area assumptions used to determine vegetation disturbance by component associated with Exhibit 11 (e.g., solar panel installations, roads, collection lines, staging area);
    iii. The number of acres of each habitat type impacted, calculated using GIS software, and presented in a summary impact table. Permanent impact calculations will include all tree clearing and other cover type conversion for construction and operation of the Facility.
    iv. The plant community mapping will also depict vegetation cover types and any concentrations of invasive species in relation to proposed limits of vegetation disturbance, and associated GIS shapefiles of all areas of disturbance will be provided to NYSDEC and NYSDPS and to any intervening parties upon written request, subject to any confidentiality limitations.

2. An overview of vegetation management plans for operation and construction of the Facility, including a discussion of ground cover maintenance and tree clearing and ongoing vegetation maintenance required to prevent shading of solar panels.

(c) An identification and evaluation of reasonable avoidance measures or, where impacts are unavoidable, mitigation measures, including use of alternative technologies, that will be implemented to avoid, minimize, and potentially mitigate, to the maximum extent practicable, for any temporary and permanent impacts to existing, non-invasive plant

communities particularly grasslands, interior forests, wetlands, shrublands, young successional forests, food crops and livestock feed crops, and livestock grazing areas, as a result of the construction and operation of the Project.

1. A discussion of measures to be included to avoid and minimize impacts to vegetation such as co-locating linear Project components, and constructing all panels, buildings, storage areas, and other structures in areas already developed or disturbed, to the maximum extent practicable.
2. A discussion of measures for post-construction vegetative restoration will be included such as reseeding disturbed areas with appropriate native seed mix or planting native woody species, as necessary, to recreate or enhance wildlife habitat and agricultural uses outside fenced areas.
3. A summary impact table quantifying anticipated temporary and permanent impacts associated with the various facility components in relation to Project Area wildlife habitats, and vegetation cover types classified according to Ecological Communities of New York State (Edinger et al., 2014), particularly grasslands and interior forests, if affected.

(d) A characterization of the Project Site and any areas to be disturbed for interconnections as to the vegetation, wildlife (including mammals, birds, amphibians, terrestrial invertebrates, and reptiles) and wildlife habitats, that occur in, on, or in the vicinity based on reconnaissance or multi-season surveys and data collection appropriate to the nature of the site, supplemented by available data from the NYNHP, New York State (NYS) Amphibian and Reptile Atlas Project, the NYS Breeding Bird Atlas and range maps, Breeding Bird Survey Routes, Christmas Bird Counts and other similar reference sources, including time and date (i.e. day, month, and year) of observation, to the extent time and dates are available. Characterization will include:

1. Assessments of suitable habitat within the Facility Area, and an identification and depiction of any unusual habitats or significant natural communities that could support state or federally listed endangered or threatened species or species of special concern. Note that wetlands are addressed separately in paragraphs (i) through (o).

2. For the specific surveys identified and where draft reports to be submitted to NYSDEC have been identified, the Applicant will provide said draft reports to the NYSDEC, as soon as possible, when finalized.

3. A discussion of the extent, methodology and results of all avian, bat, amphibian, and other wildlife surveys that have been and will be conducted within the Project Area and Study Area will be included. Information on and a characterization of aquatic and terrestrial vegetation, wildlife and wildlife habitats that occur within the Project Area will be included, specifically an identification and description of plant communities, plant species and wildlife habitat. Such descriptions will include field identification and verification of aquatic habitats, plant communities, and other wildlife habitat that could potentially support federally or NYS-listed T&E species, species of special concern (SSC), and species of greatest conservation need (SGCN) as documented during on-site field investigations (e.g., ecological cover type assessments, habitat assessments, and wetland delineations). Habitat identification will include the results of field studies, the Grassland Breeding Bird Survey, and Winter Raptor Survey. Coordination with USFWS, NYSDEC staff, and NHP database to document known occurrences of bat species in the Study Area, and relevant, applicable information regarding terrestrial vegetation, wildlife and wildlife habitats will be provided in the Application.

(e) The Application will include an inventory of and information on plant species and wildlife species (mammals, birds, terrestrial invertebrates, amphibians, and reptiles (herpetofauna)) known or reasonably likely to occur within the Project Area and areas to be disturbed for interconnections at some time during the year based on site observations, as well as existing data available from the following sources: NHP; NYSDEC; USFWS; local bird/wildlife experts; New York State Amphibian & Reptile Atlas Project (Herp Atlas); Breeding Bird Atlas (BBA); USGS Breeding Bird Surveys (BBS); Christmas Bird Counts (CBC); Hawk Migration Association of North America (HMANA); eBird; The Nature Conservancy surveys/reports; county-based hunting and trapping records maintained by NYSDEC, , and supplemented by reasonably available public information, including those identified in paragraph (d) above, and/or not already listed in this paragraph. On-site field surveys (e.g., avian and bat surveys, amphibian/reptile surveys; ecological cover type assessments, habitat assessments, wetland delineations, etc.) and the availability of

suitable habitat, will also be used to identify species that could potentially occur within or in near the Project Area at some time during the year. The inventory will specify whether species were observed, known to occur in Facility site, or are predicted to occur based on habitat characteristics and historical records. Information on terrestrial invertebrates should be limited to a general discussion regarding the range of species likely to occur near the Facility.

(f) A narrative analysis and associated mapping to explain and illustrate potential and expected construction, operation, post-construction restoration, and maintenance impacts of the Project and interconnections on vegetative cover types, wildlife (reptiles, amphibians, mammal species, and avian species), wildlife habitats (including a discussion of impacts from functional loss and degradation of habitat, forest and grassland fragmentation, and wildlife displacement), wildlife concentration areas, wildlife travel corridors, if identified, and terrestrial and aquatic organisms. This will include a detailed assessment of direct and indirect impacts and identification and evaluation of the expected environmental impacts of the Project on New York State species of special concern (SSC), Species of Greatest Conservation Need (SGCN), and threatened and endangered species protected by State and Federal law and the habitats of such species. Given the provisions of §3-0301(2)(r) of the Environmental Conservation Law and §15 of the PSL, information that identifies the locations of habitats of such species or any other species or unique combination of species of flora or fauna where the destruction of such habitat or the removal of such species there from would impact their ability to survive, shall not be disclosed to the public and shall only be disclosed to the parties to a proceeding pursuant to an appropriate protective order. The Application will also include the following analyses:

(1) Avian analyses, specifically Breeding Bird Surveys and Winter Raptor Surveys, were conducted. Grassland Breeding Bird Surveys were conducted from May 20 to July 20, 2018. Winter Grassland Raptor Surveys were conducted from November 15, 2018 to March 31, 2019. The scope included property under the Applicant’s control or visible from public roads. A draft of each report will be provided to NYSDEC as soon as possible, Final reports for both surveys, incorporating any comments provided by NYSDEC, (if practicable, upon notice to

NYSDEC as to the estimated filing date of the application) will be provided in the Application, as will an assessment of any potential direct and indirect impacts to grassland bird species habitat as a result of the Project. In addition, a discussion and analysis of any bat and avian information relevant to the Project Site that is provided by NYSDEC or USFWS prior to the submission of the Application will be included (if practicable, upon notice to NYSDEC and USFWS as to the estimated filing date of the application).

(2) USFWS, NYSDEC staff, and NHP database information will be used to determine if any bat hibernacula or maternity roosts are located within the Study Area. If hibernacula or roosts are identified within five miles from the Project Area or any Project component or boundary, the location and distance to each identified hibernaculum and roost will be provided separately and confidentially to NYSDEC.

(3) Information on amphibians and reptiles based on the New York State Amphibian & Reptile Atlas Project (Herp Atlas), database records obtained from NHP, NYSDEC and USFWS, assessments of suitable habitat within the Project Area, and any field observations made within the Project Area will be provided. To the extent that vernal pools and their functions (including the surrounding upland habitat) may be impacted by construction, operation or maintenance of the Project, those features will be identified under appropriate seasonal conditions, and these impacts will be identified and assessed in the Application. Such impacts may require, in consultation with NYSDEC and NYSDPS, the development and implementation of site-specific surveys for amphibian and reptile species under appropriate seasonal conditions to fully quantify the level of impact from the Project.

(4) The Application will discuss potential construction-related direct and indirect impacts to wildlife (reptiles, amphibians, mammal species, and avian species) and wildlife habitat, including but not limited to incidental injury and mortality due to construction activity and vehicular movement, habitat disturbance and loss associated with vegetation clearing and earth-moving activities, and the displacement of wildlife from preferred habitat, likely to occur within the Project Area, including any potential mitigation and avoidance measures that will be

undertaken. NYSDEC will be contacted to obtain the most recent breeding, wintering, and habitat data for State-listed species, and the USFWS Field Office in Cortland, New York will be contacted to obtain the most recent breeding, wintering, and habitat data for federally listed and protected species, and such information that is provided by NYSDEC or USFWS prior to the submission of the Application will be included (if practicable, upon notice to NYSDEC and USFWS as to the estimated filing date of the application).

(5) The Application will discuss potential operational and maintenance-related direct and indirect impacts related to reptiles, amphibians, mammal species, and avian species likely to occur within the Project Area, including any documented wildlife corridors or concentrations areas.

(6) The assessment of herbicide application, if determined necessary, will consider the potential for short- and long-term impacts to plants, crops (human and livestock), grazing lands, animals (both livestock and wildlife), and habitats in the Project Area, as applicable, as well as trees, ground cover, and other vegetation planted as part of restoration, mitigation and habitat enhancement activities, as applicable.

(7) In addition to site-specific field studies, a literature review of reasonably available public information will be utilized to assess impacts to wintering and breeding grassland bird species resulting from the construction, operation, post-construction restoration and maintenance of the Project. Based upon the aforementioned literature review, the Application will include a discussion of the potential population-level effects habitat loss is likely to have on grassland bird species within the 2-mile Project Study Area and at a regional scale due to the proposed Project.

(8) The Application will include a summary impact table that clearly quantifies anticipated temporary and permanent impacts associated with all Project components in relation to wildlife habitats, identified concentration areas or travel corridors, and vegetation cover types, particularly grasslands, interior forests and young successional forests, if affected.

(9) A discussion of the potential impacts of the Project on wildlife species and the habitats that support them within the Study Area.

(10) If it is determined that a "take" of a threatened and/or endangered species will be caused by the construction, operation, post-construction restoration, or maintenance of the Project within the meaning of 6 NYCRR 182, a full post-construction monitoring plan will be developed prior to the start of construction and submitted in the Compliance Filing for approval. The Application will also include information associated with a proposed post-construction monitoring plan to be implemented to assess direct and indirect impacts of the Facility on wildlife species and their habitats. The details of a full post-construction monitoring plan will be developed on a site-specific basis through discussions between NYSDEC, the Applicant, and USFWS (if federally-listed species may be impacted), and at a minimum specify the following: the expected and allowed level of take of each T&E species that may be impacted; survey monitoring methods, effort, duration, data reporting, and compliance documentation; construction parameters; proposed adaptive management responses, if applicable, and mitigation measures sufficient to ensure the Applicant comply with the substantive requirements of 6 NYCRR Part 182. A full post-construction monitoring plan will be developed prior to the start of construction, approved by NYSDEC, and submitted in the Compliance Filing.

(11) A cumulative impact analysis will be done to evaluate the actual and expected impacts from the construction operation and maintenance of the Project on federally and State-listed threatened or endangered species, particularly grassland birds, in combination with the impacts of proposed and operating solar energy projects equal to or greater than 5 MW occupying grassland habitat within 100 miles of the Project Area based exclusively upon the NYSDEC data base to be provided to the Applicant, and any publicly available information the Applicant, in its sole judgment, chooses to employ (Study Projects) but not beyond New York State borders (Grassland Study Area). The Applicant is not required to perform any avian studies at the Study Projects and reserves its right to object to other requests for cumulative studies. This analysis will include, at a minimum:

(i) Examination of open and grassland habitat data on the Study Projects within the Grassland Study Area relying exclusively on the NYSDEC database to be provided to the Applicant and any publicly available

information the Applicant, in its sole judgment, chooses to employ. The Applicant is not required to make Freedom of Information Act requests;

(ii) Estimated take of state-listed T&E bird species and their habitats at the Facility, if any, and a description of methods used, and sources consulted to estimate take;

(iii) Estimates of available open and grassland habitat within the Grassland Study Area relying exclusively on the NYSDEC database to be provided to the Applicant;

(iv) Estimates of acres of grassland breeding bird habitat lost directly through installation of panels and other project components at the Study Projects, using best available information or typical industry solar land use metrics;

(v) Estimates of acres of grassland habitat indirectly affected by the Study Projects due to functional loss/degradation of habitat; and

(vi) Cumulative impacts on grassland habitat use, particularly potential impacts on state-listed grassland bird species, within the Facility Area.

(g) An identification and evaluation of reasonable avoidance measures or, where impacts are unavoidable, measures to minimize impacts during siting and development of the Facility, to the maximum extent practicable, including the use of alternative technologies, regarding impacts to vegetation, wildlife and wildlife habitat. The Project design, construction controls, and operational, post-construction restoration, and maintenance measures that can be reasonably implemented to first avoid to the maximum extent practicable, then minimize, and mitigate for impacts to wildlife and wildlife habitat as a result of construction, operation post-construction restoration, and maintenance of the Project will be described. If such impacts cannot be demonstrably avoided to the maximum extent practicable, a discussion of the minimization measures to be implemented for impacts associated with habitat loss, fragmentation, displacement, and mortality will include careful site design while adhering to designated construction limits and seasonal restrictions, and other BMPs. If any demonstrably unavoidable impacts are anticipated to listed T&E species or their habitats as a result of the Project, a commitment to mitigate in an appropriate and timely manner will be included. Such mitigation will be determined only after avoidance and minimization measures are evaluated and will result in a net conservation benefit to the target species.

(h) Specific impacts to avian and bat species related to wind powered facilities is not applicable to this Project.

(i) A map, at a scale of 1":100' or similar, showing delineated boundaries based on on-site identification of all federal, state and locally regulated wetlands present on the Project Site and within 500 feet of areas to be disturbed by construction, including the interconnections, for land under control by the Applicant. The map will also include an estimation of the presence and extent of wetlands located greater than 500 feet from the areas to be disturbed, on land controlled by the Applicant, or are located within 500 feet of the limits of areas to be disturbed but are on parcels over which the Applicant does not have control. The estimations may be based on remote-sensing data, interpretation of published wetlands and soils mapping and aerial photography. This methodology is consistent with the United States Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987), the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual, the New York State Freshwater Wetlands Delineation Manual (1995), and the DPS Staff interpretation dated May 31, 2018, concerning the delineation of all federal, state and locally regulated wetlands present on the site and within 500 feet of areas to be disturbed by construction. Additionally:

(1) All wetlands in the Project Area, including those within 50 meters of a NYSDEC mapped wetland, regardless of size or connectivity, will be delineated and included in field mapping. Detailed location maps and ecological characterization data for all vernal pools located within 500 feet of related disturbances on all Project parcels will be included. Any part of the 500-foot survey area which falls outside of the Project parcels, without accessibility, will be estimated within 500 feet of the limits of disturbance

(2) Wetland estimation will only occur for areas located within 500 feet of areas to be disturbed by the Project, and will be made using one or more of the following techniques: on-site observations, observations made form public roads and adjacent Facility parcels, interpretation of aerial imagery, analysis of topography, existing databases of hydric soils, other remote-sensing data as available, and,

wetland and soils mapping maintained by NWI and NYSDEC. Wetlands identified using one or more of the techniques described will be referred to as "predicted wetlands."

(3) Wetland boundaries will be defined in the field by sequentially numbered pink surveyor's flagging marked "wetland delineation", the locations of which will be documented using GPS technology with reported sub-meter accuracy. Wetlands identified by these methods will be referred to as "delineated wetlands", and wetlands that are verified by the USACE and the NYSDEC will be referred to as "jurisdictional wetlands." On-site field delineations shall include boundary flagging of all 100-foot wetland adjacent areas where such flagging does not interfere with currently active agricultural practices. All remaining 100-foot wetland adjacent areas boundaries will be flagged prior to construction/ground disturbance when agricultural practices are no longer active.

(4) Information indicating which delineated wetlands are likely NYSDEC regulated, including those that are part of wetland complexes that meet NYS-criteria for jurisdiction (i.e., 12.4 acres or larger, of unusual local importance and/or support listed species) whether currently mapped or not, will be included. All NYS-regulated wetlands will be identified by NYSDEC's wetland identification number in addition to the code assigned by the Applicant during delineation. The Applicant will coordinate with the NYSDEC and USACE, so the agencies may make final wetland jurisdictional determinations of field verified, mapped, and unmapped wetlands. The Application shall include information concerning the jurisdictional status of wetlands that is provided by NYSDEC or USFWS prior to the submission of the Application (if practicable, upon notice to NYSDEC and USFWS as to the estimated filing date of the application).

(5) The Applicant will provide NYSDEC and NYSDPS with maps and shapefiles depicting the boundaries of all wetlands, jurisdictional wetlands, predicted wetlands, and all corresponding adjacent areas within the entire Facility upon finalization. All wetland boundaries will be keyed to the submissions described in Exhibit 11 (Preliminary Design Drawings). The "predicted wetland" boundaries shown on site plans should be differentiated from field "delineated wetland" boundaries when displayed on maps, site plans, and shapefiles. Maps and

shapefiles showing the boundaries of all delineated wetlands, jurisdictional wetlands, predicted wetlands, and all corresponding adjacent areas within the entire Facility should also include all Facility components; proposed grade changes; the limits of ground disturbance and vegetative clearing.

(j) A description of the characteristics of all federal, state and locally regulated wetlands delineated as described above, including the Cowardin classification, and a description of the vegetation, soils, and hydrology data collected for each of wetland sites identified, based on actual on-site wetland observations. Copies of all wetland determination data forms, compiled into a Wetland and Stream Delineation Report, will be included in the Application.

(k) A qualitative and descriptive wetland functional assessment, including seasonal variations, for all wetlands delineated above for groundwater recharge/discharge, floodflow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal, sediment/shoreline stabilization, wildlife habitat, recreation, uniqueness/heritage, visual quality/aesthetics, and protected species habitat.

1. Vernal pools will be inventoried. The Application will identify vernal pools that could be disturbed by construction and operation of the Facility. A discussion will be included that evaluates the use of the identified vernal pools by amphibians and the potential impacts to those species. Such evaluation of impacts may require, in consultation with NYSDEC and NYSDPS, the development and implementation of site-specific surveys for amphibian and reptile species under appropriate seasonal conditions in order to fully quantify the level of impact from the Facility.

(l) An analysis of all wetlands outside of the Project Area that may be hydrologically or ecologically influenced by the development of the Project Site and the wetlands identified above, observed in the field where accessible to determine their general characteristics and relationship, if any, to wetlands delineated as above. A wetland and waterbody delineation report will be included as an attachment to the Application and will include an analysis of the potential hydrologic connectivity of all wetlands within the Facility Area to

adjacent offsite wetlands and will include a summary of those wetlands anticipated to fall under NYSDEC jurisdiction and USACE jurisdiction. Assessments of potential NYS wetlands jurisdiction will include both "mapped" and "unmapped wetlands" that meet NYSDEC's 12.4-acre size threshold (including any wetlands of any size separated by less than 50 meters which function as a unit in providing wetland benefits, within the meaning of 6 NYCRR Part 6643(b), or otherwise meet NYS criteria for jurisdiction over a wetland (see 6 NYCRR § 663.24(p)).

(m) An identification of temporary and permanent impacts to wetlands (and any state-regulated 100-foot adjacent areas) based on the proposed footprint of all Facility components and associated impact assumptions. A summary and table will be included in the Application to identify and quantify temporary and permanent impacts to, and any permanent conversions of wetlands and NYS-regulated 100-foot adjacent areas based on the proposed footprint of all Facility components and associated impact assumptions. The table will also indicate permanent forest conversion, if any, caused as a result of the construction or maintenance of the Facility. For each resource included in the temporary and permanent impact table, the following information will be included as determined applicable.

1. Wetland impacts will be presented in a table that will include:
    i. All State-regulated and jurisdictional wetlands, Federal wetlands, streams, and environmentally sensitive areas that could potentially be impacted by the proposed Project as depicted in preliminary design drawings or wetland delineations;
    ii. Applicant-assigned wetland identification code, NYSDEC wetland identification number, NYSDEC wetland classification, and NYSDEC stream classification;
    iii. Describe the type and acreage of impact including; permanent, temporary, fill, forest conversion, and including vegetative cover type affected by each impact.
    iv. The associated crossing methodology for each wetland, clearly discerning between federal and state wetland and 100-foot adjacent area impacts.
    v. Calculation of impacts to both wetlands and 100-foot adjacent areas of state regulated wetlands.

vi. Include wetland delineation type (i.e., field survey, review of aerial imagery, roadside observation, etc.);

vii. For each resource explain if it could reasonably be avoided.

viii. Propose site specific actions to minimize impacts to resources that are not bypassed, to the maximum extent practicable.

ix. Identify the corresponding page number on preliminary design drawings depicting the resource, and on the mapping described below.

2. Impacts to wetlands will be presented on a separate set of site plan drawings at 1":100' scale, showing wetland and stream boundaries, permanent and temporary structures, stream crossings, roads, power interconnects, grade changes, and the limits of disturbance.

3. For each item identified in the table described 22(m)(1) above, the following will also be provided, as applicable:
   (i) Explanation of whether the resource could reasonably be avoided;
   (ii) Proposed site-specific actions to minimize impacts to resources that are not avoided, to the maximum extent practicable;
   (iii) Proposed site-specific actions to mitigate impacts that are not avoided to the maximum extent practicable; and
   (iv) Proposed appropriate compliance monitoring schedule to ensure mitigation is successful, including adaptive management actions to be implemented should the planned mitigation fail.

(n) An identification and evaluation of reasonable avoidance measures or, where impacts are unavoidable, mitigation measures to be employed to offset impacts to streams, wetlands, and 100-foot adjacent areas will be discussed including the use of alternative stream and wetland crossing methods, alternative technologies, and control of potential phosphorus and nitrogen sources from the Project. The Application's discussion of avoidance and minimization will be updated, if necessary, upon verification of wetland boundary and jurisdictional wetlands. Where appropriate, mitigation shall include plans for compensatory mitigation. Such plans shall contain sections on grading, planting, and monitoring for success.

1. Where impacts to wetlands are unavoidable, and have been minimized to the maximum extent practicable, the anticipated mitigation measures to be implemented to offset impacts to wetlands and NYS-regulated 100-foot adjacent areas will be discussed, including the use of reasonable alternative stream and wetland crossing methods. A conceptual mitigation plan for impacts to NYS-regulated wetlands and adjacent areas will be included, in the Application pursuant to 6 NYCRR 663.5(g) and at a minimum, will meet the following provisions:
    i. The mitigation occurs on or in the immediate vicinity of the Facility (preferably elsewhere in the same wetland);
    ii. The area affected by the proposed mitigation is regulated by the Freshwater Wetlands Act and 6 NYCRR Part 663 after mitigation measures are completed; and
    iii. The mitigation provides substantially the same or more benefits than will be lost through the proposed activity.
    iv. A final mitigation plan, as applicable, will be provided in the Compliance Filing after consultation with NYSDEC and USACE.

2. Off-site mitigation will only be considered if:
    i. The analysis being provided shows that all options within the immediate vicinity were thoroughly evaluated and determined to not be feasible.
    ii. A discussion of avoidance and minimization efforts considered is included. This should indicate methods to be implemented to avoid wetland and stream impacts, as well as address the methodology and a description of Facility construction and operation, relating to the standards established by ECL Articles 15 and 24.
    iii. A statement and discussion regarding the Applicant's consideration of the following impact and avoidance and minimization measures will be included in the Application: utilizing existing or narrow crossing locations wherever possible, alternative siting or routing options, trenchless crossings (such as horizontal directional drilling (HDD) or other special crossing techniques), equipment restrictions, herbicide use restrictions, and erosion and sedimentation control measures.

iv. The Application will describe the anticipated environmental compliance and monitoring programs to be implemented during Facility construction, demonstrating adherence to all relevant permit conditions to protect wetlands, streams, and other waterbodies. The programs will include an Environmental Monitor(s) during construction and restoration activities on the Facility site, and a description of the Environmental Monitor's duties. The programs will describe the locations of all staging areas, temporary spoil or woody debris stockpiles, "extra work" areas, and other places material or equipment may be placed on site. The limits of disturbance around all such areas will be clearly defined in plan maps, and physically marked in the field using orange construction fencing or other similar indicators. Plans to restore all temporary disturbances in regulated areas, including replanting trees in disturbed forested areas, will be provided. The final programs will be submitted in the Compliance Filing.

(o) An identification of state and federal endangered or threatened species, Species of Special Concern (SSC) or Species of Greatest Conservation Need (SGCN) within the Project Area or that could be subject to impacts from the Project construction, operation, post-construction restoration, or maintenance, including incidental takings, and an endangered or threatened species mitigation plan, if applicable. Additionally:

(1) If impacts within the Project Area are unavoidable, a clear and reasoned explanation as to why complete avoidance of impacts to each affected species is not practicable, how the proposed minimization actions will minimize impacts to the maximum extent practicable, and proposed mitigation actions where impacts cannot be avoided or secondly minimized. If any such impacts cannot be demonstrably avoided to the maximum extent practicable, minimization actions and mitigation measures to be implemented will be developed in consultation with NYSDEC, DPS and USFWS (if federally-listed species may be impacted) to result in a net conservation benefit to the target species, and thorough post-construction monitoring will take place to adequately measure the Facility's direct and indirect impacts on the target species and evaluate the effectiveness of measures implemented as minimization actions.

(2) Analysis and documentation of T&E species, SSC, and SGCN will be included based on database records obtained from the NHP, other known records documented by NYSDEC, USFWS, (if practicable, upon notice to USFWS as to the estimated filing date of the application) and observation during on-site wildlife and habitat, ecological, and wetland surveys. If it is determined a "take" of a listed T&E species is unavoidable, including the modification of habitat on which a listed T&E species depends, an avoidance, minimization, and mitigation plan that demonstrates a net conservation benefit to the affected listed T&E species as defined pursuant to 6 NYCRR Part 182.11, along with the informational requirements of an Incidental Take Permit as provided for in 6 NYCRR Part 182.11, including proposed actions to first avoid all impacts to listed T&E species will be prepared. The Application will include a discussion and analysis of information collected as part of pre-construction monitoring surveys within the Project Area.

(3) A table of state listed species, federally listed species, SSC, and SGCN, occurring or likely to occur within the Project Area including the following columns:

i. Species name;
ii. Federal status;
iii. NYS status;
iv. SSC/SGCN listing;
v. Habitat preference identified according to Ecological Communities of New York State (Edinger et al., 2014);
vi. Identify maps from 10001.22(a)(3) that include habitat for each species;
vii. Source of information indicating potential or documented presence of species;
viii. Indication if species was observed onsite;
ix. Discussion of the type of impact (direct and/or indirect) that may occur to each listed species;
x. Estimated take of each listed species; and
xi. Evaluation of all impact avoidance measures considered and, if full avoidance is not feasible, a discussion of why such actions are not practicable.

(p) An Invasive Species Management and Control Plan (ISMCP) indicating the presence of invasive species and measures that will be implemented to minimize, to the maximum extent practicable, the introduction of new invasive species and spread of existing invasive species during soil disturbance, vegetation management, transport of materials, and landscaping/revegetation. The ISMCP will address species that were both identified in the invasive species concentration areas during the wetland delineation effort within the Project Area as well as those listed in 6 NYCRR Part 575. Management and control measures included in the Plan will vary depending on invasive species type identified during the aforementioned field efforts. The Plan will include:

1. A list of all invasive plant species observed during field investigations and known to occur within the Facility Area. The list of invasive plant species in areas of proposed disturbance shall be based on observations recorded concurrent with field surveys
2. For areas of high invasive species density and as useful for management of individual invasive species, identification of an area and concentration threshold that requires mapping and an individual management plan. GIS files of such concentration areas will be provided to NYSDEC.
3. A list of invasive species other than plants included in 6 NYCRR §575.3 and §575.4 (http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf), if any, limited to those incidentally observed during field work, including maps at a scale of 1:1,200 of any identified concentrations of non-native invasive species in areas of proposed disturbance. Additional invasive species not included on this list (e.g., wild parsnip, reed canary grass, etc.) may also warrant specific management and control measures, depending on currant populations of such species within and nearby the Project Area.
4. A final ISMCP shall be included in the Compliance Filing. Specifically, the plan will apply to all prohibited and regulated invasive species and include the following:
    i. A summary of the survey methods to be used to identify and mark existing non-native invasive species within the Facility site (i.e., baseline survey, including the transmission line corridor (if applicable). A field

verification of the location(s) of invasive species conducted during the growing season immediately prior (within at least six months) of the start of vegetation or ground disturbance activities;

ii. An action plan for pre-construction management of non-native invasive species, including threshold for action. Specific methods to be used to ensure that packing material, imported fill and fill leaving the Facility site will be free of non-native invasive species material, seeds, and parts to the extent practicable;

iii. Specification on how fill materials to be placed within the Facility site will be free of non-native invasive species material, seeds, and parts, by source inspection or other method, or only used within areas already containing those specific non-native invasive plant and invertebrate species infestation;

iv. Detailed description of specific measures that will be used to prevent the introduction, spread, and proliferation of all non-native invasive species due to the implementation of the Facility's grading, erosion and sediment control plan;

v. Details of procedures for preventing the spread of invasive invertebrates and diseases, and a discussion of how the Applicant will comply with the NYS quarantine and protective zones, where applicable;

vi. Detailed plans describing how appropriate measures will be implemented to ensure that equipment and personnel arrive at and depart from the Facility site clean and free of all non-native invasive species material, seeds, and parts. The protocol for inspection of equipment arriving at the Facility site will be provided in the Application;

vii. A detailed description of cleaning procedures for removing non-native invasive species material, seeds, and parts from equipment and personnel, and properly disposing of materials known to be or suspected of being infested;

viii. Detailed description of the BMPs or procedures that will be implemented, and the education measures that will be used to educate workers;

ix. Detailed description of a minimum of 5-year post-construction monitoring and corrective action plan, to achieve the goal of no new invasive species

in the Facility area and no new locations of existing invasive species in the Facility area, and survey measures and procedures for revising the Invasive Species Control Plan in the event that the goals of the initial plan are not met within a specified timeframe;

x. Anticipated methods and procedures used to treat non-native invasive species that have been introduced or spread as a result of the construction, operation or maintenance of the Facility (based on comparisons against the baseline survey); and

xi. Landscape re-vegetation plans, including specification of native seed mix to be used, as appropriate.

(q) An analysis of the temporary and permanent impacts of the construction and operation of the Project and interconnections on agricultural resources, including the current agricultural use of the Project Area, if any, acres of agricultural land temporarily impacted, the number of acres of agricultural land that may be considered permanently converted to nonagricultural use, and mitigation measures to minimize the impact to agricultural resources, to the maximum extent practicable. This analysis will include reference to the 2018 or latest edition of the NYSDAM's *Guidelines for Agricultural Mitigation for Solar Energy Projects*. If for any reason guidelines cannot be met, NYSDAM will be contacted to discuss applicable alternatives.

(r) Watkins Glen Solar Energy Center, LLC conducted grassland breeding bird surveys from May 20 to July 20, 2018 and winter raptor surveys from November 15, 2018 to March 31, 2019. The results of these surveys will be provided in the Application, as will an assessment of any potential impacts to grassland bird and/or winter raptor species habitat as a result of the Project.

3.23 Aquatic Ecology and Water Resources (Exhibit 23)

Exhibit 23 of the Application will include a review of the Project Area's surface water resources, groundwater resources, and associated aquatic ecology. The review will involve a summary and mapping of existing conditions, an in-depth impact analysis of the Project, and will outline impact avoidance and mitigation measures undertaken by the Applicant.

Groundwater

A preliminary review of the Project Area indicates that the depth to the water table for the 14 soils mapped in the Project Area by the NRCS ranges from 0 inches (surface) to greater than 80 inches. Four of the soil map units have a depth to lithic bedrock of 20 to 40 inches, and the remainder of the map units are each listed as having a depth to a restrictive layer of greater than 80 inches (USDA NRCS, 2018).

Primary aquifers are defined by the USGS and the NYSDEC as "*highly productive aquifers presently utilized as sources of water supply by major municipal water supply systems*" (NYSDEC, 1990). Based upon preliminary review of agency mapping, the Project Area does not contain any portion of a primary aquifer. The closest primary aquifer is the Bath Aquifer, which is approximately 9.0 miles west of the Project Area (Pagano et al., 1984).

Principal aquifers are defined as "*aquifers known to be highly productive or whose geology suggests abundant potential water supply, but which are not intensively used as sources of water supply by major municipal systems at the present time*" (NYSDEC, 1990). Based upon preliminary review of agency mapping, the Project Area does not contain any portion of a principal aquifer. The nearest principal aquifer is associated with the Chemung River, about 1.3 miles southwest of the Project Area.

The Finger Lakes sheet of the "*Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York*" map (Miller, 1988) does not indicate the presence of unconsolidated groundwater aquifers beneath the Project Area (see Figure 10). The map does, however, indicate the presence of one aquifer of unknown potential within the northern part of the Project Area. This aquifer is identified with the map unit "M," representative of aquifers formed in moraine deposits of mostly till and fine sand.

The Application will provide maps based upon publicly available information and the preliminary geotechnical investigation to depict depth to the water table, depth to bedrock, groundwater aquifers, and groundwater recharge areas for the entire Project Area. Groundwater aquifer maps will also be prepared based upon publicly available information depicting groundwater flow direction, groundwater quality, groundwater well locations, and associated exclusion zones where information is readily available. These maps will be based on information gathered from the NYSDEC Division of Water Resources, Bureau of Water Management, USGS Office of Groundwater, the USDA NRCS Web Soil Survey, and information gathered through research and outreach from the Applicant.

To identify water wells within the Project Area, a Freedom of Information Law (FOIL) request letter will be sent to the Schuyler County Public Health Department and the NYSDEC to request access to all publicly available water well information. The Application will include information received from the NYSDEC and Schuyler County on water wells, including location, depth, yield, and use, if such data are available. Figure 12 provides preliminary identification of currently mapped water wells.

Excavations for foundations and roadways are expected to be relatively shallow and are not anticipated to intercept groundwater within the surrounding aquifers. The solar arrays will be set back from residences, and therefore, the majority of earthwork activities are generally not planned to occur in close proximity to residential drinking water wells. Construction of the Project will adhere to a Spill Prevention Control and Countermeasure (SPCC) plan and a SWPPP to prevent significant adverse impacts such as contamination and/or erosion due to surface runoff.

The Project may result in small, sparsely distributed areas of impervious surface within the Project Area. The Application will provide an analysis to summarize potential impacts to public and private drinking water supplies, groundwater quality, and associated aquifers within 1 mile of the Project Area. The Application will include analyses to address anticipated temporary impacts arising from any necessary dewatering for construction activities.

Though none are anticipated, an analysis of potential impacts to drinking water supplies due to construction or operations of the Project will be included in the Application including characterization of the type, nature, and extent of service provided from the identified source.

Additional detail regarding groundwater impacts will be supported in the Application with results from a preliminary geotechnical investigation. Specific avoidance and mitigation measures that will be implemented to protect groundwater resources during construction of the Project will also be provided.

Surface Water

The Application will provide Project Area surface water maps compiled from NYSDEC, Esri, and Schuyler County data, as well as data collected for streams during ongoing site-specific wetland and waterbody delineation surveys.

The Project Area is located within the Seneca drainage basin of New York (USGS Hydrologic Unit Code 04140201) and the Seneca Lake Inlet watershed (Hydrologic Unit Code 0414020106). According to the USDA NRCS, the Seneca basin is the largest sub-basin in NYS covering approximately 3,459 square miles. The entirety of Seneca County is covered by this basin, which also incorporates portions of Cayuga, Chemung, Cortland, Monroe, Onondaga, Ontario, Schuyler, Steuben, Tompkins, Wayne, and Yates Counties. This sub-basin contains 7 of the 11 Finger Lakes including Canandaigua Lake, Keuka Lake, Seneca Lake, Cayuga Lake, Owasco Lake, Skaneateles Lake, and Otisco Lake.

The NYSDEC classifies New York's streams as AA, A, B, C, and D. Classes AA or A are assigned to streams with the highest water quality. The best uses of class AA or A streams are: water supply for drinking; culinary or food processing purposes; primary and secondary contact recreation; and also fishing. Class B waters are suggested to only be used for primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing and non-contact related activities. Class D waters represent the poorest water quality standard, and it is advised that recreational activities do not occur within this water class. Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning.

Streams and small waterbodies located in the course of a stream with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS) are collectively referred to as "protected streams." Special requirements also apply to sustain (T) and (TS) waters that support sensitive fisheries resources.

Streams or other bodies of water that appear as lines to indicate natural waters on the NYSDEC reference maps, and which are not specifically classed by the NYSDEC, are assigned the same classes and standards of quality and purity as the specifically designated waters to which they are directly a tributary. Additionally, streams or other bodies of water that are not shown on the NYSDEC's reference maps are assigned to class D, as set forth in Part 701, *supra,* except that continuous flowing natural streams that are not shown on the reference maps are assigned the same classification and standards as the waters to which they are directly tributary (6 CRR-NY 876.2).

A Wetland and Waterbody Report, which will be appended to the Application, will describe the characteristics of delineated streams. The report will include a summary of each streams' flow regime, watershed association, National Wetlands Inventory (NWI) classification, physical characteristics (e.g., bed, banks, etc.), and assumed jurisdictional status. Figure 13 shows their mapped locations. All of the streams are part of the watershed identified as Hydrologic Unit Code (HUC) 041402010602. The design goal of the Project is to minimize, to the maximum extent practicable, impacts to wetlands.

The Application will describe the characteristics of all Project Area streams, including water quality, flow regime, and general aquatic ecology. Based upon a review of publicly available mapping, and initial on-site ecological surveys, there are multiple streams within the Project Area; however, they are all Class C streams and are therefore not regulated by the state. The Application will incorporate information acquired from publicly available data sets and from any field data that documents NYSDEC-listed invasive species observations made during the on-site stream delineations. Preliminary siting of Project components will include measures to avoid and/or mitigate temporary or permanent impacts to surfaces waters. Mitigation measures will include those commonly used and approved SPDES Stormwater Permits. Accordingly, a preliminary SWPPP will be included in the Application describing these avoidance/mitigation measures.

The Application will describe and quantify anticipated direct or indirect stream impacts associated with the construction of the Project. Surface water impacts are anticipated to occur primarily from access road and collection line crossings. The number and linear feet of stream impacts due to

access road crossings will be minimized by routing around streams when possible and using existing crossings and narrow crossing locations to the extent practicable. Attempts, when feasible, will be made to upgrade existing crossings that are in disrepair or are undersized.

When the crossing of a surface water resource is deemed necessary for the Project, BMPs based on those previously adopted by the Siting Board will be employed. Proper briefing and signage will be provided to construction crews to dictate areas where equipment access is prohibited. Crossings of streams and wetlands will only occur along permitted access roads or through non-jurisdictional use of temporary matting.

Restrictions on activities within a predetermined buffer zone adjacent to delineated streams, wetlands, and other waters will include:

- No equipment refueling or washing;
- No storage of petroleum or chemical materials;
- No disposal of concrete or wash water;
- No amassing of construction debris or accumulation of slash materials in the area;
- No use of herbicides within the area; and
- No actions that may result in the degradation of stream banks or steep slopes above water resources.

A FOIL request for the location of downstream surface drinking water intake sites within 1 mile of the Project Area will be sent to the Schuyler County Public Health Department. These locations will be depicted in a figure set provided as an appendix to the Application. If no intake sites are listed in this search radius, the nearest intakes downstream of the Project will be described. Information on the design, nature, and extent of services of each listed intake site will be provided within Exhibit 23 of the Application where readily available.

An erosion and sediment control plan will be incorporated into the SPDES General Permit for the Project to limit the possibility of soil erosion and sedimentation within water resources throughout the Project Area. Silt fences, hay bales, siltation catch basins, check dams, and/or other standardized sedimentation control measures will be installed and maintained throughout the construction and operation phases of the Project until impacted areas become stabilized. To facilitate soil stabilization, exposed soils will be seeded and mulched in a timely manner to reduce

the risk of sedimentation events arising from storm events. Control measures will be dictated in the Project SWPPP (see below). Their locations and design will be shown on appropriate construction drawings. As part of the SWPPP, a monitor will be in place throughout the work period and during the restoration period to inspect and assess sedimentation risk, and to mitigate unforeseen issues specific to the nature of the Project Area.

Stormwater

The Applicant will issue a Notice of Intent for Stormwater Discharges from Construction Activity and will seek authorization under the SPDES General Permit prior to commencement of construction operations.

The Application will include a preliminary SWPPP as an appendix, prepared in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (NYS Standards) and the New York State Stormwater Management Design Manual. The preliminary SWPPP will include:

- A Project introduction that will review the purpose, need, and appropriate contents of the complete SWPPP;
- Anticipated stormwater management practices, including erosion and sediment control measures;
- Anticipated construction activities, including a preliminary construction phasing schedule and definition of disturbance areas;
- Site waste management and spill control measures;
- Proposed site inspection and maintenance measures, including construction site inspection, and construction site record keeping; and
- Conditions that will allow for the termination of permit coverage.

As noted above, a preliminary SWPPP will be included in the Application. Preparation of the final SWPPP will require a level of detail that is not expected to be available until after the completion of the Application and final engineering. Following certification of the Project, the detailed engineering will proceed and aid in the preparation of the final SWPPP in accordance with the SPDES General Permit. Construction activities will adhere to the SWPPP for management of stormwater discharge within the Project Area during the construction and restoration phases of the Project. The erosion and sedimentation control plan will be developed as part of the SPDES

General Permit for the Project. The SWPPP will provide descriptions on temporary and permanent erosion and sedimentation control measures, phases of construction, disturbance limits, waste management, spill prevention, and site inspection and maintenance. Erosion and sedimentation control measures used during construction and operation of the Project shall, at a minimum, include the measures set forth in the SWPPP. The final SWPPP is intended to be submitted as part of the Compliance Filing.

Professional engineers will use hydrologic models to calculate stormwater discharges for the construction and operation phases of the Project. A pre-construction analysis of stormwater discharge from Project Area will be used to compare and contrast proposed conditions during the post-construction phase of the Project.

Chemical and Petroleum Bulk Storage

A preliminary SPCC plan will be created to be implemented during the construction and operation of the Project to prevent the release of hazardous substances into the environment, especially near water resources. As mentioned previously, all refueling operations will be required to occur outside the predetermined buffer area around wetlands and streams within the Project Area. All contractors will be required to have spill kits on hand to control any spills. This requirement and a list of the materials included in the kits will be explained in more detail within the SPCC plan and SWPPP provided to contractors. Spills will be reported in accordance with state and federal guidelines and the contractor will be required to adhere to both the SWPPP and SPCC Plan.

The Applicant does not anticipate on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of New York State. The Application will identify petroleum or other hazardous chemicals that are necessary for construction operations, as well as are proposed to be stored on site. The Application will also explain that applicable laws and guidelines for storage and disposal of such substances will be followed.

Aquatic and Invasive Species

Non-native invasive species have the potential to degrade aquatic environments. To minimize the impact on the environment, NYSDEC regulations address the possession, transport, importation, sale, purchase and introduction of select invasive species (6 NYCRR Part 575). These include

select aquatic species (i.e., fish, aquatic invertebrates and aquatic vertebrates) as listed in Prohibited and Regulated Invasive Species, dated September 10, 2014. Aquatic and invasive species will be surveyed by a field ecologist and mapped within areas planned for disturbance by the Project facilities to support the development of an invasive species prevention and management plan. Observations of invasive species will be documented, and a comprehensive ISCP will be generated and used to mitigate the transport and spread of observed aquatic invasive species. The ISCP will be included as an appendix to the Application.

The ISCP will evaluate reasonable avoidance/mitigation measures to reduce impacts to surface waters and biological aquatic resources as well. The plan will involve predefined processes such as construction materials inspection, target species treatment and removal, construction equipment sanitation, and proper site restoration techniques.

Cooling Water

This Project will not use cooling water during any phase of construction or operation of the Facility. As such, the requirements dictated in 16 NYCRR § 1001.23(f) are not applicable to this Project.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 23 of the Application in accordance with §1001.23:

(a) Groundwater:

(1) Hydrologic information reporting depths to high groundwater and bedrock, including a site map showing depth to high groundwater in increments appropriate for the Project Area.

(2) A map based on publicly available information showing all areas within the Study Area delineating all groundwater aquifers and groundwater recharge areas, and identifying groundwater flow direction, groundwater quality, and the location, depth, yield and use of all public and private groundwater wells or other points of extraction of groundwater within a 500-foot radius of the proposed Facility Area (and within a 2,000-foot radius of blasting locations and pile driving locations, as applicable), and including delineation of wellhead and aquifer protection zones. Well locations will be distinguished as “approximate” or “confirmed.”

a. To identify water wells within the Project Area, a Freedom of Information Law (FOIL) request letter, if necessary, will be sent to the Schuyler County Public Health Department and NYSDEC to request access to all publicly available water well information. The Applicant will also submit, if necessary, a FOIL request letter to NYSDOH. Copies of the FOIL request letters, and any information gained thereof, will be included in the Application. Well construction details, usage patterns, and water quality data will be obtained to the extent that it is publicly available through these agencies. Because the utilization of blasting techniques is not anticipated for the Project, impacts to wells in the area are also not anticipated. As such if blasting is not proposed, the request to NYSDOH will be made for data of existing groundwater wells within 500 feet of the Project Area. There is no blasting anticipated for the Project, and excavations for foundations and access roads are expected to be relatively shallow and are not anticipated to intercept groundwater within the surrounding aquifers. As such, the Applicant does not anticipate impacts to groundwater wells.
b. The Applicant will attempt to implement the following verification and maps:
    i. Locations of public and private water wells will be verified through field observations where property access rights are obtained by the Applicant.
    ii. Maps showing water well locations will distinguish whether each well location is approximate or confirmed.

(3) Based upon publicly available information, an analysis and evaluation of potential impacts (during normal and drought conditions) from the construction and/or operation of the Project on drinking water supplies, groundwater quality and quantity in the Project Area, including potential impacts on public and private water supplies, including private wells within a one-mile radius of the Project Area, and wellhead and aquifer protection zones.

(4) The results of a private well survey distributed to all landowners within a 500-foot radius of the proposed Project Area and within a 2,000-foot radius of proposed

blasting and pile driving locations (if applicable). The water well survey materials will include a summary of the Project, contact information and a description of where the well owner can get more information about the Project (i.e., project website, document repositories, etc.), as well as an invitation to join the stakeholder list.

(b) Surface Water:

(1) A map and identification of all surface waters, including perennial, intermittent, and ephemeral streams, within the Study Area. Surface water maps will be based on data from NYSDEC, ESRI, USGS, NWI, and stream data collected during on-site surveys of water resources. On-site survey data for surface waters will be provided to NYSDEC and NYSDPS as shapefiles and in tabular format that can be cross-referenced to the maps.

(2) A description of the New York State listed Water Classification and Standards, physical water quality parameters, flow, biological aquatic resource characteristics (including species, habitat, and presence of aquatic invasive species) and other characteristics of such surface waters, including intermittent streams, within the Study Area.

(3) An identification of any downstream surface water drinking-water supply intakes within one mile, or if none within one mile, an identification of the nearest one (giving location of the intakes by longitude and latitude) that could potentially be affected by the Project or interconnections, including characterization of the type, nature, and extent of service provided from the identified source.

(4) An analysis of the impact of the construction and operation of the Project and interconnections on such surface waters, including impacts, based upon publicly available information, to drinking water supplies, and an identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such surface waters, including the precautions that will be taken to avoid or minimize dredging.

(5) An identification and evaluation of reasonable avoidance measures, and where impacts are unavoidable, mitigation measures, including the use of water

storage, stormwater reuse, and offsetting water conservation, regarding groundwater impacts.

(6) A list and evaluation of reasonable avoidance, minimization, mitigation measures, and the potential alternatives to avoid impacts to wetlands and streams, including stream crossings, to the maximum extent practicable. Environmental impacts discussed and addressed will include, as applicable: thermal changes to waterbodies due to vegetative clearing, changes to in-stream structure and morphology, potential impacts to or taking of state-listed T&E, SSC and SGCN, and the effects of turbidity on nearby aquatic habitat.

(7) All new stream crossings or upgrades of old crossings that may be necessary will be designed for a 100-year storm event. Culvert placement specifications will be described and enumerated, detail the expected flow calculations, and demonstrate culvert capacity with BMP considerations for culvert placement. The feasibility of using trenchless stream crossings will be assessed for all streams proposed to be crossed. BMPs will be utilized year-round for all stream crossings. Where impacts are deemed unavoidable, proposed measures to mitigate impacts to the maximum extent practicable will be discussed. BMP procedures will also be documented in the Project's Stormwater Pollution Prevention Plan (SWPPP), described in the Application and presented in the Compliance Filing upon verification of wetland boundaries and jurisdictional determinations. Final impact calculations will be based on verified delineations.

(c) Stormwater:

(1) A preliminary Stormwater Pollution Prevention Plan (SWPPP) for the collection and management of stormwater discharges from the Project prepared in accordance with the applicable State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (SPDES General Permit) and the most current version of the New York State SSESC.

(2) To the extent not covered in paragraph (1) above, a preliminary plan, prepared in accordance with the most current version of the New York State SSESC, that identifies the post-construction erosion and sediment practices that will be used to

manage stormwater runoff from the developed Project Area. This can include runoff reduction/green infrastructure practices, water quality treatment practices, and practices that control the volume and rate of runoff.

(3) The Maryland "Stormwater Design Guidance – Solar Panel Installations" will be considered as part of draft SWPPP development and a discussion will be included to identify how the criteria outlines in the design guidance are met.

(4) The Final SWPPP will include an erosion and sediment control plan as required per the SPDES General Permit to limit the possibility of offsite impacts, and to minimize, to the maximum extent practicable, soil erosion and sedimentation within water resources throughout the Project Area, and will be provided as part of a Compliance Filing.

(5) To the extent not covered in paragraph (1) above, a preliminary plan, prepared in accordance with the most current version of the New York State SSESC that identifies the post-construction erosion and sediment practices that will be used to manage stormwater runoff from the developed Project Area. This can include runoff reduction/green infrastructure practices, water quality treatment practices, and practices that control the volume and rate of runoff.

(d) Chemical and Petroleum Bulk Storage:

(1) The Applicant does not currently anticipate the on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of New York State. If construction operations require petroleum or other hazardous chemicals to be stored on-site, a description of the spill prevention and control measures to be in place for chemical storage, including an evaluation of alternatives and mitigation measures, will be included in the Application.

(2) The Applicant does not anticipate the on-site storage of ammonia, fuel oil, wastewater, other chemicals, petroleum or other hazardous substances, or solid waste. However, if construction requires the storage of any of these hazardous chemicals regulated under the State of New York's chemical and petroleum bulk storage program, a demonstration of compliance with such regulation shall be provided in the Application.

(3) The Applicant does not currently anticipate the on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of any local laws. If construction operations require petroleum or other hazardous chemicals to be stored on-site, those substances will be identified within the Article 10 Application and all applicable laws and guidelines will be followed.

(e) Aquatic Species and Invasive Species:

(1) An analysis of the impact of the construction and operation of the Project on biological aquatic resources, including species listed as endangered, threatened, or species of special concern in 6 NYCRR Part 182, and including the potential for introducing and/or spreading invasive species.

(2) An identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, including species and invasive species impacts (if any) and in compliance with applicable water quality standards (6 NYCRR Part 703).

(f) This Project will not utilize cooling water during any phase of construction or operation and, therefore, cooling water withdrawals will not be addressed in the Application.

3.24 Visual Impacts (Exhibit 24)

A visual impact assessment (VIA) will be prepared for the Project and included in the Article 10 Application. The VIA will determine the extent and significance of the Project's visibility and will be performed according to the requirements as outlined in 16 NYCRR § 1001.24.

Character and Quality of the Existing Landscape

Prior to any investigation for visual analyses a Visual Study Area (VSA) must be defined. Because of the typical height of solar panels, an initial focus of 2 to 5 miles is proposed for a VSA. While 2 miles may be adequate due to the low height of the solar panels, because of rolling topography and the potential for higher elevation views of the Project, areas between 2 and 5 miles will also be explored. During the pre-application phase, and once a solar array layout has been determined, the Applicant will prepare a preliminary viewshed analysis for the purpose of defining the appropriate VSA and APE for Historic Architectural Studies. This preliminary viewshed analysis will be distributed to involved parties (as discussed in Proposed Study 24(b)(5) below).

The definition of the VSA is currently proposed to be around the limits of the property boundary of the Project Area and not around the general perimeter outline of the solar array themselves. The towns within the 2 and 5 miles VSAs include:

- *Towns that fall within 2 miles:* Dix and Orange
- *Towns that fall between 2 and 5 miles:* Dix, Orange, Catlin, Hector, Hornby, Montour, Reading, Tyrone, and Veteran.

Existing conditions and character of the landscape will be evaluated through the acquisition of GIS data, review of town and county reports, topographic data, and site visits along with photographic documentation. As part of evaluating existing conditions, Landscape Similarity Zones (LSZ) will also be defined. LSZs are areas of similar landscape/aesthetic character based on patterns of landform, vegetation, water resources, land use, and user activity, and are helpful in providing a framework for assessment and understanding the visual environment. Based on reconnaissance level investigations of the vicinity, the landscape within the property boundary is predominantly open agricultural. The VSA is a rural mix of farmland with intermittent tracts of forest groups. Larger tracts of forested areas are more abundant to the western boundary of the VSA where there are several state forests.

Physiographically, the VSA is within the Allegheny Plateau physiographic province. This southwestern New York province is generally characterized by gently rolling hills and valleys. There are some surrounding hills within the VSA from which viewshed will be analyzed for significant views from higher elevations looking down on the Project.

A visual resources inventory as generally stated in 16 NYCRR § 1001.24(b)(4)(ii) will be performed to determine the existing publicly accessible sensitive resources that may be susceptible to visual impacts. A final assessment of resources will be provided with the Article 10 Application.

Visibility of the Facility

A full resources inventory will be conducted to understand areas of potential Project visibility from public access.

To determine visibility of the Project, a GIS-based viewshed analysis will be performed and prepared using Esri ArcGIS Spatial Analyst software and will include vegetated tree groups to realistically depict the surrounding landscape. This analysis is a GIS analytical technique that allows one to determine if and where an object can geographically be seen within a larger regional area and is primarily based on elevation data. The results of the viewshed analysis are combined with the visual resources inventory locations to predictively identify those resource areas that may potentially see all or some portion of the Project.

Photographic simulations will also be prepared to assess the quality of view from select viewpoint locations. Photographs to be used in simulations will be acquired during site visits. Several candidate locations for simulations will be chosen resulting from a number of preliminary investigations, with the assistance of the visual resources inventory in combination with the predicted visibility of the viewshed analysis and on-the-ground site visits. The Applicant will consult with DPS staff and other stakeholders for their input on the selection of additional viewpoints for simulations per 16 NYCRR § 1001.24 (b)(4) and (b)(4)(v).

Visibility of Aboveground Structures and Interconnections

The proposed collection substation and interconnection facilities are proposed to be built by the Applicant. Simulations will be provided illustrating visual rendering of the collection substation from a public vantage point.

Appearance of the Facility Upon Completion

Photosimulations will be prepared from selected vantage points to represent the appearance of the Project upon completion. A 3D model of the Project will be created according to engineering specifications to be used in visualization software. High resolution photography will be obtained as part of the site visit tasks for use in the simulations.

Photographic Overlays

Photographic simulations will be prepared from final chosen representative viewpoints. To create the simulations, Autodesk 3DS MAX software will be used to correctly dimension a model of the Project into the digital photographic image from each viewpoint location. For a given vantage point, the visualization software is capable of providing and adjusting a camera view that matches that of the actual photograph. From the field effort, the documented camera coordinate (x,y,z) positions will be entered into the model using a sub-meter GPS unit. A full-frame digital camera with a fixed 50-mm focal length lens or a digital SLR with crop factor adjusted for 35-mm focal length equivalents will be used for obtaining photographs. A focal length of 50 mm will be used as it most closely resembles human vision. Reference locations, which are existing visible objects in the photograph such as light posts, building corners, trees, gate posts or utility poles will be obtained as part of the field task to assist with refined placement of the proposed Project within the photograph. High point references will be measured with a digital rangefinder.

Nature and Degree of Visual Change

Existing visual and landscape characteristics of the Project will be described in the Application. Predicted visibility in the landscape from the Project will be provided by viewshed analyses and areas of potential visibility in relation to visual resources will be discussed. Descriptions of how land characteristics including tree cover or topography might preclude views, will be described as well. The simulations of existing and proposed conditions will be provided to assess the quality of views and what the Project will look like from various Landscape Similarity and Distance Zones. Simulations will be made from vantage points from public areas with the most open views to the Project as possible.

Additionally, per 16 NYCRR § 1001.24(b)(7), each set of existing and simulated views of the facility will be compared and rated. Documentation of the steps followed in the rating and

assessment methodology will be provided including results and summary discussion of rating impacts and a description of the qualifications of the individuals serving on the rating panel.

There is no standard rating form that is required by DPS. TRC has developed a visual impact rating form for use in comparing Project photosimulations for efficient and streamlined use with projects that undergo state environmental permitting processes. This form is a simplified version of various federal agency visual impact rating systems. It includes concepts and applications sourced from:

- U.S. Bureau of Land Management (BLM), Handbook H-8431: Visual Contrast Rating, January 1986 (USDOI, 1986).
- Visual Resources Assessment Procedure for USACE, March 1988 (Smardon, et al., 1988).
- NPS Visual Resources Inventory View Importance Rating Guide, 2016 (NPS, 2016c).
- USDA Forest Service (USFS), United States Department of Agriculture Forest Service, Landscape Aesthetics: A Handbook for Scenery Management. USDA Forest Service Agriculture Handbook No. 701, 1995 (USDA, 1995).

Related Operational Effects of the Facility

The Application will contain an analysis and description of potential glare-related effects during operation of the Project. Photovoltaic panels are constructed with non-reflective coatings and/or glass. These panels are designed specifically to absorb as much sunlight as possible in order to maximize electrical generation, rather than reflect sunlight. Further, the metal supports that form the racking system are typically constructed using galvanized steel or aluminum and therefore, will not reflect sunlight.

Measures to Mitigate for Visual Impacts

As discussed above, the most effective means of mitigating visual impacts is through optimal siting, adequate setbacks, and design of Project components. Discussion of general mitigation strategies such as design, appearance, siting, avoidance, and layout will be discussed in the Application as well as any landscaping proposed for screening.

Description of Visual Resources to be Affected

Local, state, and federal visual resources will be investigated per 16 NYCRR § 1001.24(b)(4)(ii). These are areas such as landmark landscapes; wild, scenic, or recreational rivers administered respectively by either the NYSDEC or Department of Interior pursuant to 16 USC § 1271; forest preserve lands, conservation easement lands, scenic byways designated by the federal or state governments; scenic districts and scenic roads, designated by the Commissioner of Environmental Conservation pursuant to ECL Article 49 scenic districts; Scenic Areas of Statewide Significance; state parks or historic sites; sites listed on National or State Registers of Historic Places; areas covered by scenic easements, public parks or recreation areas; locally designated historic or scenic districts and scenic overlooks; and high-use public areas.

Viewer groups and viewer exposure including residential areas and high-volume travel corridors will also be described.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 24 of the Application in accordance with 16 NYCRR § 1001.24 and as applicable to solar development:

(a) The Application will include a VIA to determine the extent and assess the significance of Project visibility within a 2-5-mile Visual Study Area. The components of the VIA will include identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), cumulative visual impact analysis, and proposed visual impact mitigation. The VIA will address the following:

(1) The character and visual quality of the existing landscape.
(2) Visibility of the Project, including visibility of Project operational characteristics.
(3) Visibility of aboveground interconnections, if proposed, and roadways to be constructed within the study area as determined by the viewshed analysis.
(4) Appearance of the Project upon completion, including structure size, architectural design, facade colors and texture, and lighting associated with the collection substation;

(5) Lighting (including lumens, location and direction of lights for facility Area and/or task use, safety including worker safety and tall structure marking requirements) and similar features including a discussion on the minimization of upward-directed lighting;

(6) Representative views (photographic overlays) of the Project, including front, side and rear views, indicating approximate elevations; from select resource locations representing as practical as possible, views from the north, south, east, and west compass locations;

(7) Nature and degree of visual change resulting from construction of the Project and aboveground interconnections;

(8) Nature and degree of visual change resulting from operation of the Project;

(9) Analysis and description of related operational effects of the Project such as glare. A discussion on any potential glare impacts will be provided in the Application. No plumes, shading, or shadow flicker are anticipated.

(10) Proposed reasonable mitigation measures based on an assessment of mitigation strategies including screening (landscaping), architectural design, visual offsets, relocation or rearranging facility components), reduction of facility component profiles, alternative technologies, facility color and design, lighting options for work areas and safety requirements, and lighting options for aviation obstruction lighting if required by the FAA.

(11) A description of all visual resources that would be affected by the facility that are within a radius of at least two miles from all the Project Area boundaries.

(b) The viewshed analysis component of the VIA will be conducted as follows:

(1) A digital GIS based viewshed analysis will be prepared using Esri ArcGIS Spatial Analyst software for this Project and will include vegetated tree groups to realistically depict the surrounding landscape. The results will be prepared and presented on a 1:24,000 scale current USGS base map. The viewshed maps shall provide an indication of areas of potential visibility based on topography and vegetation and the highest elevation of Project structures. The potential screening effects of vegetation shall also be shown. The map(s) shall be divided into foreground, midground and background areas based on visibility distinction and distance zone criteria. Visually-sensitive sites, cultural and historical

resources, representative viewpoints , and public vantage points, and landscape similarity zones within the viewshed study area shall be included on the map(s) or an overlay.

(2) The VIA will include a detailed description of the methodology used to develop the viewshed maps, including software, baseline information, and sources of data.

(3) The viewshed mapping will be used to determine potential visibility of viewer groups in the Project Study Area.

(4) Viewer groups will include recreational areas (i.e., golf course, state and local parks, recreational waterways, etc.), residences, businesses, and travelers (interstate and other highway users).

(5) The Applicant shall confer with the appropriate municipal representatives, DPS, NYSDEC and OPRHP. Viewpoint selection will be based upon the following criteria:

(i) representative or typical views from unobstructed or direct line-of-sight views from locations predicted to have direct line-of-sight visibility of facilities components, based on results of preliminary viewshed mapping;

(ii) significance of viewpoints designated scenic resources, areas or features which features typically include, but are not limited to: landmark landscapes; wild, scenic or recreational rivers administered respectively by the NYSDEC pursuant to ECL Article 15 or Department of Interior pursuant to 16 USC Section 1271; forest preserve lands, scenic vistas, conservation easement lands, scenic byways designated by the federal or state governments; Scenic districts and scenic roads, designated by the Commissioner of Environmental Conservation pursuant to ECL Article 49 scenic districts; state parks; sites listed on or eligible for listing on National or State Registers of Historic Places; areas covered by scenic easements, public parks or recreation areas; nearby NYS Forest Lands, locally designated historic or scenic districts and scenic overlooks; National Rivers Inventory listed or candidate waterways; and high-use public areas;

(iii) level of viewer exposure, i.e., frequency of viewers or relative numbers, including residential areas, or high volume roadways;

(iv) land uses identified in publicly available, government-published data bases;

(v) verifiable input provided from local public sources; and

(vi) building/structure data collected for each potentially eligible property prepared in a format acceptable to OPRHP and DPS and submitted to OPRHP

and DPS for review prior to completing the viewpoint selection.

(6) Photographic simulations of the Facility and interconnections shall be prepared from the representative viewpoints to demonstrate the post-construction appearance of the Project. Worst-case scenario leaf-off (i.e., wintertime) simulations shall be provided. Representative viewpoints shall be established in consultation with NYSDEC, DPS, OPRHP, and a three-dimensional model of the Project built according to site engineering specifications will be prepared from select viewpoint locations. Photographs to be used in simulations will be acquired during site visits. An appropriate number of candidate locations for simulations will be chosen resulting from a number of preliminary investigations, surveys and stakeholder input, with the ultimate focus on the visual resources inventory in combination with the predicted visibility of the viewshed analysis and on-the-ground site visits.

i. The Applicant will provide the actual leaf-off photographs in addition to leaf-off photographic simulations from residences or representative viewpoints, as determined through additional consultations, having direct line-of-sight visibility of the proposed Project, and within the scope of Article 10 regulations.

(7) Additional revised simulations illustrating mitigation of the Project, such as through use of screening, will be considered. Discussion of other general mitigation strategies such as design and layout will be discussed in the Application. If mitigation is proposed, simulations will be prepared illustrating the incorporated mitigation, as it appears from the final selected observation points.

(8) Each set of existing and simulated view of the Project shall be compared and rated and the results of the VIA shall be summarized. Documentation of the steps followed in the rating and assessment methodology shall be provided including

results of rating impact panels and a description of the qualifications of the individuals serving on the panels. Where visual impacts from the proposed Project are identified, potential mitigation measures shall be outlined, and the extent to which they effectively minimize such impact shall be addressed. The Applicant will utilize a visual impact rating form for comparing project photo simulations. This form is a simplified version of various federal agency visual impact rating systems.

(9) As applicable to the proposed Project technology, the analysis shall include analyses of overall appearance and operational characteristics of the Project and related of facilities, including night-lighting, glare, or related visible effects of Facility operations, including an assessment of the predicted extent, frequency and duration of any such visible effects created by the Project.

3.25 Effects on Transportation (Exhibit 25)

The Application will present a description of existing, pre-construction roadways and their associated usage within the Project Area and the larger Study Area. The Study Area is currently served by a network of state, county, and local roadways. Existing roads within the Study Area range from two-lane highways with paved shoulders to seasonally maintained dirt/gravel roads. Data will be obtained from the New York State Department of Transportation (NYSDOT) Traffic Data Online Viewer to review existing traffic volumes along the proposed routes for delivery of Project components, construction, and operation of the Project.

The Application will include a site plan depicting the location and dimensions of all Project related access roads used for construction, maintenance, and operation within the Project Area. The detailed roadway descriptions included in Exhibit 25 of the Application will include existing vehicle traffic, general use levels, accident occurrence levels, school bus service areas, and emergency response vehicle departure routes to and from the Project based upon publicly available information. The load bearing and structural rating of existing roads within proximity of the Project Area will be specified in the description. An analysis of the suitability of existing road surfaces and intersections for transport of Project-related materials will be provided. Consultation with local, state, and federal transportation agencies, highway departments, and emergency responders will be conducted.

It is anticipated that existing roadways within and surrounding the Project Area will have adequate capacity for accommodating deliveries for Project construction. Most construction deliveries are anticipated to occur using flatbed trucks. No over-sized deliveries are anticipated to be required. Information on the approximate size and number of construction vehicles necessary for Project construction will be included in the Application.

Additional vehicle use will include gravel trucks, pick-up trucks for equipment and tools, and trucks and cars for transporting personnel. The Application will provide a list of typical construction vehicles anticipated to be in use, along with the associated vehicle weights, and estimated numbers of daily round trips for each.

Once construction of the Project is complete, transportation levels during operations will be minimal. Maintenance activities will generally involve individuals or small crews and utility crew

pick-up trucks, which are typical vehicles currently in use in this rural area. Normal, scheduled maintenance activities may involve monthly visits to the Facility. Such service visits typically involve one to two pick-up trucks. If an unscheduled repair of a significant component should be required, larger vehicles similar to those used during typical commercial construction may be required for a short duration and limited location. The Project owner is responsible for the maintenance of all private access roads leading to the solar array location. The Application will provide O&M procedures that will provide more detail on scheduled and unscheduled maintenance.

An evaluation of the traffic and transportation impacts of the facility from construction-related activities will be provided in Exhibit 25 of the Application. Mitigation and safety measures will be proposed if any adverse impacts are identified. Exhibit 25 will include a road use survey, with traffic patterns, accident rates, and school bus routes. To help assess impacts to emergency services, Exhibit 25 will include a map showing locations of emergency services providers relative to the Study Area.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 25 of the Application in accordance with §1001.25:

(a) A conceptual site plan, drawn at an appropriate scale, depicting all facility site driveway and roadway intersections, showing:

(1) Horizontal and vertical geometry, the number of approach lanes, the lane widths, shoulder widths, traffic control devices by approaches, sight distances.
(2) There are no wind turbine sites proposed as part of the Project, therefore this section of the Exhibit 25 regulation is not applicable.

(b) A description of pre-construction characteristics of roads in the vicinity of the Project, including:

(1) A review of existing data on vehicle traffic, use levels and accidents.

(2) A review of transit facilities and routes, including areas of school bus service.

(3) An identification of potential approach and departure routes to and from the Project Area for police, fire, ambulance and other emergency vehicles.

(4) The load bearing and structural rating of existing roads will be specified in the detailed roadway descriptions.

(5) The Project Area is not within a congested urbanized area, therefore 24-hour traffic volume counts and peak turning movement counts for typical weekday morning, weekday afternoon, and Saturday peaks, at representative critical intersections are not applicable and will not be included in the Application.

(c) The Study will include an estimate of the trip generation characteristics of the Project during both construction and operation. The estimate will include:

(1) For each major phase of construction, and for the operation phase, an estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure, distribution, by size, weight and type of vehicle.

(2) An identification of approach and departure routes to and from the Project Area out to a 5-mile distance for vehicles carrying water, fuel oil, bulk fuels (including wood, biomass, coal, and municipal solid waste, if applicable), chemicals or hazardous materials for construction or operation of the Project will not be presented in the Application because deliveries of these materials is not proposed.

(3) For major cut or fill activity (spoil removal or deposition at the Project Area and affected interconnection areas), a separate estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure, distribution, by size, weight and type of vehicle.

(4) An identification of approach and departure routes to and from the Project Area for construction workers and employees of the Project.

(d) The Study will include an analysis and evaluation of the traffic and transportation impacts of the Project, including:

(1) Because the Project will have no significant impact on traffic following the construction phase, no analysis of future traffic conditions with and without the Project will be prepared;

(2) An evaluation of the adequacy of the road system to accommodate the projected traffic during peak construction, the analysis to also include an identification of the extent and duration of traffic interferences during construction of the Facility and any interconnections;

(3) No oversized load deliveries are anticipated. Should any be required, the Application will include an assessment of over-size load deliveries and the adequacy of roadway systems to accommodate oversize and over-weight vehicles; improvements necessary to accommodate oversize or overweight deliveries; impacts associated with such improvements; and mitigation measures appropriate to minimize such impacts;

(4) An identification and evaluation of practicable mitigation measures regarding traffic and transportation impacts if needed, including timing restrictions, the use of alternative technologies, the construction of physical roadway improvements, and the installation of new traffic control devices as well as the repair of local roads due to the damage by heavy equipment or construction activities during construction or operation of the Project.

(i) The Applicant will consider any overweight/oversize permitting and road feasibility issues for delivery of transformers and other substation and point of interconnection related equipment, as applicable.

(5) A description of all road use and restoration agreements, if any, between the Applicant and landowners, municipalities, or other entities, regarding documentation and repair of local roads damaged by heavy equipment or construction activities during construction or operation of the Project.

(e) An analysis and evaluation of the impacts of the Facility on mass transit systems will not be presented in the Application as there are none within the Study Area. An analysis and evaluation of any impacts on airports and airstrips, or on military training and frequent military operations in the National Airspace System and Special Use Airspace designated by the Federal Aviation Administration (FAA) will be included, if any.

(f) No construction or alteration is proposed that requires a Notice of Proposed Construction to be submitted to the administrator of the FAA in accordance with 14 Code of Federal Regulations, Part 77 pursuant to 49 U.S.C., Section 44718.

3.26 Effects on Communication (Exhibit 26)

The Project is not anticipated to interfere with any existing communication systems. The Facility will lack tall structures and exposed moving parts, and it is anticipated that it will generate only very weak electromagnetic fields (EMF) at the property boundaries, if any. The Application will document publicly known communication sources above- and underground within the Project Study Area, where affected sources are not limited to a 2-mile radius from the Project Area boundaries, including the following:

- Underground cables and fiber optic lines;
- AM radio;
- FM radio;
- Television stations;
- Telephone systems;
- Microwave transmission;
- Emergency services communication systems, municipal/school district services, public utility services;
- Doppler/weather radar;
- Air traffic control (affected sources);
- Department of Defense (DOD)/Armed Forces (affected sources);
- Global positioning systems, Loran (affected sources)
- Amateur radio licenses registered to users

The Applicant will attempt to identify any underground cables or fiber optic lines within 2 miles of the Project Area if they are found to exist. The Applicant will consult with Dig Safe New York (DSNY) in an effort to obtain maps of any buried cables within 2 miles of the Project Area. Prior to construction, the Applicant will submit a “design ticket” to DSNY, which will initiate a process in which utilities and DSNY provide relevant mapping to the Applicant. The Project will avoid impacts to underground cables or fiber optic lines.

Watkins Glen Solar Energy Center will consult with the National Telecommunications and Information Administration (NTIA). Any response and/or concerns from NTIA will be included in Exhibit 26 of the Application.

A Complaint Resolution Plan, developed for this Project and referenced throughout this PSS, will be available to resolve issues and complaints should they arise within the local community, largely on an individual basis. The Complaint Resolution Plan will outline the steps for investigation and resolution of such complaints.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 26 of the Application in accordance with §1001.26:

(a) The Applicant will consult with the Schuyler County Emergency Management Office, Schuyler County Sheriff's Office, and NYS Division of Homeland Security & Emergency Services to assess any effects on communication services, with particular respect to emergency services, or potential impacts on the communication network for the NYS Early Warning Weather Detection System. An identification of all existing broadcast communication sources within a two-mile radius of the Facility and the electric interconnection between the Project and the point of interconnection, unless otherwise noted, including:

(1) AM radio.
(2) FM radio.
(3) Television.
(4) Telephone.
(5) Microwave transmission (all affected sources, not limited to a two-mile radius).
(6) Emergency services.
(7) Municipal/school district services.
(8) Public utility services.
(9) Doppler/weather radar (all affected sources, not limited to a two- mile radius).
(10) Air traffic control (all affected sources, not limited to a two-mile radius).
(11) Armed forces (all affected sources, not limited to a two-mile radius).
(12) Global positioning systems (GPS).
(13) LORAN (all affected sources, not limited to a two-mile radius).

(14) Amateur radio licenses registered to users.

(b) Based upon publicly available information, the Applicant will identify underground cables or fiber optic major transmission telecommunication lines within two miles of the Facility and the electric interconnection between the Project and point of interconnection. The Project will avoid any impacts to underground cables or fiber optic lines. The Applicant will contact Schuyler County to confirm identification of any fiber potentially connecting radio towers.

(c) A statement describing the anticipated effects of the proposed Project and the electric interconnection between the Project and the point of interconnection on the communications systems required to be identified pursuant to subdivision (a) and (b) of this Exhibit, including the potential for:

(1) Structures to interfere with broadcast patterns by re-radiating the broadcasts in other directions;
(2) Structures to block necessary lines-of-sight;
(3) Physical disturbance by construction activities. The Applicant will consult with DSNY prior to the commencement of any construction activities.
(4) Adverse impacts to co-located lines due to unintended bonding; and
(5) Any other potential for interference.

(d) An evaluation of the design configuration of the proposed Project and electric interconnection between the Project and the point of interconnection demonstrating that there shall be no adverse effects on the communications systems required to be identified pursuant to subdivision (a) and (b) of this Exhibit.

(e) A description of post-construction activities that shall be undertaken to identify and mitigate any adverse effects on the communications systems required to be identified pursuant to subdivision (a) and (b) of this section that occur despite the design configuration of the proposed Project.

(f) There are no wind power facilities proposed as part of the Project, therefore this section of the Exhibit 26 regulation is not applicable.

3.27 Socioeconomic Effects (Exhibit 27)

The Watkins Glen Solar Energy Center Project construction, operation, and maintenance will be analyzed to determine the socioeconomic effects in the vicinity of the Town of Dix. Economic impacts will be evaluated and described in the Article 10 Application, in compliance with Exhibit 27 requirements in 16 NYCRR § 1001.27, to determine potential socioeconomic impacts of the Project, including:

A. **On-site construction work-force impacts:**

Local construction employment will primarily benefit those in the construction trades, including equipment operators, truck drivers, laborers, and electricians. Estimates of the construction work-force will be provided in Exhibit 27 of the Application and will include a breakdown of the anticipated on-site workforce by discipline for each quarter during the construction period, along with an estimate of the peak construction employment level. These estimates will be prepared based on the Applicant's experience with similar projects and will be customized to the Watkins Glen Solar Energy Center Project.

B. **Direct effects**:

Direct effects of the project include payroll and other expenditures. Local expenditures within the general area of Schuyler County and the Finger Lakes Region will occur during the construction phase and are likely to include construction materials such as concrete, gravel, and re-bar. Estimates of direct spending will be provided in Exhibit 27 of the Application.

C. **Indirect and induced effects:**

Indirect effects arise from business-to-business spending, rather through direct spending by Watkins Glen Solar Energy Center. Induced effects occur as money is recirculated through household spending patterns, generating additional local economic activity. A range of estimates of the indirect and induced effects will be presented in Exhibit 27 of the Application. A qualitative discussion will address the annual net secondary effects from Facility construction.

D. Post-construction direct effects:

Annual expenditures for direct O&M expenses include parts, supplies, road maintenance, landscape services, fuel, vehicle maintenance, tools, etc. Direct effects associated with O&M activities will be estimated by the Applicant based on the characteristics of the proposed Watkins Glen Solar Energy Center and the Applicant's experience with similar projects. These estimates will be presented in Exhibit 27 of the Application.

E. Post-construction secondary employment impacts:

Secondary (or indirect and induced) economic effects will result from O&M activities. A range of estimates of the indirect and induced effects will be presented in Exhibit 27 of the Application. A qualitative discussion will address the annual net secondary effects from facility operation.

F. Construction and operation school district impacts:

Watkins Glen Solar Energy Center encourages hiring local employees to fill temporary construction positions, as well as permanent operations jobs, to the extent possible. Further, families do not typically relocate for temporary construction jobs. As a result, there will be few, if any, new students enrolled in the area's schools and no adverse impact to the school districts in the area.

G. Construction and operation impacts of municipal, public authority, and utility services:

Watkins Glen Solar Energy Center will coordinate with the Town of Dix, Schuyler County utilities and emergency services providers to ensure that public services and health and safety are not negatively impacted by the Project. The Schuyler County Sheriff's office, New York State Police, and local fire and ambulance departments have adequate resources to monitor vehicular traffic from construction and operations activities on area roads, to address routine medical needs and to address any security issues related to vandalism that may occur.

Watkins Glen Solar Energy Center employees will be trained in fire safety and high voltage. It is anticipated that local fire and ambulance personnel would primarily be attending any injuries or medical situations at ground level.

Solar arrays will be sited with adequate setback from residences, structures, roads, utilities, and property lines to ensure that any fire or collapse will not impact the health and safety of area residents. Watkins Glen Solar Energy Center will continue to coordinate with municipal officials and emergency services providers and provide an update to this information in Exhibit 27 of the Application, including training needs or equipment deficiencies that may be identified to address any contingency plans for emergency response.

The Project will have no need for potable water connection or wastewater connection and therefore, will not impact public infrastructure beyond local roadways, which will be returned to at least pre-existing conditions following the completion of construction, if necessary. Waste disposal will be limited to small amounts of solid waste (paper, rags, packing cardboard) and will be disposed properly by Project work crews in designated disposal receptacles, then taken off-site to properly licensed landfills.

H. Designated tax jurisdiction, tax and payment impacts:

The following entities have tax assessment jurisdiction on parcels within the Project Area (see Figure 15 for locational reference):

- Schuyler County,
- Town of Dix,
- Watkins Glen Central School District, and
- Watkins Glen Fire Department.

Watkins Glen Solar Energy Center anticipates that these entities will benefit from taxes on Project components sited within their jurisdictions. The Applicant anticipates entering into a PILOT agreement and/or Host Community Agreement. Watkins Glen Solar Energy Center will continue to coordinate with and provide an update to municipal officials in Exhibit 27 of the Application based upon publicly available information.

I. **Smart growth public infrastructure compliance impacts:**
New York ECL Article 6, Section 0107 requires that the construction of new or expanded "public infrastructure" meet certain Smart Growth criteria. The Project is a privately funded, merchant energy project and as such is not subject to ECL § 6-0107. Nevertheless, the Application will include a discussion of the Project's consistency with the criteria, as applicable.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 27 of the Application in accordance with §1001.27:

(a) An estimate of the average construction work force, by discipline, for each quarter, during the period of construction; and an estimate of the peak construction employment level. This estimate will be based on the actual number of jobs budgeted for the Project, as well as the Applicant's prior industry experience with similarly situated projects.

(b) An estimate of the annual construction payroll, by trade, for each year of construction and an estimate of annual direct non-payroll expenditures likely to be made in the vicinity of the Facility (materials, services, rentals, and similar categories) during the period of construction.

(c) A range of estimates of the annual secondary employment and economic activity likely to be generated in the vicinity of the Facility by the construction of the solar facility, to reflect the uncertainty associated with such, possibly multiplier-based, secondary impact estimates. A qualitative discussion will address the annual net secondary effects from Facility construction.

(d) An estimate of the number of jobs and the on-site payroll, by discipline, during a typical year once the plant is in operation, and an estimate of other expenditures likely to be made in the vicinity of the Facility during a typical year of operation. The Applicant will supply , to the extent practicable, the actual number of jobs budgeted for the Project, as well as the Applicant's prior industry experience with similarly situated projects.

(e) A range of estimates of the annual secondary employment and secondary economic activity likely to be generated in the vicinity of the Facility by its operation, to reflect the possible uncertainty associated with, multiplier-based, secondary impact estimates. A qualitative discussion will address the annual net secondary effects from Project operation.

(f) An estimate of incremental school district operating and infrastructure costs due to the construction and operation of the Project, this estimate to be made after consultation with the affected school district.

(g) An estimate of incremental municipal, public authority, or utility operating and infrastructure costs that will be incurred for police, fire, emergency, water, sewer, solid waste disposal, highway maintenance and other municipal, public authority, or utility services during the construction and operation phases of the Project (this estimate to be made after consultation with the affected municipalities, public authorities, and utilities).

(h) An identification of jurisdictions that levy real property taxes or benefit assessments or user fees upon the Facility area, its improvements and appurtenances and any entity from which payments in lieu of taxes will or may be negotiated.

(i) For each jurisdiction, an estimate of the incremental amount of annual taxes (and payments in lieu of taxes, benefit charges and user charges) projected to be levied against the post-construction Facility, its improvements and appurtenances.

(j) For each jurisdiction, a comparison of the fiscal costs to the jurisdiction that are expected to result from the construction and operation of the Facility to the expected tax revenues (and payments in lieu of taxes, benefit charge revenues and user charge revenues) generated by the Project.

(k) An analysis of whether all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance incident can be fulfilled by existing local emergency response capacity, and in that regard identifying any specific equipment or training deficiencies in local emergency response capacity (this analysis to be made after consultation with the affected local emergency response organizations).

(l) Although not required by ECL 6-0107, Exhibit 27 of the Application will present a detailed statement of how the proposed Facility and interconnections are consistent with each of the applicable state smart growth public infrastructure criteria specified in ECL § 6-0107, or why compliance would be impracticable.

(m) A summary of available information on the feasibility of providing local access to energy generation by the Facility.

(n) A commitment by the Applicant to track and report the actual number of direct jobs created during the construction and operational phases of the Project, as well as the tax payments to local jurisdictions made during the course of the Project.

(o) The Applicant will make available any workpapers associated with its socioeconomic impact estimates.

3.28 Environmental Justice (Exhibit 28)

Potential Environmental Justice Areas are defined by New York 6 NYCRR §487.3 as areas with populations that meet one or more of the following thresholds:

- 51.1 percent or more of the population in an urban area reported themselves to be members of minority groups; or
- 33.8 percent or more of the population in a rural area reported themselves to be members of minority groups;[2] or
- 23.59 percent or more of the population in an urban or rural area had household incomes below the federal poverty level.

The Project Area, including a half-mile buffer around the proposed Facility site, is wholly contained within Census Block Group 3, Census Tract 9504 in Schuyler County, New York. According to the most current data from the U.S. Census Bureau's American Community Survey,[3] the block group has a low-income population of 11.2 percent and a minority (non-white and/or non-Hispanic) population of 0.3 percent. Based on the review of the minority and low-income population of the Census Block Group, the proposed location is not in a Potential Environmental Justice Area, as defined by the State of New York.

Exhibit 28 requires the Applicant to provide sufficient information for an assessment of the potential impact of the Facility on Environmental Justice communities. The intent of an Environmental Justice evaluation is to determine if air quality and associated health impacts are disproportionately affecting certain communities or populations. To guide such an evaluation, NYSDEC promulgated Commissioner Policy 29 (CP-29), entitled Environmental Justice and Permitting. CP-29 has limited applicability, applying only to applications for major projects and major modifications for permits relating to water pollution, air pollution, solid and hazardous waste management, and siting of industrial hazardous waste facilities. The Project will not require any such permits. Accordingly, CP-29 is not applicable to the Project. The Project will have no air emissions during operation, and, accordingly, CP-29 and NYSDEC regulations do not apply and

[2] *Minority population* means a population that is identified or recognized by the U.S. Census Bureau as Hispanic, African-American or Black, Asian and Pacific Islander, or American Indian.
[3] Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

the Environmental Justice Analysis outlined in 6 NYCRR §487.6 is not required and will not be provided in the Article 10 Application.

To date, Watkins Glen Solar Energy Center has received no comments concerning Environmental Justice.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 28 of the Application in accordance with §1001.28:

(a) A statement that because: (a) the proposed project impact area is not in a Potential Environmental Justice Area, as defined by 6 NYCRR §487.6; (b) there will be no air emissions during operation; and (c) any vehicle/equipment emissions during construction will not affect any EJ areas due to distance, the Project will not negatively any Environmental Justice areas. Therefore, the Environmental Justice Analysis provided by 6 NYCRR § 487.6 is not required.

3.29 Site Restoration and Decommissioning (Exhibit 29)

At the end of the useful economic life of the Project, the Project will either continue operations, be repowered, or be decommissioned. In the event that the Project permanently ceases operations, the Decommissioning Plan will be implemented to remove and recycle, to the maximum extent practicable, equipment and related materials to essentially return the Project Area to substantially its pre-construction condition so that it is available for agriculture and other open space usage as determined by the landowner.

The decommissioning of the Project is, in many ways, the reverse of its construction. Much of the same equipment that was used in the construction of the Project, such as trucks, backhoes, etc., will again be used in the decommissioning and removal of the components. Large quantities of steel, cable, and concrete will be removed and transported off site for recycling and/or disposal at approved facilities. Off-site disposal facilities will be identified at the time of decommissioning, as availability of facilities is likely to change in the decades during the Project's useful economic life. The Project will work with local officials, state agencies, and landowners to ensure minimal environmental impact to the area.

In general, the decommissioning of the Project will begin with the disconnection of the collection cables from each solar array. Collection cables will be removed and recycled, while underground sections will be abandoned in place to mitigate environmental impacts or may be pulled up and recycled, as will be determined in consultation with the landowner and in accordance with such requirements as may be applicable as determined by the Siting Board. Collection cable support poles will be removed and recycled.

Each solar array would then be deconstructed with the removal of panels, supports, and posts in that order. Security fencing will be removed and recycled and/or disposed. Access roads will be left in place for the use of the landowners or removed at the landowners' discretion if they do not intend to make use of the access roads. Disturbed areas will be regraded, topsoiled, and seeded to the extent necessary. It is anticipated that the decommissioning of the Project would take up to a year to complete (more if permitting is required).

If conditions permit, after the useful life of the Project, the Applicant may "repower" the Project, if circumstances permit. When a location with good solar resources and sufficient transmission

capacity is found, combined with landowners and a community willing to host a solar energy project, the Applicant wants to stay in that area and produce solar energy as long as is possible. Regardless, the Applicant will be prepared to decommission the Project and fulfill its obligations when the time comes.

Watkins Glen Solar Energy Center is contractually obligated with the landowners to remove improvements, including solar arrays, foundations, and other facilities to a depth of at least 3 feet below the surface and restore the property to substantially the same condition that existed immediately prior to construction. In addition to the contractual obligations, plan funding will be described consistent with the requirements of 16 NYCRR 1001.29 and applicable substantive provisions of Article VII, section 33 of the Town Code of Dix, New York. The details of the Decommissioning Plan will be provided in Exhibit 29 of the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 29 of the Application in accordance with §1001.29:

(a) A statement of the performance criteria proposed for site restoration in the event the Project cannot be completed and for decommissioning of the Project, including a discussion of why the performance criteria are appropriate. Among other things, the statement shall address:

(1) Safety and the removal of hazardous conditions;
(2) Environmental impacts;
(3) Aesthetics;
(4) Salvage and recycling;
(5) Potential future uses for the site; and
(6) The useful life of the Project.

(b) A plan for the decommissioning and restoration of the Project Area including how such decommissioning and restoration shall be funded and a schedule with defined period of time for determining when to conduct decommissioning and site restoration activities. This plan shall include a detailed preliminary estimate to support the proposed

decommissioning and site restoration funding upon cessation of operation of the Facility based on decommissioning and site restoration costs from similar projects (if similar costs are available). The plan will also include:

(1) A detailed cost estimate for site restoration activities and decommissioning of the Project. In addition, the Application will include the proposed type of, and justification for, the financial assurance that will be provided for decommissioning and restoration activities.

(2) A procedure and schedule for notifying local municipalities and landowners prior to decommissioning and restoration activities.

(3) A description of proposed agricultural restoration techniques to be utilized during site restoration and decommissioning will be provided in accordance with applicable NYSDAM guidelines, to the maximum extent practicable.

(c) There are no wind power facilities proposed as part of the Project, therefore this section of the Exhibit 29 regulation is not applicable.

(d) No nuclear power facilities are proposed as part of the Project, therefore this section of the Exhibit 29 regulation is not applicable.

3.30 Nuclear Facilities (Exhibit 30)

There are no nuclear facilities included in the proposed Project. Therefore, this requirement is not applicable to the Watkins Solar Glen Energy Center.

3.31 Local Laws and Ordinances (Exhibit 31)

The Watkins Glen Solar Energy Center will be located in the Town of Dix, Schuyler County, New York. The Applicant will consult with the Town during the Application process to identify the substantive provisions of applicable laws and ordinances that should be addressed in the Application.

In 2018, the Town of Dix adopted its Solar Energy Law (Local Law No. 2 of the Year 2018 known as "Solar Law"). The law authorized the Town of Dix to "adopt zoning provisions that advance and protect the health, safety and welfare of the community, and, in accordance with the Town law of New York State, to make provision for, so far as conditions may permit, the accommodation of solar energy systems and equipment and access to sunlight necessary therefore."

The Town of Dix Solar Energy Law classifies Solar Energy Systems into three tiers defined as follows:

i. Tier 1 Solar Energy Systems that include the following:
   a. Roof-mounted solar energy systems.
   b. Building-integrated solar energy systems.
ii. Tier 2 Solar Energy Systems include Ground-Mounted Solar Energy Systems with system capacity up to 25 kW AC and that generate no more than 110 percent of the electricity consumed on the site over the previous 12 months.
iii. Tier 3 Solar Energy Systems are systems that are not included in the list for Tier 1 and Tier 2 Solar Energy Systems.

The Watkins Glen Solar Energy Center would be considered a Tier 3 Solar Energy System. The procedural and substantive requirements described below are based upon the Town's Solar Law for Tier 3 Solar Energy Systems and applicable portions of the Town's Zoning Ordinance dated February 2016.

A. Local Procedural Requirements

Below is a preliminary list of local laws and ordinances of a procedural nature that may be applicable to the construction and operation of the Watkins Glen Solar Energy Center Project in the absence of Article 10:

Town of Dix – Solar Energy Law:

- *5. General Requirements*
  - *A. A building permit shall be required for installation of all Solar Energy Systems.*
  - *C. Issuance of permits and approvals by the Town Planning Board shall include review pursuant to the State Environmental Quality Review Act [ECL Article 8 and its implementing regulations at 6 NYCRR Part 617 ("SEQRA")].*
- *8. Permitting requirements for Tier 3 Solar Energy Systems*

All Tier 3 Solar Energy Systems are permitted through the issuance of a Special Use Permit and are subject to site plan application requirements.

- *A. Applications for the installation of Tier 3 Solar Energy System shall be:*
  - 1) reviewed by Code Enforcement Officer for completeness. Applicants shall be advised within 10 business days of the completeness of their application or any deficiencies that must be addressed prior to substantive review.
  - 2) subject to a public hearing to hear all comments for and against the application. The Planning Board of the Town shall have a notice printed in a newspaper of general circulation in the Town and post on the Town website at least 5 business days in advance of such hearing. Applicants shall have delivered the notice by first class mail to adjoining landowners or landowners within 2500 linear feet of the property at least 10 business days prior to such a hearing. Proof of mailing shall be provided to the Planning Board at the public hearing.
  - 3) referred to the Schuyler County Planning Department pursuant to General Municipal Law § 239-m if required.
  - 4) upon closing of the public hearing, the Planning Board shall take action on the application within 62 days of the public hearing, which can include approval, approval with conditions, or denial. The 62-day period may be extended upon consent by both the Planning Board and applicant.
- *H. Decommissioning.*

- 2. A decommissioning plan (see Appendix 4) signed by the owner and/or operator of the Solar Energy System shall be submitted by the applicant, addressing the following:
  - a. The cost of removing the Solar Energy System
  - b. The time required to decommission and remove the Solar Energy System and any ancillary structures.
  - c. The time required to repair any damage caused to the property by the installation and removal of the Solar Energy System.
  - d. the process for proper handling, off-site disposal, and, where applicable, recycling of the Solar Energy System and any ancillary structures, including mandatory use of qualified recyclers for hazardous waste. Qualified recyclers must possess certifications that meet or exceed applicable federal, state and local standards. Recycler certifications should meet or exceed ISO-, OHSAS 18001- or WEEE Labex- certified criteria for handling and recycling hazardous waste.
- 3. *Security.*
  - b. In the event of default upon performance of such conditions, after proper notice and expiration of any cure periods, the cash deposit, bond, or security shall be forfeited to the Town, which shall be entitled to maintain an action thereon. The cash deposit, bond, or security shall remain in full force and effect until restoration of the property as set forth in the decommissioning plan is completed.
  - c. In the event of default or abandonment of the Solar Energy System, the system shall be decommissioned as set forth in Section 10(b) and 10(c) herein.

- *I. Site Plan Application.* For any Solar Energy System requiring a Special Use Permit, site plan approval shall be required. Any site plan application shall include the information in section 8.I.(1) – (10).
- *J. Special Use Permit Standards.*

- *6. Screening and visibility.*
  - b. Solar Energy Systems larger than 10 acres shall be required to:
  - I. Conduct a visual assessment of the visual impacts of the Solar Energy System on public roadways and adjacent properties. At a minimum, a line-of-sight profile analysis shall be provided. Depending on the scope and potential significance of the visual impacts, additional impact analyses, including for example, a digital viewshed report. Shall be required to be submitted by the applicant.
  - II. Submit a screening & landscaping plan to show adequate measures to screen through landscaping, grading, or other means so that views of Solar Panels and solar energy equipment shall be minimized as reasonably practical from public roadways and adjacent properties to the extent feasible.
  - i. The screening and landscaping plan shall specify the locations, elevations, height, plant species, and/or materials that will comprise the structures, landscaping and/or grading used to screen and/or mitigate any adverse aesthetic effects of the system. The landscaped screening shall be comprised of a minimum of 1 evergreen tree plus 2 supplemental shrubs at the reasonable discretion of the Planning Board, all planted within each 10 linear feet of the Solar Energy System. Existing vegetation may be used to satisfy all or a portion of the required landscaped screening.

- *7. Agricultural Resources.*
  - 1. Any Tier 3 Solar Energy System located on areas that consist of Prime Farmland or Farmland of Statewide Importance which exceeds 50% of the area of Prime Farmland or Farmland of Statewide Importance· on the parcel shall undergo additional impact analyses at the discretion of the Planning Board.

Local Procedural Requirements to be Implemented by Municipality to be Authorized by the Siting Board

Except with respect to the New York State Uniform Fire Prevention and Building Code, as explained below, Watkins Glen Solar Energy Center does not request the Siting Board to authorize a municipality to implement any local procedural requirements.

B. Local Substantive Requirements

Below is a preliminary list of local laws and ordinances of a substantive nature that may be applicable to the construction and operation of the Watkins Glen Solar Energy Center Project The substantive requirements described below are based upon the Town's current Solar Law, effective 2018.

- *8. Permitting requirements for Tier 3 Solar Energy Systems*
    - *B. Underground Requirements.* All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility, with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment, including without limitation any poles, with new easements and right-of-way.
    - *C. Vehicular Paths.* Vehicular paths within the site shall be designed to minimize the extent of impervious materials and soil compaction.
    - *D. Signage*.
        - 1. With the exception of signage for public education… no signage or graphic content shall be displayed on the Solar Energy Systems except the following mandatory content: manufacturers name, equipment specification information, safety information and 24-hour emergency contact information. Said information shall be depicted within an area no more than 8 square feet and shall be depicted at each perimeter access gate or along the perimeter fence such that a sign is accessible every 2,640 feet along the Solar Energy System's perimeter.
        - 2. As required by National Electric Code (NEC), disconnect and other emergency shutoff information shall be clearly displayed on a light reflective surface. A clearly visible warning sigh concerning

voltage shall be placed at the base of all pad-mounted transformers and substations.

- *E. Glare.* All Solar Panels shave have anti-reflective coating that meets commercially reasonable standards.
- *F. Lighting.* Lighting of the Solar Energy Systems shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties. Wherever practicable, energy-efficient LED lighting shall be used.
- *G. Tree Cutting.* Removal of existing trees larger than 6 inches in diameter should be minimized to the extent possible.
- *H. Decommissioning.*
  - 1. Solar Energy Systems that have been abandoned and/or not producing electricity for a period of 6 months shall be removed at the Owner and/or Operator's expense, which at the Owner's option may come from any security made with the Town as set for in Section 10(b) herein.
  - 3. *Security.*
    - a. The deposit, executions, or filing with the Town Clerk of cash, bond or other form of security reasonably acceptable to the Town attorney and/or engineer, shall be in an amount sufficient to ensure the good faith performance of the terms and conditions of the permit issued pursuant hereto and to provide for the removal and restorations of the site subsequent to removal. The amount of the bond or security shall be 125% of the cost of the removal of the Tier 3 Solar Energy System and restoration of the property with an escalator of 2% annually for the life of the Solar Energy System. The decommissioning amount shall be reduced by the amount of the estimated salvage value of the Solar Energy System, which shall be calculated annually by the owner and/or operator of the Solar Energy System.
- *J. Special Use Permit Standards.*

- *1. Lot Size. a.* The property on which the Tier 3 Solar Energy System is placed shall meet the lot size requirements in Appendix 1. Lot size requirements in the Residential Low Density Zoning District for Tier 3 Solar Energy Systems is two acres or greater. There are no lot size requirements for the Special Entertainment Zoning District.
- *2. Setbacks. a*. The Tier 3 Solar Energy Systems shall meet the setback requirements in Appendix 2. Parcel line setback requirements for Tier 3 Ground-Mounted in the Low Density Rural Zoning District are 50 feet from front, side and rear parcel lines. Parcel line setback requirements for Tier 3 Ground-Mounted in the Special Entertainment Zoning District are 30 feet from front parcel lines, 15 feet from side parcel lines and 25 feet from rear parcel lines.
- *3. Height. a.* The Tier 3 Solar Energy Systems shall comply with the height limitations in Appendix 3 depending on the underlying zoning district. The maximum allowable height in the Low Density Rural Zoning District for Tier 3 Solar Energy Systems is 15 feet. The maximum allowable height in the Special Entertainment Zoning District for Tier 3 Solar Energy Systems is 20 feet.
  - *4. Lot coverage.*
    - *a.* The following components of a Tier 3 Solar Energy System shall be considered included in the calculations for lot coverage requirements.
      - I. Foundation systems, typically consisting of driven piles or monopoles or helical screws with or without small concrete collars.
      - II. All mechanical equipment of the Solar Energy System, including any pad mounted structure or batteries, switchboard, transformers or storage cells.
      - III. Paved access roads servicing the Solar Energy System.
    - b. Lot coverage of the Solar Energy System, as defined above, shall not exceed the maximum lot coverage requirement of the underlying zoning district. Maximum lot

coverage in the Low Density Residential Zoning District is 10%. Maximum lot coverage in the Special Entertainment Zoning District is 75%.

- *5. Fencing Requirements.* All mechanical equipment, including any structure for storage batteries, shall be enclosed by a 7-foot-high fence, as required by NEC, with a self-locking gate to prevent unauthorized access.

- *7. Agricultural Resources.*
  - 2. Tier 3 Solar Energy Systems shall be required to seed at least 20% of the total surface area of all solar panels on the parcel with native perennial, vegetation designed to attract pollinators, with the exception of Tier 3 Solar Energy Systems located on brownfield sites as defined by New York State Department of Environmental Conservation or similarly contaminated sites determined by the Planning Board to be unsuitable for attracting pollinators.
  - 3. To the maximum extent practicable, Tier 3 Solar Energy Systems located on Prime Farmland shall be constructed in accordance with the construction-requirements of the New York State Department of Agriculture and Markets.
  - 4. Tier 3 Solar Energy System owners shall develop, implement, and maintain native vegetation to the extent practicable pursuant to a vegetation management plan by providing native perennial vegetation and foraging habitat beneficial to game birds, songbirds, pollinators and pollinator plants. To the extent practicable, when establishing vegetation and beneficial foraging habitat, the owners shall use native plant species, seed mixes and pollinator plants.

- *9. Safety.*
  - A. Solar Energy Systems and Solar Energy Equipment shall be certified under the applicable electrical and/or building codes as required.

- B. Solar Energy Systems shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department and, if the Tier 3 Solar Energy System is located in an ambulance district, the local ambulance corps.

Consistency with Substantive Requirements

At this time, the Applicant has determined that none of the local substantive requirements of the effective zoning regulations are unreasonably burdensome in terms of existing technology, cost/economics, or consumer needs. Therefore, the Applicant is not currently requesting that the Siting Board refuse to apply any of the substantive requirements of the local zoning code. If, at any time, the Applicant determines that it cannot comply with any of the substantive requirements identified above, the Applicant will identify those substantive requirements with a request that the Siting Board not apply such law(s) and will include a statement justifying those requests.

C. Zoning Designation

The Town of Dix has adopted zoning regulations (last amended February 2016). The following provides a summary of the substantive provisions of zoning regulations applicable to the Project.

Town of Dix – Article VI Zoning District Regulations

The Project Area is wholly located within the Low Density Rural (LDR) and Special Entertainment (SE) zoning districts. Principal permitted uses within the LDR District include the following:

- Residential: Dwelling, Single Family; Dwelling, Two Family.
- Commercial: Agricultural, livestock or crops; Bed and Breakfast; Brewery or Winery; Day Care, Family; Greenhouse, commercial; Stables.
- Accessory: Garage; Greenhouse, personal; Roadside stand; Shed; Small Scale Solar.
- Industrial: None.
- Other: Nature Preserve.

Uses permitted as a special permit by the Planning Board within the LDR zone include the following:

- Residential: Dwelling, Multifamily; Dwelling Unit, Accessory; Mobile Home Park.
- Commercial: Agricultural Research Facility; Agricultural Support Industry; Campground; Club, Hunting & Fishing; Club, Social; Convenience Store; Day Care, Center; Entertainment/Recreation: Outdoor, Arcade; Home Occupation; Junkyard; Kennel; Motor Vehicle Repair; Motor Vehicle Sales; Storage Units.
- Accessory: None.
- Industrial: Wind: Utility Scale WECS, Private WECS, Wind Measurement Towers.
- Other: Public Uses; Public Utilities; Mineral Extraction; Tier 3 Solar Energy Systems.

Principal permitted uses within the Special Entertainment zone include the following:

- Residential: None.
- Commercial: Agricultural, livestock or crops; Bed and Breakfast; Brewery and Winery; Day Care, Family.
- Accessory: Garage; Shed; Small Scale Solar.
- Industrial: None.
- Other: None

Uses permitted as a special permit by the Planning Board within the Special Entertainment zone include the following:

- Residential: Dwelling, Multifamily.
- Commercial: Adult Use; Bar or Tavern; Campground; Club, Social; Convenience Store; Convention center; Cultural facility; Day Care, Center; Entertainment/Recreation, Indoor; Entertainment/Recreation: Outdoor, Arcade; Entertainment/Recreation: Outdoor, Professional; Hotel/Model; Professional Office; Restaurant; Retail Sales; Other Commercial Uses not listed here.
- Accessory: None.
- Industrial: Light Industrial/Light Manufacturing; Wind: Utility Scale WECS, Private WECS, Wind Measurement Towers.
- Other: Public Uses; Public Utilities; Mineral Extraction; Tier 3 Solar Energy Systems.

As listed above, Tier 3 Solar Energy System, is an allowable use within the LDR and SE Districts.

Town of Dix – Article VII Regulations Applicable to All Zoning Districts

A number of other substantive zoning regulations will be assessed in the Article 10 Application for their applicability to the Project. These regulations include the substantive provisions of the following zoning sections:

- § VII - 6 Lots in more than one zone
- § VII – 12 Dumping of waste material
- § VII – 13 Filling and excavating
- § VII – 14 Outdoor storage of materials and equipment
- § VII – 16 Fences, walls and other structural screening elements
- § VII – 20 Accessory Buildings and Uses
- § VII – 32 Floodplains

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 31 of the Application in accordance with §1001.31:

(a) A list and copies, in electronic form, of all local ordinances, laws, resolutions, regulations, standards and other requirements applicable to the construction and operation of the Project that are of a procedural nature for those towns within the Project Area. These local procedural requirements are supplanted by PSL Article 10 unless the Siting Board expressly authorizes the exercise of the procedural requirement by the local municipality or agency.

(b) A list and copies, in electronic form, of all local procedural requirements required to be identified pursuant to section (a) of this Exhibit for which the Applicant requests that the Siting Board expressly authorize the exercise of the procedural requirement by the local municipality or agency, including a statement why such local exercise would be desirable or appropriate.

(c) Identification of the local agency qualified by the Secretary of State that shall review and approve the building plans, inspect the construction work, and certify compliance with the New York State Uniform Fire Prevention and Building Code, the Energy Conservation Construction Code of New York State, and the substantive provisions of any applicable local electrical, plumbing or building code. The Town of Dix has adopted and incorporated the New York State Uniform Fire Prevention and Building Code for administration into its local electric, plumbing and building codes, therefore the Applicant may make a request pursuant to subdivision (b) of this section that the Siting Board expressly authorize the exercise of the electric, plumbing and building permit application, inspection and certification processes by the Town of Dix.

(d) Identification and copies, in electronic form, of all local ordinances, laws, resolutions, regulations, standards and other requirements applicable to the construction and operation of the Project that are of a substantive nature, together with a statement that the location of the Facility as proposed conforms to all such local substantive requirements, except any that the Applicant requests that the Siting Board elect to not apply. Copies of zoning, flood plain and similar maps, tables and/or documents shall be included in the Exhibit when such are referenced in such local substantive requirements. Pursuant to PSL §168(3) (e), the Siting Board must find that the Facility is designed to operate in compliance with these local substantive requirements, all of which shall be binding upon the Applicant, unless the Siting Board elects to not apply them by finding that, as applied to the proposed Project such are unreasonably burdensome in view of the existing technology or the needs of or costs to ratepayers whether located inside or outside of such municipality.

(e) A list of all local substantive requirements required to be identified pursuant to subdivision (d) of this Exhibit for which the Applicant requests that the Siting Board elect to not apply them by finding that, as applied to the Project such are unreasonably burdensome in view of the existing technology or the needs of or costs to ratepayers whether located inside or outside of such municipality. For each local substantive requirement identified, a statement justifying the request shall be provided. The statement of justification shall show with facts and analysis 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 Project, the

request is the minimum necessary, and the adverse impacts of granting the request are mitigated to the maximum extent practicable. The statement shall include a demonstration:

(1) For requests grounded in the existing technology, that there are technological limitations (including governmentally imposed technological limitations) related to necessary Project component bulk, height, process or materials that make compliance by the Applicant technically impossible, impractical or otherwise unreasonable;

(2) For requests grounded in factors of costs or economics (likely involving economic modeling), that the costs to consumers associated with applying the local substantive requirement outweigh the benefits of applying such provision; and

(3) For requests grounded in the needs of consumers, that the needs of consumers for the Project outweigh the impacts on the community that would result from refusal to apply the local substantive requirement.

(f) A list and copies, in electronic form, of any local ordinances, laws, resolutions, regulations, standards and other requirements applicable to the Project's interconnections in public rights of way, if any, that are of a procedural nature.

(g) A list and copies, in electronic form, of any local ordinances, laws, resolutions, regulations, standards and other requirements applicable to the Project's interconnections in public rights of way, if any, that are of a substantive nature.

(h) A list of all local procedural or substantive requirements required to be identified pursuant to subdivisions (f) and (g) of this Exhibit for which the Applicant requests that the Siting Board elect to not apply them by finding that, as applied to the proposed Project interconnections such are unreasonably burdensome in view of the existing technology or the needs of or costs to ratepayers whether located inside or outside of such municipality. For each local procedural or substantive requirement identified, a statement justifying the request shall be provided. The statement of justification shall show with facts and analysis 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 Project, the request is the minimum necessary, and the adverse impacts of granting the request are mitigated to the maximum extent practicable. The statement shall include a demonstration:

(1) For requests grounded in the existing technology, that there are technological limitations (including governmentally imposed technological limitations) related to necessary Project component bulk, height, process or materials that make compliance by the Applicant technically impossible, impractical or otherwise unreasonable;

(2) For requests grounded in factors of costs or economics (likely involving economic modeling), that the costs to consumers associated with applying the local substantive requirement outweigh the benefits of applying such provision; and

(3) For requests grounded in the needs of consumers, that the needs of consumers for the Project outweigh the impacts on the community that would result from refusal to apply the local substantive requirement.

(i) A summary table of all local substantive requirements required to be identified pursuant to subdivisions (d) and (g) of this Exhibit in two columns listing the provisions in the first column and a discussion or other showing demonstrating the degree of compliance with the substantive provision in the second column.

(j) An identification of the zoning designation or classification of all lands constituting the site of the proposed Project and a statement of the language in the zoning ordinance or local law by which it is indicated that the proposed Project is a permitted use at the proposed site. If the language of the zoning ordinance or local law indicates that the proposed Project is a permitted use at the proposed site subject to the grant of a special exception, a statement of the criteria in the zoning ordinance or local law by which qualification for such a special exception is to be determined.

(k) The Application will address the Town of Dix zoning ordinance, including applicable solar energy facilities code provisions in effect at the time the Application is filed. Applicable laws, codes and regulations will be included in the Application as an appendix. SEQRA

documentation of local code revisions adoption actions will be included in the Application as an appendix to the extent it is finalized and publicly accessible.

3.32 State Laws and Regulations (Exhibit 32)

The Applicant has compiled a list of permits, and other authorizations required by state agencies to approve the construction of the Project (see Table 3-2 below). Throughout the duration of the Article 10 preparation process, the Applicant will coordinate with agencies listed in Table 5 and provide an updated table upon submission of the Application. Table 3-2 indicates each permit or other authorization and the associated regulatory agency, requirements, preliminary studies and Application requirements, and an estimated agency review time.

Table 3-2. State Reviews, Permits, and Approvals

Permit/ Clearance	Regulatory Agency[1]	When Required	Potential Studies and Application Requirements	Status and Estimated Approval Times
Article 10 Siting Certificate	Siting Board	Construction and operation of major electric generating facilities pursuant to Article 10 of the PSL	Article 10 Application to be prepared in accordance with 16 NYCRR Chapter X (Certification of Major Electric Generating Facilities)	Final PIP Plan filed in November 2017.
Stormwater Permit (SPDES GP-0-15-002)	NYSDEC	Soil disturbance of 1 or more acre	Preparation of a SWPPP	Authorization under this General Permit (or that in effect at time of construction) is coordinated as part of the Article 10 process.
Water Quality Certification (Section 401 of Clean Water Act)	Siting Board	Projects whose effluent discharges could affect state-protected waterbodies	Analyses for this Application are ongoing	Issuance will be coordinated as part of the Article 10 process.

Permit/ Clearance	Regulatory Agency[1]	When Required	Potential Studies and Application Requirements	Status and Estimated Approval Times
Historic Preservation Act (Section 14.09)	SHPO	Project must go through review /consultation to determine whether it will affect historic or culturally significant properties.	Phase IA/IB Assessment may be required.	Project has been preliminarily reviewed on SHPO CRIS.
Agricultural and Markets Law – Article 25-AA	NYSDAM	Consultation required as Project Area is located within certified Agricultural Districts	Review of Agricultural District Mapping & Coordination with NYSDAM	Consult with NYSDAM for recommendations on how to minimize impacts to agricultural operations as part of the Project. Consultation will be incorporated into Article 10 process.
Interconnection Studies	NYISO	Interconnection Required	Feasibility study and SRIS underway.	Interconnection request submitted 3/27/2017

Compliance with State Requirements

The Applicant intends to build and operate the Project in accordance with state laws and regulations as described herein.

Proposed Studies

Exhibit 32 of the Siting Board's regulation provides that before preparing the Exhibit required by this section, the Applicant shall consult with the state agencies and authorities whose requirements are the subject of the Exhibit to determine whether the Applicant has correctly identified all such requirements.

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 32 of the Application in accordance with §1001.32:

(a) A list of all state approvals, consents, permits, certificates, or other conditions for the construction or operation of the proposed Project (including interconnection electric transmission lines and fuel gas transmission lines that are not subject to review under Article VII of the PSL) of a procedural nature. These state procedural requirements are supplanted by PSL Article 10, except for permits to be issued by the NYSDEC pursuant to federal recognition of state authority, or pursuant to federally delegated or approved authority, in accordance with the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, and permits pursuant to Section 15-1503, Title 9 of Article 27, and Articles 17 and 19 of the ECL, unless the Siting Board expressly authorizes the exercise of such authority by the state agency. In addition to the Article 10 Application, the Applicant will apply to the Public Service Commission for a Certificate of Public Convenience and Necessity Pursuant to Section 68 of the PSL authorizing the exercise of municipal rights to occupy municipal property and for other authorization as clarified by the Siting Board in its Cassadaga decision issuing the certificate.

(b) A list of all state procedural requirements required to be identified pursuant to subdivision (a) of this section for which the Applicant requests that the Board expressly authorize the exercise of such authority by the state agency, including a statement why such exercise would be desirable or appropriate.

(c) A list of all state approvals, consents, permits, certificates, or other conditions for the construction or operation of the proposed Project (including interconnection electric transmission lines and fuel gas transmission lines that are not subject to review under Article VII of the PSL) of a substantive nature, together with a statement that the Facility as proposed conforms to all such state substantive requirements. Pursuant to PSL §168(3) (e), the Siting Board must find that the Facility is designed to operate in compliance with these state substantive requirements, all of which shall be binding upon the Applicant.

(d) A summary table of all state substantive requirements required to be identified pursuant to subdivision (c) of this section in two columns listing the provisions in the first column, and a discussion or other showing demonstrating the degree of compliance with the substantive provision in the second column.

(e) A list of all state approvals, consents, permits, certificates, or other conditions for the construction or operation of any proposed offsite interconnections and ancillary features, that are not encompassed within the definition of Major Electric Generating Facility. These state actions not for the construction or operation of the proposed Project are not supplanted by PSL Article 10 and may be state procedural requirements or state substantive requirements.

3.33 Other Applications and Filings (Exhibit 33)

The Applicant does not have any pending application or filing with the Siting Board or with any other governmental department, agency, or court of competent jurisdiction (state or federal) concerning the development of the Project.

Federal Involvement

Pursuant to 16 NYCRR § 1001.33(b), the following federal permits, consents, approvals, consultations, or licenses may be required for construction or operation of the Project:

USFWS:

- Endangered Species Act, Section 7 Consultation.

USACE:

- Endangered Species Act, Section 7 compliance;
- National Historic Preservation Act, Section 106 compliance; and
- Section 404 or Nationwide Permit for Placement of Fill in Federal Jurisdictional Wetlands, Waters of the US.

The dates for these federal applications will be provided in the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 33 of the Application in accordance with §1001.33:

(a) A statement whether the Applicant has pending, or knows of others who have pending, with the PSC or with any other governmental department, agency or court of competent jurisdiction (state or federal), any application or filing which concerns the subject matter of the proceeding before the Siting Board. If any such applications or filings are pending, the Applicant shall state, for each application or filing, whether the granting of any such application or filing will have any effect on the grant or denial of a Certificate, and whether the grant or denial of a Certificate will have any effect upon the grant or denial of any such other application or filing. The Applicant shall notify the Secretary, presiding

examiner and each party or any significant change in the status of each such application or filing.

(b) An identification of any federal permits, consents, approvals, or license that will be required for the construction or operation of the Project. The Application shall specify the date on which an application for any such approval was made or the estimated date on which it will be made. The Applicant shall notify the Secretary, presiding examiner and each party of any significant change in the status of each such application.

3.34 Electric Interconnection (Exhibit 34)

Interconnection to the electric transmission system will be achieved by using conventional, state-of-the-art technology. Solar panels will generate power at a low voltage, which will be converted from DC to AC at the inverters. Medium voltage will be collected with a system consisting of underground cables and possibly overhead collection lines that will transmit power to a proposed, on-site collection substation. The collection substation will then transform the power up to 115 kV and deliver the power to the adjacent, on-site, proposed POI switchyard to be constructed as part of the Project. The POI switchyard will be constructed by the Applicant and then transferred to NYSEG to own, maintain, and operate. The Applicant has requested interconnection of the Project to the New York electric transmission system connecting to NYSEG's nearby Bath-Montour Falls 115 kV circuit.

Under queue request Q617, the NYISO is currently studying the interconnection of 50 MW to the adjacent NYSEG transmission infrastructure. The POI substation connects the Facility to the NYSEG transmission line. Although underground cabling is the preferred option for the electrical collection system, overhead cables may be used where requested by landowners or where underground installation is prohibited or infeasible due to natural constraints such as streams or creek crossings, steep topography, bedrock, etc.

The final routing of the collection system cables is dependent upon final solar array layout, land acquisition, access road layout, final collection substation siting and field surveys to minimize impacts to resources such as wetlands, forested areas, and agricultural lands. In addition to the electrical cables, the collection system will include fiber optic cables that will connect the Project's SCADA system for O&M communications. The conceptual design of the 115-kV cable collection system will be provided in the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 34 of the Application in accordance with §1001.34:

(a) The design voltage and voltage of initial operation.
(b) The type, size, number, and materials of conductors.
(c) The insulator design.

(d) The length of the transmission line.

(e) The typical dimensions and construction materials of the towers.

(f) The design standards for each type of tower and tower foundation.

(g) For underground construction, the type of cable system to be used and the design standards for that system.

(h) For underground construction, indicate on a profile of the line the depth of the cable and the location of any oil-pumping stations and manholes.

(i) Equipment anticipated to be installed in both the proposed collection substation and POI switchyard, including an explanation of the necessity of these components.

(j) Any terminal facility.

(k) The need for cathodic protection measures.

(l) Electric collection lines will be primarily underground. The use of overhead cables for the Project, if necessary, will be sited outside agriculture fields to the maximum extent practicable. Any type of overhead collection considered for the Project will be discussed and assessed in the Application. In the event that there are overhead collection or transmission pole structures in agricultural fields, the Applicant understands that NYSDAM prefers that they be self-supporting, with no guy wires located on agricultural land.

(m) In the event that overhead collection or transmission pole structures are proposed, associated impacts will be incorporated in the VIA.

3.35 Electric and Magnetic Fields (Exhibit 35)

Minimal electric and magnetic fields (EMF) are generated by the operation of solar facility components such as the electrical collection lines, and transformers. EMF strength decreases with the square of the distance from the source (the electric charges or currents) for power lines and the cube of the distance from point sources such as substations. The location of electrical collection cables and the location of substation transformers and other electrical equipment inside a restricted area provide separation of these components from the general public. As a result, EMF exposure from Project components is expected to be non-existent or very limited.

EMF Study

The New York State PSC has issued EMF standards that describe measurement methods for compliance. The Applicant will use these standards to guide the EMF study that will be included in the Application.

As mentioned above, the Applicant anticipates its electrical interconnection line will be located at a sufficient distance from existing structures so that any EMF levels that may be produced are well below the Commission guidelines.

Proposed Studies

No new transmission corridors or lines are proposed. Accordingly, an EMF study does not appear to be required. The Applicant will consult with the NYSDPS Staff further on this matter. Pursuant to the Siting Board regulations if a study is determined to be required, the Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 35 of the Application in accordance with §1001.35:

(a) For the right-of-way (ROW) of the proposed connecting transmission line from the collection substation to the POI providing the electrical interconnection between the proposed Project and the existing electric transmission and distribution system, identify, if applicable, every ROW segment having unique EMF characteristics due to structure types and average heights, corridor widths, and co-location of other transmission facilities in the ROW, if any.

(b) For each if any, identified onsite transmission ROW segment, provide both “base case” and “proposed” cross-sections to scale showing:

(1) All overhead electric transmission, sub-transmission and distribution facilities, including the proposed Project showing structural details and dimensions and identifying phase spacing, phasing, and any other characteristics affecting EMF calculations.
(2) All underground electric transmission, sub-transmission and distribution facilities.
(3) All underground gas transmission facilities.
(4) All ROW boundaries.
(5) Structural details and dimensions for all structures (dimensions, phase spacing, phasing, and similar categories) and include a Station number identifying the location.

(c) A set of the aerial photos/drawings enhanced by showing the exact location of each:

(1) Onsite transmission corridor segment.
(2) Cross-section.
(3) Nearest residence or occupied non-residential building in each identified ROW segment with a stated measurement of the distance between the edge of ROW and the nearest edge of the residence or building.

(d) An EMF study, if required, with calculation tables and field strength graphs for each identified segment cross-section, as follows:

(1) Signed and stamped/sealed by a licensed professional engineer registered and in good standing in the State of New York.
(2) Identification of the specific computer software program used to model the facilities and make the calculations.
(3) Regarding the electric fields, modeling of the circuits at rated voltage and electric field calculation tables and field strength graphs calculated at one meter above ground level with 5-foot measurement intervals depicting the width of the entire

ROW and out to 500 feet from the edge of the ROW on both sides including digital copies of all input assumptions and outputs for the calculations.

(4) Regarding magnetic fields, modeling of the circuit phase currents equal to the summer-normal, summer short-term emergency (STE Sum), winter-normal, and winter short term emergency (STE Win), loading conditions and magnetic field calculation tables and field strength graphs calculated at one meter above ground level with 5-foot measurement intervals depicting the width of the entire ROW and out to 500 feet from the edge of the ROW on both sides including digital copies of all input assumptions and outputs for the calculations.

(5) Regarding the magnetic fields, modeling of the circuit phase currents equal to the maximum average annual load estimated to be occurring on the power lines within ten years after the proposed Project is put in operation and magnetic field calculation tables and field strength graphs calculated at one meter above ground level with 5-foot measurement intervals depicting the width of the entire ROW and out to 500 feet from the edge of the ROW on both sides, including digital copies of all input assumptions and outputs for the calculation.

(6) Regarding the magnetic fields, modeling of a “base case” with the circuit phase currents equal to the maximum average annual load currently estimated to be occurring on the existing power lines within the ROW (without construction or operation of the proposed Project) and magnetic field calculation tables and field strength graphs calculated at one meter above ground level with 5-foot measurement intervals depicting the width of the entire ROW and out to 500 feet from the edge of the ROW on both sides, including digital copies of all input assumptions and outputs for the calculations.

3.36 Gas Interconnection (Exhibit 36)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there are no gas interconnections included in the proposed Project.

3.37 Back-up Fuel (Exhibit 37)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there is no back-up fuel required for the proposed Project.

3.38 Water Interconnection (Exhibit 38)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there are no public water supply interconnections required for the operation of the proposed Project.

3.39 Wastewater Interconnection (Exhibit 39)

This requirement is not applicable to the Watkins Glen Solar Energy Center, as there are no municipal wastewater interconnections required for the operation of the proposed Project.

3.40 Telecommunications Interconnection (Exhibit 40)

The Project will require telecommunication services to support remote monitoring services. Exhibit 40 of the Application will describe the required bandwidth for this purpose, where physical connection would need to occur, what data networks and service providers are able to provide this service, the physical labor that would be required to provide this service, and the status of discussions and negotiations with service providers, if necessary.

Watkins Glen Solar Energy Center anticipates that NYSEG will use a fiber system to communicate with and monitor the proposed POI switchyard. As part of developing the Application, Watkins Glen Solar Energy Center will consult with NYSEG on its communication requirements. The results and data collected as a result of this coordination with NYSEG will also be included in Exhibit 40 of the Application.

Proposed Studies

The Applicant proposes to collect, evaluate, and provide the following information to support and prepare Exhibit 40 of the Application in accordance with §1001.40:

(a) A detailed description of the proposed telecommunications interconnection, including all interconnecting facilities, line route, design details, size, functions, and operating characteristics.

(b) An analysis demonstrating that there will be sufficient capacity to support the requirements of the Project.

(c) A description of the status of negotiations, or a copy of agreements that have been executed, with companies or individuals for providing the communications interconnection including any restrictions or conditions of approval placed on the Facility imposed by the provider, and a description of how the interconnection and any necessary system upgrades will be installed, owned, maintained and funded.

(d) A description of probable environmental effects of the telecommunication interconnection to the extent information is available.

3.41 Applications to Modify or Build-Adjacent (Exhibit 41)

The Project is not proposed to modify or be built adjacent to an existing electric generating facility and therefore, the requirements of Exhibit 41 are not applicable to the Project.

4.0 SUMMARY AND CONCLUSIONS

Watkins Glen Solar Energy Center plans to submit an Application to construct a major electric generating facility, the Watkins Glen Solar Energy Center, under Article 10 of the PSL. As required, the Applicant has prepared a PSS, the purpose of which is to describe the Project, based upon reasonably available information and propose the methodology, scope of studies, or program of studies to be conducted in support of an Application being submitted for the Project pursuant to Article 10. In support of this PSS, the Applicant has consulted with the public, affected agencies, and other stakeholders, as required by 16 NYCRR § 1000.5(b). Input from this stakeholder outreach has helped to inform this PSS. The Applicant will continue to meet with the public, affected agencies, and other stakeholders throughout the permitting process, and use that information to refine and improve the Project.

The Project Area addressed in this PSS consists of preliminary locations being evaluated for placement of Project facilities. As shown on Figure 1, the Project Area consists of approximately 774 acres of land located in the Town of Dix, Schuyler County, New York. The Project will have a generating capacity of 50 MW of power located on leased and/or purchased land from owners of private property. Within the Project Area, it is anticipated that the proposed solar energy center would comprise an area of approximately 350 acres of land. The Applicant intends to construct, own, operate, and maintain the components of the Project.

Project facilities will include commercial-scale solar arrays, access roads, buried (and possibly overhead) electric collection lines, a Project collection substation, and electrical interconnection facilities. Watkins Glen Solar Energy Center's interconnection facilities will include the proposed collection substation and 115-kV switchyard, which, as noted previously, will be transferred to NYSEG to own and operate. The proposed collection substation and interconnection facilities will be located on land south of the solar arrays within the Project Area, adjacent to the existing NYSEG Bath – Montour Falls 115-kV transmission line.

The proposed Project will have significant positive socioeconomic impacts in the Project Area, in Schuyler County and beyond, through employment opportunities, specifically by generating temporary development and construction employment. In addition, payments to the municipalities are to be discussed and negotiated through development of a PILOT agreement and/or Host Community Agreement. Watkins Glen Solar Energy Center will continue to coordinate with

municipal officials and provide an update on the status of these agreements as part of the Application.

By adding 50 MW of clean, renewable, solar power into the New York State energy market, the Project is consistent with the 2015 New York State Energy Plan and will helpl in meeting the NY 2030 targets of a 70-percent of the energy consumed in NYS being generated by renewable resources and 100 percent in 2040. The Project will also improve fuel diversity within New York State by increasing the amount of electricity produced by solar generation facilities.

As solar energy generates electricity without emitting pollutants, one of the greatest advantages of solar energy production is the maintenance of air quality. While very minor levels of air emissions may be produced during construction activities, this technology allows for production of electricity without creating any gaseous, liquid, or solid wastes, and therefore, eliminates the need to treat, collect, transport, and dispose such waste in significant amounts.

The Applicant has endeavored to provide as much information relative to the Project as is reasonably available per PSL 1000.5 (l). Table 5 below provides an overview of the PSL 100.5 (l) requirements and the corresponding section within this PSS where the information has been addressed.

Table 3-3. Content of Watkins Glen Solar Energy Center PSS

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(1)	As much information as is reasonably available concerning the proposed Facility, generally in the form (though in less detail) that it will appear in the Application;	Section 2.0	Sections 2.1 through 2.5 contain reasonably available information related to existing conditions, potential impacts and minimization/mitigation.
PSL 1000.5 (l)(2)	A preliminary scope of an environmental impact analysis containing a brief discussion, based on reasonably available information, of the following items:	Section 3.0	The detailed subsections of Section 3 (as described below) provide the preliminary scope of an environmental impact analysis based on reasonably available information.
PSL 1000.5 (l)(2)(i)	A brief description of the proposed Facility and its environmental setting;	Section 2.2; Sections 2.3 and 3.03; Sections 3.04, 3.17, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26, 3.27, and 3.28	Section 2.2 provides a brief description of the Project, Sections 2.3 and 3.03 provide locational information, while Sections 3.04, 3.17, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26, 3.27, and 3.28 provide a brief description of its environmental setting.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(ii)	Potentially significant adverse environmental and health impacts resulting from the construction and operation of the proposed Facility including also an identification of particular aspects of the environmental setting that may be affected, including any material impacts or effects identified in consultations by the public, affected agencies, and other stakeholders, and a responsive analysis by the Applicant as to those issues identified in consultations;	Section 2.2, and 3.10; Sections 3.15, 3.17, and 3.19; Sections 3.12, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26, and 3.29	Sections 2.2 and 3.10 provide general information regarding Project benefits; Sections 3.15, 3.17, and 3.19 provide information regarding potential health impacts, and Sections 3.12, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26, and 3.29 provide information concerning potential adverse environmental impacts. As of the date of the filing of this PSS, no material impacts have been identified during consultations.
PSL 1000.5 (l)(2)(iii)	The extent and quality of information needed for the Application to adequately address and evaluate each potentially significant adverse environmental and health impact, including existing and new information where required, and the methodologies and procedures for obtaining the new information;	Section 3.0	Each sub-section of Section 3.0 presents the extent and quality of information anticipated for presentation in the corresponding Exhibit of the Article 10 Application.
PSL 1000.5 (l)(2)(iv)	For proposed solar-powered facilities, proposed or on-going studies during pre-construction activities and a proposed period of post-construction operations monitoring for potential impacts to avian and bat species;	Section 3.22	Section 3.22 presents information on existing conditions and on-going pre-construction avian and bat studies, as well as proposed post-construction monitoring work plan.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(v)	A description of how the Applicant proposes to avoid adverse impacts to the environment and health;	Section 3.04, and 3.09; Sections 3.12, 3.15, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.26, 3.27, and 3.29	Sections 3.04 and 3.09 provide information on impact avoidance and its role in siting of Project facilities. Sections 3.12, 3.15, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.26, 3.27, and 3.29 describe avoidance and minimization measures to the environment and health.
PSL 1000.5 (l)(2)(vi)	For those adverse environmental and health impacts that cannot be reasonably avoided, an identification of measures proposed to mitigate such impacts;	Section 3.04, and 3.09; Sections 3.12, 3.15, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.26, 3.27, and 3.29	Sections 3.04 and 3.09 provide information on impact avoidance and its role in siting of Project facilities. Sections 3.12, 3.15, 3.17, 3.18, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.26, 3.27, and 3.29 describe avoidance and mitigation measures to the environment and health.
PSL 1000.5 (l)(2)(vii)	Where it is proposed to use petroleum or other back-up fuel for generating electricity, a discussion and/or study of the sufficiency of the proposed on-site fuel storage capacity and supply;	Currently not applicable to this Project	

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(viii)	A description and evaluation of applicable, reasonable and available alternative locations identified for the proposed Facility, including a description of the comparative advantages and disadvantages of the proposed and alternative locations, except that a private facility applicant may limit its description and evaluation of alternative locations to parcels owned by, or under option to, such private facility applicant or its affiliates;	Section 3.09	See Section 3.09.
PSL 1000.5 (l)(2)(ix)	If the proposed Facility affects any land or water use or natural resource of the coastal area and federal authorization or funding is necessary, a preliminary analysis of the consistency of the proposed Facility with the enforceable policies of the New York State coastal management program or, where the action is in an approved local waterfront revitalization program area, with the local program;	Not applicable to this Project	The Project location is not subject to Coastal Zone Consistency analysis.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(x)	A statement of the reasons why the primary proposed location and source, taking into account the potentially significant and adverse environmental impacts, is best suited, among the alternatives, including a "no action" alternative, to promote public health and welfare, including the recreational and other concurrent uses that the site may serve, except that a private facility applicant may limit its description and evaluation of alternative locations to parcels owned by, or under option to, such private facility applicant or its affiliates and its description and evaluation of alternative sources to those that are reasonable alternatives to the proposed Facility that are feasible considering the objectives and capabilities of the sponsor;	Section 3.09	See Section 3.09.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(xi)	A preliminary identification of the demographic, economic and physical attributes of the community in which the Facility is proposed to be located and in which any alternative location identified is located, and a preliminary environmental justice evaluation of significant and adverse disproportionate environmental impacts of the proposed Facility and any alternative facility identified that would result from construction and operation considering, among other things, the cumulative impact of existing sources of emissions of air pollutants and the projected emission of air pollutants from the proposed or alternative facility in a manner that is in accordance with any requirements for the contents of an Article 10 PSS contained in 6 NYCRR Part 487 promulgated by the NYSDEC for the analysis of environmental justice issues; and	Sections 3.27 and 3.28	See Section 3.0.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(2)(xii)	An identification of any other material issues raised by the public and affected agencies during any consultation and the response of the Applicant to those issues.	Appendix A	As of the date of filing this PSS, no material issues have been raised by the public or affected agencies during consultations that are not addressed by the proposed studies. However, Appendix A of the PSS includes the most recently filed Meeting Log, which outlines consultation activities conducted by the Applicant since filing the PIP Plan.
PSL 1000.5 (l)(3)	An identification of all other state and federal permits, certifications, or other authorizations needed for construction, operation or maintenance of the proposed Facility;	Sections 3.32 and 3.33	Section 3.32 addresses state laws and regulations. Section 3.33 addresses anticipated federal permits and approvals.
PSL 1000.5 (l)(4)	A list and description of all state laws and regulations issued thereunder applicable to the construction, operation or maintenance of the proposed Facility and a preliminary statement demonstrating an ability to comply;	Section 3.32	Section 3.32 addresses state laws and regulations.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5(l)(5)	A list and description of all local laws, and regulations issued thereunder, applicable to the construction, operation, or maintenance of the proposed Facility and a statement either providing a preliminary assessment of an ability to comply or indicating specific provisions that the Applicant will be requesting the Board to elect not to apply, in whole or in part, and a preliminary explanation as to why the Board should elect not to apply the specific provisions as unreasonably burdensome in view of the existing technology or the needs of or costs to ratepayers whether located inside or outside of such municipality;	Section 3.31	Section 3.31 addresses local laws and ordinances.
PSL 1000.5 (l)(6)	A description of the Applicant, its formation, status, structure, holdings, affiliate relationships, powers (including whether it has or will seek to obtain the power of eminent domain, either directly or indirectly), franchises and consents;	Sections 2.1 and 3.01	Sections 2.1 and 3.01 provide information on the Applicant, its parent company, and its formation. The Applicant does not plan to seek to obtain the power of eminent domain.

PSL 1000.5(l) Section	Article 10 PSS Requirement	Corresponding Section of the Watkins Glen Solar Energy Center PSS	Notes
PSL 1000.5 (l)(7)	A description of the Applicant's property rights and interests or those it proposes to acquire to all lands of the proposed Facility and any private or public lands or private or public streets, highways or rights-of-way crossed by any interconnections necessary to serve the Facility such as, but not limited to, electric lines, gas lines, water supply lines, waste water or other sewage treatment facilities, communications and relay facilities, access roads, rail facilities, or steam lines; and	Section 3.13	Section 3.13 provides information concerning the Applicant’s property rights and interests.
PSL 1000.5 (l)(8)	Any other information that the Applicant may deem to be relevant.	Throughout the PSS	The document contains additional information beyond the base requirements of PSL 1000.5. Any other information deemed relevant by the Applicant has been included in the PSS.

5.0 REFERENCES

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